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## Revolutionizing Psychiatric Education: AI-Powered Resident-Led Journal Clubs"

Daniel Laor, M.D. ; Liliya Gershengoren

Introduction: In response to the evolving demands of psychiatric education, we introduced a non-traditional and innovative resident-driven journal club that embraces cutting-edge technology. The purpose of the journal club was to contextualize seminal papers in the field of psychiatry in order to bridge the gap between historical knowledge and current practice.. Methods: Employing generative Artificial Intelligence (AI) through the use of ChatGPT, we conducted a pilot study to craft a 45-minute interactive journal club session, inspired by the Cochrane style, centered around a selected paper. Results: ChatGPT played a pivotal role in generating case vignettes, identifying pertinent clinical questions, and facilitating adapting a structured framework for the journal club leader for a specific selected paper. ChatGPT was also helpful in finding as well as generating related board-review questions. Discussion: While ChatGPT undoubtedly streamlined our journal club, saving time and inspiring presenter creativity, it is operator dependent and requires critical appraisal of the generated content. The poster presentation will describe the potential of this approach to create an enhanced meaningful and efficient learning experiences. Furthermore, the ethical considerations involved in using AI in educational settings and the importance of close evaluation of the AI-generated output will be discussed. Through thoughtful integration of innovative technological modalities, there is remarkable potential to fundamentally transform psychiatric education by enhancing interactivity, efficiency, and contemporaneous relevance.

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## Alcoholic Synonymous: A Quality Improvement Study on MAT Prescribing for Alcohol Use Disorder at a FQHC

Justin Chin

Background: Every year in the United States there are over 140000 deaths from alcohol-related causes making it the fourth-leading preventable cause of death in our country. Alcohol use disorder (AUD) is characterized in DSM-V as the impaired ability to stop or control alcohol use despite adverse social occupational or health consequences. 28.6 million adults ages 18 and older (11.3%) are battling AUD. Of this group only 4.6% received any treatment in 2020-2021. The COVID-19 pandemic is likely to have further limited access to treatment. People with AUD were more likely to seek care from a primary care provider for an alcohol-related medical problem rather than specifically for drinking too much alcohol. The aim of this study was to identify provider preferences for MAT agents and evaluate opportunities for early intervention in patients with unhealthy use not yet diagnosed with mild-moderate AUD. Methods: This was a cross-sectional quality improvement study of patients across a federally qualified health center (FQHC) in California reviewing pharmacologic treatments prescribed to patients with a diagnosis of Alcohol Use Disorder and related complications (ICD F10.\*). The study population was then refocused to assess the rates of MAT prescription along the spectrum of unhealthy alcohol use using reported consumption as a proxy for severity. Results: 31% (1157 patients out of 5363) of adults over age 18 with AUD had been prescribed pharmaceutical treatment approved for AUD. Of these patients 49% (n=661) were prescribed Naltrexone. Despite existing annual alcohol use screenings only 3291 of 216000+ had documented quantity of alcohol use. 2.5% of those without reported use had an AUD. Patients who reported 25+ drinks / week were 15% more likely to have been prescribed Naltrexone. While patients who reported 15-19 drinks / week were only 2% more likely. Conclusion: In this initial study the barriers to treatment within the FQHC were hypothesized and created further discussion on the screening

behavioral intervention peer support medication and community engagement. In addition there was acknowledgement that the prevention of AUD and alcohol related death rely heavily on upstream systemic change. This requires continued investigation of safe consumption guidelines pricing strategies outlet density retailer liability and trends in privatization.

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### **Are psychiatry residents effectively screening for firearm safety within a veteran and non-veteran population?**

Kennedy Werner MD; Rachel Pacilio; Alexandra N. Kelter

**Methods** The goal of this study was to collect information on firearm safety screening from a psychiatry residency program at a large academic institution with Veterans Affairs (VA) health system affiliation in the urban Midwest. An optional anonymous Qualtrics survey was emailed to all psychiatry residents (N=43). Questions pertained to the residents' personal firearm safety screening practices their attitudes about the quality of education received on this topic and their level of confidence in performing screenings. **Results** The survey was completed by 86% of residents in the program (n=37). Of respondents 29.73% were PGY1s 27.03% were PGY2s 18.92% were PGY3s and 24.32% were PGY4s. Overall 88.24% of psychiatry residents ask patients if there is a firearm at home over 50% of the time. The most common patient factors prompting screening include elevated risk of homicide or suicide (19.75%) history of mental illness or behavioral concerns (16.05%) acute stressor(s) (16.05%) victims or perpetrators of violence (14.81%) and veteran status (14.81%). 76.67% of residents feel that their experience at the VA has better prepared them to conduct firearm safety screenings; however 35.71% cite concern about damaging rapport with veteran patients as a

barrier to conducting firearm safety screenings. 100% of psychiatry residents sampled believe that firearm safety screening should be taught in all residency programs. 87.50% of psychiatry residents who have received training about firearm safety screenings did so while on a psychiatry service. 0% of psychiatry residents report conducting firearm safety screenings during internal medicine family medicine pediatrics or neurology rotations. **Conclusions** Because 45% of veterans own firearms as opposed to 20% of the public there is a distinct need to screen for firearm safety in this population<sup>1</sup>. Most residents identify collapse of rapport as a potential barrier which highlights the need for cultural sensitivity and awareness of the values of veteran communities<sup>2</sup>. There is not a standardized firearm safety curriculum in psychiatry residency nor formal education on this topic directed towards veterans<sup>3</sup>. A tailored approach to teaching firearm safety screening may better prepare resident physicians to address this issue especially when caring for specific populations. While this study includes only one psychiatry residency program it would be worthwhile to explore firearm safety screening curricula across all medical specialties as at-risk patients frequently make contact with the healthcare system outside the context of psychiatric care. Demand for psychiatrists greatly exceeds supply and primary practitioners are necessary to close the mental health care gap and address the firearm safety crisis.<sup>45</sup> We hope to develop educational initiatives regarding firearm safety screening to share with our primary care colleagues in alignment with the collaborative care model.

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### **Assessment of the Short Grit Scale in patients with substance use disorder: Reliability and patient characteristics**

Margaret Griffin PhD; Roger Weiss M.D.

Introduction: Recovery from substance use disorder requires sustained effort and perseverance. Grit is a resilience factor that may be important for people in recovery. Little research has been conducted on grit in patients with substance use disorder especially in a large and varied sample. Objective: To examine the Short Grit Scale (Grit-S) in patients with substance use disorder our aims were to analyze its psychometric properties compare scores in our sample to others reported in the literature and use demographic and clinical characteristics to predict variance in Grit-S scores. Methods: In this study of patients in treatment for substance use disorder participants completed the Grit-S and other self-report measures. The psychometric properties of the Grit-S were assessed in outpatients (N=94) scores in our sample were compared to others reported in the literature using one-sample t-tests (N=1238) and a hierarchical regression was used to predict Grit-S variance in inpatients (N=1238). Results: The Grit-S demonstrated good internal consistency ( $\alpha=.75$ ) and strong test-retest reliability (unadjusted  $r=.81$  adjusted  $r=.79$   $p$  values  $<.001$ ). The mean Grit-S score was 3.15 which was lower than other clinical samples reported in the literature. Regression modeling indicated a moderate statistically significant association between demographic and clinical characteristics and Grit-S scores ( $R^2=15.5\%$   $p<.001$ ). Conclusion: Of particular interest the positive factor of recovery protection showed the strongest association with grit of all the variables assessed. Hence the positive construct of grit was correlated with other positive constructs as well as with risks. Longitudinal assessment of grit and substance use could measure the stability and clinical significance of grit throughout recovery

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### **Association between food insecurity and anxiety in stroke patient population**

### **stratified by racial ethnic background: Cross-sectional Study**

Dania Mofleh M.D.;M.P.H.; Maha Almohamad

Background: Food insecurity defined as limited/uncertain availability or access to nutritionally adequate food is associated with high levels of psychosocial stress major depression and anxiety negatively impacting cardiovascular health and increasing the risk of stroke recurrence. Limited literature exists on the association between food insecurity and anxiety in stroke survivors differing by racial and ethnic background. Methods: Cross-sectional study includes 744 patients presenting for an initial visit to a university-based stroke clinic from March 2020-August 2023 in Houston Texas. Self-administered surveys used to collect data included patients who reported having a previous episode of stroke and food insecurity assessed using 2-item Hunger Vital sign screener. Anxiety measured using the GAD-7 scoring system was dichotomized to either "None/Mild" or "Moderate/Severe." Race/ethnicity (non-Hispanic White non-Hispanic Black and Hispanic) and other socio-demographic characteristics were collected: sex education and employment status. Additional variables collected included alcohol use recreational drug use (marijuana cocaine amphetamine) tobacco use and psychiatric issues including self-reported sleep disturbances depression change in personality and emotional problems (yes/no). A multivariable logistic regression model was used to examine the association between food insecurity and anxiety among stroke survivors adjusting for socio-demographic characteristics substance use and psychiatric issues; stratifying by race/ethnicity. Results: Among the stroke survivor population presenting to our outpatient clinic 14.44% (N=107) reported food insecurity and 43.25% (N=334) had moderate to severe anxiety. Stroke survivors experiencing food insecurity had significantly 2.37 times greater odds of experiencing moderate to severe anxiety compared to those who are food secure adjusting for socio-demographic characteristics substance use and psychiatric issues (Odds Ratio (OR)=2.37 95% CI: 1.36 4.11;

P-value=0.002). Stratifying by race/ethnicity adjusted models showed that non-Hispanic White stroke survivors who reported food insecurity had significantly 4.03 times greater odds of experiencing moderate to severe anxiety compared to food secure individuals (OR=4.03 95% CI: 1.29-12.60; P-value=0.017). Lastly food insecure Hispanic patients had 7.97 greater odds of experiencing moderate to severe anxiety compared to food secure patients (OR=7.97 95% CI: 1.88-33.68; P-value=0.005). Conclusion: To our knowledge this is the first study to assess food insecurity and anxiety among a stroke survivor population and the role of race/ethnicity. This study shines light on intercalated relationships between socioeconomic stressors food insecurity and underlying mental health stressors anxiety among stroke survivors. Further studies are needed to understand whether food insecurity can augment the effect of anxiety on stroke survivors.

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### **Association of ADHD in pregnant and parenting women receiving treatment for Opioid Use Disorder**

Karuna Poddar MD MS; Dennis Hand

**INTRODUCTION:** Adult women with attention deficit/hyperactivity disorder (ADHD) are often missed in the routine diagnostic process and are less likely to receive pharmacological treatment unless their symptom severity is high. ADHD increases the risk of substance use disorders like opioid use disorder (OUD). We hypothesize that treating ADHD among women in OUD treatment could improve attendance to OUD treatment and subsequently improve treatment outcomes. In this study we determine the current prevalence of ADHD among women receiving treatment in our women-specific OUD treatment program and compare OUD treatment attendance before and after beginning ADHD treatment at the program.

**OBJECTIVE:** Determine the prevalence of ADHD in a women-only OUD treatment program and if treatment with medications for ADHD is associated with increased attendance. **METHOD:** We retrospectively reviewed the charts of women who received outpatient OUD treatment at our program from October 2021 to May 2023. We extracted current ADHD diagnoses date of first prescription for ADHD consistency of prescription clinic attendance including medication management and counseling. We compared all attendance for medication management and counseling before and after their first prescriptions. **RESULTS:** Of 170 women receiving OUD treatment 30 had an ADHD diagnosis. Of those 30 women 20 consistently received ADHD medications 17 were prescribed only stimulants or combination of stimulants and non-stimulants and 3 were prescribed only non-stimulants. Five women did not consistently receive ADHD medication and 5 had incomplete records and were excluded from analyses. Among those consistently receiving ADHD medication attendance was unchanged before and after starting medication (69% vs. 68%). Among the 5 women with inconsistent medication attendance declined after prescription from 56% to 42%. **DISCUSSION:** We found that OUD treatment attendance was sustained among women who consistently received ADHD medications and declined among with inconsistent medication. There are many reasons for this difference that warrant further research. The ADHD medications prescribed may have been ineffective for those who had inconsistent medication use or they may have been differentially impacted by ADHD medication shortages. These women may have also had more severe behavioral disruption or other barriers that interfered with both consistently receiving medication and attending OUD treatment services. There are concerns about “over-management” being detrimental for patients in opioid treatment. However our analysis suggests including ADHD management in OUD treatment whether with stimulants only or combination of stimulants and non-stimulants may be beneficial for supporting OUD treatment. These potential benefits must be studied further especially in the context of rises in unauthorized

amphetamine/methamphetamine use among people with OUD.

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### **Characteristics and Outcomes of Hospitalized Psychiatric Inpatients Treated with Buprenorphine for Co-Occurring Opioid Use Disorder (OUD)**

Ashley Sacks; Victor Gordillo; Lidia Klepacz

**Background:** Despite being the gold standard for long term treatment and mortality reduction medications for opioid use disorder (mOUD) are underutilized despite ongoing efforts to reduce barriers to access with only 18% of qualifying patients undergoing treatment. Approximately 38% of patients nationally with an opioid use disorder (OUD) have a co-occurring psychiatric diagnosis; however treatment for these co-occurring illnesses frequently do not occur simultaneously especially among acutely psychiatrically ill patients. Inpatient psychiatric units often do not initiate patients on mOUD such as buprenorphine possibly due to a lack of national policy encouraging expanded access. **Methods:** This IRB-approved retrospective single-site (level 1 trauma in academic hospital just outside of New York City) study examined the medical records of patients who received inpatient consultations from our mOUD consultation service between January 1st 2018 and August 15th 2020. Demographic and clinical information was collected and analyzed for descriptive statistics. The primary outcome gathered was average length of stay for patients consulted. **Results:** 123 patients received inpatient consultations; 114 of these patients began mOUD. Patients had an average age of 37 years identified predominantly as male and were mostly White. About one third of patients were undomiciled almost three quarters were unemployed and over half had prior buprenorphine treatment. The most common primary psychiatric diagnosis was depression (>50%) followed by bipolar disorders and

schizophrenia spectrum illness. Patients had co-occurring substance use with stimulants (40%) marijuana (30%) and benzodiazepines (16%). The average LOS among patients initiated on mOUD (11.27 days) did not significantly differ from patients who received consultations without initiating mOUD (8.11 days  $p=0.29$ ). Both values fell within the expected LOS (7-14 days) for inpatient hospitalizations at our hospital. Over half of patients were established with outpatient or inpatient treatment programs following their discharge. **Conclusions:** Our data supports initiating patients with co-occurring OUD and psychiatric illness on mOUD during their initial inpatient hospitalization regardless of severity of acute psychiatric symptoms. Our study did not find that initiating substance use treatment prolonged LOS. Initiating treatment on the psychiatric unit may have increased engagement in outpatient addiction services. Further studies are required to characterize potential benefits.

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### **Comparative Analysis of NIH Toolbox Scores in Substance Use Disorder Pre-Post Treatment Evaluation in Inpatient Population**

Ahmed Ahmed

**Background:** Substance use disorder (SUD) is a major public health issue. However the impact of cognitive impairment on individuals with SUD is less understood but are commonly observed clinically(1). This study utilized the National Institutes of Health (NIH) Toolbox Cognitive Battery to assess fluid cognitive functioning hypothesizing that individuals with SUD who were admitted inpatient would demonstrate more difficulties with fluid cognitive functioning when compared to individuals without SUD admitted inpatient(23). It was also hypothesized that those with SUD would demonstrate reduced improvement in their fluid cognition following



inpatient psychiatric treatment relative to those without SUD. Methods: The sample included 204 inpatient adults aged 18-74 with 48.53% females. Cognitive assessment relied on age-adjusted NIH Toolbox percentiles and standard scores specifically the Fluid Cognition Composite which is the global executive function score that measures adaptive abilities like problem-solving quick thinking and memory formation. NIH Toolbox fluid cognition score was compared between SUD and non-SUD groups at admission to an inpatient psychiatric hospital. For the SUD group testing was also conducted to examine improvements from admission to discharge. SUD types included alcohol cannabis opioids and stimulants. Paired two sample t-tests analyzed group differences using R software (version 4.3.1). Results: At admission there was no significant difference in the mean fluid cognition scores between patients with SUD compared to non-SUD ( $t = -0.68$   $p$ -value = 0.501) suggesting similar executive functioning between SUD and non-SUD groups. At discharge patients with SUD showed significantly higher improvement in their fluid cognition scores from inpatient psychiatric treatment when compared to their admission scores (mean difference = 5.23  $p$ -value .05). While non-SUD group at discharge demonstrated significant improvement in their fluid cognition scores (mean difference = 7.65  $p$ -value = 0.0009). Conclusions: Overall the findings indicate that inpatient psychiatric treatment can enhance executive functioning in those with SUD especially in those with alcohol use issues. Inpatient psychiatric treatment therefore help remediate cognitive deficits in this population but more extensive work will be needed to understand the mechanisms underlying improvement.

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### **Creating a longitudinal sports psychiatry elective rotation for senior psychiatry residents and fellows**

Raphaella Fontana D.O.; Bailey Nevels PhD;  
Claudia Reardon M.D.

Sports psychiatry is a rapidly growing subspecialty in the field of psychiatry. In recent years more high-profile athletes have been outspoken about their mental health struggles challenging the status quo. In effect more psychiatric residents and fellows have expressed an interest in treating this patient population yet very few institutions currently provide this educational experience. In having a sports psychiatry elective training programs will be able to meet the demands of their community while simultaneously satisfying the interest and educational necessities for the resident and/or fellow. This sports psychiatry sample elective curriculum is intended to be used for psychiatric residents in their fourth year of training or fellows in the outpatient setting. The only requirement for this rotation is for there to be a dedicated space (offsite or onsite) with at least one supervisor who can provide direct or indirect supervision and has either received additional training in sports psychiatry or has an interest in this subspecialty. The rotational curriculum has been outlined in this sample curriculum and includes goals and objectives for the clinical experience in addition to two pathways for the didactic or educational experience. Trainees are given the opportunity to participate in the International Society for Sports Psychiatry (ISSP) Curriculum which is an AADPRT model curriculum and can apply for the ISSP Certificate of Additional Training in Sports Psychiatry upon completion. The goals and objectives for this elective rotation includes milestones from the ACGME Milestones 2.0 in addition to some proposed sports psychiatry specific milestones. These milestones can then be reflected on evaluation forms as these are some of the primary measures used to determine successful completion of rotations in training along with supervisor feedback. The addition of a sports psychiatry elective rotation in psychiatry residency or fellowship training programs nationwide will enhance the mental health treatment athletes receive by improving the awareness medical knowledge and collaboration amongst trainees in other disciplines of medicine.

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### **Developing a new workflow in a multidisciplinary psychiatry unit for rapid cross titration from methadone to buprenorphine/naloxone: a two-case report**

Shiyu Chen M.D.; Alexandra Pinkerson MD; Bo Kim PhD

**Background:** The traditional approach for buprenorphine induction for opioid use disorder (OUD) is to wait until a patient is in a moderate opioid withdrawal state to prevent precipitated withdrawal which can be uncomfortable for patients and challenging for staff. Rapid cross titrations have been documented in previous case studies. However introducing such a workflow in an inpatient environment must account for unique concerns and multidisciplinary considerations. A new workflow for methadone to buprenorphine/naloxone rapid cross titration via buprenorphine transdermal patch was created and implemented through two cases in a multidisciplinary Department of Veterans Affairs (VA) inpatient psychiatry unit. **Case Descriptions:** Case 1: A veteran in his 40s with a past psychiatric history significant for OUD currently on methadone was admitted to inpatient psychiatry service after relapsing on fentanyl. After initial medical and psychiatric stabilization he was back on his previous dose of methadone. Patient wanted to switch from methadone to buprenorphine/naloxone before a set discharge date which required a cross titration in a short time frame. Various methods for rapid induction of buprenorphine treatment with overlapping full opioid agonist use were discussed with an interdisciplinary inpatient team. The psychiatry team decided to use the transdermal buprenorphine patch method because of the limitations and concerns of the inpatient unit. Pharmacy further evaluated and approved the use of buprenorphine patch for OUD nursing provided input on medication administration schedule and observation status and psychiatry developed and implemented a new workflow with the supports of

these disciplines. Case 2: A veteran in his 60s with a past psychiatric history significant for OUD on methadone maintenance and alcohol use disorder was admitted to the inpatient psychiatry service for medically monitored alcohol detoxification and for transition from methadone to buprenorphine/naloxone. He had recently started a taper of methadone. Similarly transdermal buprenorphine patch was used for rapid cross titration. Based on the experience from Case 1 modifications to improve patient comfort were made in Case 2. **Results:** Utilizing the input and experience of a multidisciplinary team a rapid cross titration workflow from methadone to buprenorphine-naloxone via buprenorphine transdermal patch was successfully created implemented and modified in a VA inpatient psychiatry unit with positive patient experience. This workflow will be further refined with multidisciplinary input for future applications. **Conclusion:** This case report demonstrates an example of devising and adapting new approaches to challenging addiction treatment with interdisciplinary collaboration to improve patient outcome.

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### **Effect of craving on treatment attrition and treatment switch amongst people on opioid agonist therapies: exploratory analyses from the OPTIMA study**

Christina McAnulty; Gabriel Bastien; Anita Abboud; Arash Bahreman; Didier Jutras-Aswad

**Background:** The extent to which craving can predict treatment attrition amongst people on opioid agonist therapies is a matter of debate. Furthermore whether craving may predict greater treatment attrition or treatment switching amongst people on certain opioid agonists (e.g. buprenorphine/naloxone – BUP/NX) relative to other more potent opioids (e.g. methadone) is unknown. We performed analyses to determine if

craving predicted attrition and treatment switching in individuals with prescription-type opioid use disorder and whether attrition or switching was more prevalent amongst those on BUP/NX relative to methadone. **Methods:** This exploratory analysis used data from the OPTIMA trial a 24-week pragmatic pan-Canadian open-label randomized controlled trial in which flexibly prescribed BUP/NX (n=137) with early take-home doses was compared to the standard methadone (n=132) model of care with strict supervision. Craving was measured at baseline week 2 6 10 14 18 and 22 using the Brief Substance Craving Scale (BSCS). The scale measures craving intensity frequency and length on 0-4 Likert scales which are added to produce a composite score. Attrition was defined as not remaining active in the study. Attrition date was the day at which individuals officially left the study or were lost to follow-up. Treatment switch was defined as the day a participant switched to a different opioid which could include either methadone BUP/NX or any other opioid agonist therapies prescribed by the study physician. Only the first treatment switch was considered. We performed cox proportional hazards regression with time varying covariates in order to determine the effect of craving on attrition date or treatment switch date. Additional analyses were performed where an interaction term was added for treatment group. All analyses controlled for treatment group study site and lifetime heroin use. **Results:** For each additional point on the BSCS individuals were approximately 15% more likely to leave the study (HR = 1.153 95% CI = 1.065 to 1.248 p<0.001). Being assigned to BUP/NX was associated with increased risk of study attrition (HR = 1.899 95% CI = 1.111 to 3.246 p=0.019) but there was no craving by treatment group interaction (HR = 0.998 95% CI = 0.857 to 1.163 p=0.986). Each additional point in the BSCS was associated with a 12% increase in treatment switching (HR = 1.115 95% CI = 1.016 to 1.225 p=0.022). Adding an interaction term for treatment group did not yield a significant interaction with treatment switching (HR = 1.182 95% CI = 0.983 to 1.422 p=0.075). **Conclusions:** Treatment switching and treatment attrition are predicted by higher craving in people on opioid agonist therapies for prescription-type opioid use

disorder. This effect is seen in people on both buprenorphine/naloxone and methadone. Additional research efforts are needed to decrease the risk of attrition and of adverse outcomes related to treatment switching.

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### **Effect of Transcranial Direct Current Stimulation on Functional Neural Networks in Internet Gaming Disorder: A Resting-state EEG Source Study**

Jeong Woo Chang

**Background:** Transcranial direct current stimulation (tDCS) is widely being investigated in addictive disorders as the core pathophysiology of addiction dysfunctional cognitive and reward processing in neural networks may respond to neuromodulation. Resting state electroencephalography (EEG) studies suggest that tDCS may stabilize intrahemispheric neural connectivity in IGD patients. EEG source studies suggest that hyper-connectivity within the default mode network (DMN) and reward/salience network (RSN) may be potential state markers of IGD. The aim of this study is to examine the neuromodulating effect of tDCS on dysfunctional neural networks characteristic of addiction (DMN and RSN) thus investigating the efficacy of tDCS for IGD patients. **Methods:** A total of 26 IGD patients were randomized into two double-blind groups (tDCS group n = 14; sham group n = 12) Each group received 10 sessions (2 sessions per day for 5 consecutive days) of either tDCS (2 mA for 20 min per session anode/cathode electrodes placed over left/right dorsolateral prefrontal cortex) or sham stimulation. Resting-state EEG severity of IGD (Young's Internet Addiction Test Y-IAT) and craving for gaming (Visual Analogue Scale VAS) was measured before and 1 month after intervention. Change of source functional connectivity in DMN and RSN were assessed in delta theta alpha beta and gamma bands



respectively. Post-hoc analysis was performed to analyze correlation between improvement of clinical symptoms and tDCS-induced connectivity changes in neural networks. Results: In DMN tDCS had a significant modulating effect on resting-state theta wave connectivity between left prefrontal cortex and left post central gyrus ( $p < 0.05$ ) left prefrontal cortex and left posterior cingulate gyrus ( $p < 0.05$ ) left prefrontal cortex and left inferior parietal lobe ( $p < 0.05$ ). tDCS suppressed the increase of resting-state theta connectivity in all three neural connections compared to sham group. No significant correlation was observed between change in DMN connectivity and improvement of clinical symptoms 1 month after tDCS. Conclusion: tDCS suppresses resting-state theta hyper-connectivity between left prefrontal and left parietal cortex in DMN. The result is backed up by previous studies that suggest intra-hemispheric hyper-connectivity between fronto-parietal fronto-temporal lobe as neurophysiological marker of IGD. Aberrant resting functional connectivity of DMN is associated with impaired self-awareness dysfunctional emotion control and ruminations in addiction. Therefore neuromodulation through tDCS may alleviate symptoms of IGD by stabilizing functional connectivity of neural networks. This research was supported by Korea Mental Health R&D Project funded by the Ministry of Health & Welfare Republic of Korea (HI22C0404) and a grant from the National Research Foundation of Korea (2021R1F1A1046081). This work was also supported from the Korea Brain Research Institute (23-BR-03-03)

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### **Engagement in Community-Based Mental Health Care After a Mental Health Hospitalization Among Those with Co-occurring Substance Abuse Disorders**

Wenjun Shao; Emily Leckman-Westin

Background: National quality measures of outpatient psychiatric care following an

emergency room or inpatient service historically have focused on time to receive a first outpatient mental health visit. Attending at least one follow-up visit after discharge has been associated with lower readmission rates and better medication adherence (1-4). A single visit is important but is not adequate care following a hospitalization particularly in the high-risk period after discharge. The NYS Office of Mental Health has developed a new measure of aftercare of five or more outpatient mental health services in the first 90 days after discharge. This retrospective study evaluated the factors associated with engagement in care after mental health discharge among those who had co-occurring substance use disorders. Methods: Psychiatric inpatient discharges from calendar year 2021 ( $n=46898$ ) were extracted from NYS Medicaid claims/encounter data. Patient characteristics (age gender race ethnicity length of inpatient stay housing/economic problems at admission primary diagnosis) were extracted. Chi-square test and logistic regression analysis were conducted to identify factors associated with receipt of five or more outpatient mental health visits within 90 days post-discharge among those who had co-occurring substance use disorders. Results: Overall almost half (49%) of psychiatric inpatient discharges had at least one substance use disorder diagnosis at discharge. The most common primary psychiatric diagnosis was schizophrenia and 56% of the discharges with a primary schizophrenia diagnosis also had a co-occurring SUD (11007/19612). Discharges with a substance use disorder diagnosis were significantly less likely to have five or more community-based mental health visits within the 90 days post-discharge (40%) compared to a 53% follow-up rate for those who didn't have SUD diagnoses ( $p < 0.05$ ). Among those discharges with a primary schizophrenia diagnosis and a substance use disorder follow up rates were even lower with 36% of discharges having five or more community visits within 90 days post discharge. The lowest rates of engagement post discharge were observed for those discharges with substance use disorders and no engagement with services prior to admission (27%) and for those discharges with both SUD and housing/economic problems at admission (26%). Conclusions: The

findings demonstrate even among psychiatric discharges with a co-occurring substance use diagnosis understanding engagement prior to admission diagnostic and economic circumstance may highlight additional concerns for adequate community engagement post discharge. Strategies to enhance discharge planning to improve access to outpatient services and to facilitate a patient's transition to outpatient providers are important to address disparities.

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### **Exploring Gender Differences in the Impact of Alcohol on Sleep**

Manik Ahuja Ph.D. M.A.; Thiveya Sathiyaseelan M.D.; Praveen Fernandopulle M.D.; Chandni Naidoo

Introduction: According to the DSM-5TR sleep is defined as a naturally recurring state of reduced consciousness and relative inactivity characterized by a decreased responsiveness to external stimuli. Sleep facilitates cognitive functioning such as memory learning and energy conservation promoting development and growth. Prior studies have highlighted the bidirectional relationship between alcohol misuse and sleep-related problems like insomnia and disruptions in circadian rhythms. This study explores the association between alcohol use and insufficient sleep levels underlining the critical importance of understanding how alcohol consumption patterns influence sleep quality. Methods: We used cross-sectional data (n=445132) from the 2021 Behavioral Risk Factor Surveillance System. Logistic regression analyses were conducted to test the association between alcohol use including past 30-day alcohol use heavy drinking and binge drinking and low levels of sleep. We coded low levels of sleep binary with 1 representing less than 6 hours of sleep per night and 0 representing adequate sleep as 6 or more hours. We tested interactions between each level of alcohol use and gender. Depression

race/ethnicity income age and educational attainment were used as controls. Results: Overall 10.9% (n=48251) reported low levels of sleep with no significant differences between males (10.84%) versus females (10.96) p=.21. Overall binge drinking OR=1.04 95% CI 1.01 1.08) and heavy alcohol use (OR=1.42 95% CI 1.35 1.49) were associated with low levels of sleep while past 30-day alcohol use was not significantly associated with low levels of sleep. Significant interactions (p<.001) were found between binge drinking and gender and heavy drinking and gender. Results were stratified by gender and males reported higher odds of binge drinking (OR=1.12 95% CI 1.07 1.16) and low levels of sleep while results were not significant for females. While heavy alcohol use was associated with poor sleep in both males (OR=1.46 95% CI 1.32 1.54) and females (OR=1.31 95% CI 1.21 1.44). Conclusion : Our findings revealed gender disparities in binge drinking with males being more prone to reporting insufficient sleep. Additionally both males and females who engaged in heavy drinking experienced lower levels of sleep. This highlights the significance of healthcare providers practitioners and public health experts comprehending the impact of alcohol consumption on sleep deprivation.

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### **Exploring the Role of Podcasts in Teaching Academic Psychiatry**

Sena Gok Medical Doctor; David Gratzter M.D.; Nikhita Singhal M.D.; An Yi Yu M.D.

Background/Aim: Podcasts are increasingly utilized in medical education for their accessibility and convenience. Despite their popularity in various fields their role in teaching academic psychiatry remains underexplored. Our study examines the availability and effectiveness of academic psychiatry podcasts focusing on their role in medical education and fill the gap in educational resources by comprehensively

reviewing active psychiatry podcasts. **Methods:** We conducted a comprehensive search on Google Spotify and Apple Podcasts to identify podcasts relevant to academic psychiatry. Inclusion criteria were active podcasts within the last six months covering academic psychiatry topics. Data on episode count podcast name release schedule and institutional affiliations were collected. **Results:** Our research identified a total of fourteen active academic psychiatry podcasts some affiliated with reputable academic institutions and psychiatry journals. The study provides detailed insights into the most active podcasts their focus areas and affiliations. **Discussion:** The study's identification of a limited number of academic psychiatry podcasts highlights a significant educational gap. This gap suggests an underutilization of a potentially valuable resource in psychiatric education. The implications for academic psychiatry are profound as podcasts offer a unique flexible learning platform that aligns well with the dynamic needs of psychiatric education. Their informal yet informative nature can enhance traditional learning methods providing accessible up-to-date content that can be integrated into curricula. Given the positive reception of podcasts in other medical fields their incorporation into academic psychiatry could revolutionize how concepts and new research are disseminated among professionals and students alike. This study indicates a promising opportunity for the development of specialized content that caters specifically to the intricacies of psychiatric education. **Conclusion:** The current underrepresentation of academic psychiatry in the podcasting realm as evidenced by our study signals a missed educational opportunity. While the increasing use of podcasts in medical education is encouraging the specific needs of academic psychiatry are not yet fully met. Our study underscores the potential of podcasts as a valuable educational tool in psychiatry suggesting a pressing need for the development of more targeted podcast content. Such advancements could significantly contribute to the ongoing education and professional development of psychiatrists and psychiatric educators offering a

novel engaging way to stay informed about the latest developments in the field.

**Saturday May 04**

### **Factors Affecting Patients' Arrival to their First Outpatient Follow-Up Visit at an Addiction Clinic**

Manuel Pereira Herrera MD; Marina Polskaya MD; Hussain Abdullah

**Background:** Missed appointments significantly affect addiction patient outcomes in multiple ways such as increased all-cause mortality within 2 years increased odds of further detoxification increased relapse rates and worsening psychological functioning. This retrospective descriptive cohort study investigated the association between demographic clinical and substance use pattern variables and the compliance with an initial outpatient addiction follow-up visit after a hospitalization or emergency department (ED) stay in which a substance use disorder was identified. **Methods:** Demographic and clinical variables were extracted from patients aged  $\geq 18$  years evaluated by the addiction psychiatry service between 7/1/2022 -11/4/2022 that had been enrolled in the ICARE grant with at least one substance use disorder. No shows visit compliant and patients who opted not to schedule a visit were cross-tabulated by patient demographic psychiatric and medical factors using Fisher's exact Wilcoxon or Kruskal tests. Sequential logistic regression analyses were performed for variables where  $P < 0.1$  to compare the probability that a patient would schedule the visit (Analysis I) and then if they would keep the appointment (Analysis II). **Results:** The study included 79 patients (mean age 46.5 64% male) of which 65.8% had scheduled a visit during the hospital stay. Of the 52 patients that scheduled a visit 63.5% were no shows and 36.5% kept the appointment. Having had any prior ED visits or hospitalizations decreased the likelihood of an appointment being scheduled (OR 0.17 and 0.22 respectively both  $P \leq 0.05$ ). Being domiciled

increased the likelihood of keeping the visit (OR 10.81  $P < 0.05$ ) but higher numbers of hospitalizations and ED visits decreased the odds of the visit being kept (OR 0.86 0.75 respectively all  $P < 0.05$ ). Each hospitalization or ED visit in the prior year lowered the odds of keeping the appointment by 25 and 14% respectively. The presence of any co-occurring psychiatric diagnosis lowered the odds of keeping the visit (OR 0.16  $P < 0.05$ ). No shows tended to have higher rates of hypertension seizure disorders heart failure and chronic kidney disease although this did not achieve significance. A majority of patients that kept the visit had more experience with addiction treatments and had no past or present legal issues and most no shows had been started on medication treatment for their substance use disorder at the hospital but these results were not significant either. Conclusions: factors such as homelessness co-occurring psychiatric conditions and increased number of ED visits and hospitalizations may decrease the likelihood of compliance with a first outpatient addiction appointment following a hospital or ED stay.

**Saturday May 04**

### **Fostering Student Autonomy in Outpatient Psychiatry: An Innovative Educational Case Report**

Cody Naughton MD; Emma Brennan; Chadwick Yip MD; Neeral Sheth

The medical student experience in clinical psychiatry focuses on inpatient psychiatry. Outpatient experiences are often suboptimal. Barriers preventing effective teaching in outpatient settings include insufficient time for teaching inadequate supervision models no opportunities to provide trainees feedback lack of suitable patients and insufficient funding and financial incentives for faculty<sup>2</sup>. Medical students have been integrated into more autonomous roles in free clinics often as extracurricular

experience<sup>356</sup>. Responsibility for patients is a factor contributing to student learning in outpatient settings<sup>4</sup>. Our Student Teaching Clinic (STC) addresses previously identified barriers to provide an outpatient psychiatry experience restoring student autonomy and maximizing student learning. Multiple adjustments were made to enhance teaching in the outpatient STC. Suitable patients are identified by predetermined inclusion and exclusion criteria and opt into this clinic. The STC template has been adjusted to optimize the time students have with patients while allowing residents and faculty time to examine patients. Students are assigned specific clinical tasks for each patient encounter allowing all to have an active role with a small number of patient encounters. Faculty clinical productivity is maintained by the involvement of senior residents who provide a majority of the teaching. Senior residents prepare students for the encounters provide supervision and are responsible for giving feedback. We gathered qualitative and quantitative data about the medical student experience at the STC. Students were sent a survey with 6 Likert scale and 2 free response questions. 17 M3s have completed the survey and at least 12 additional responses are anticipated prior to presenting the data. Students most valued the autonomy supervision and exposure to psychiatric practice in this clinic. Students described the experience as an “opportunity to function as a psychiatrist” and appreciated the chance to independently practice interviewing and clinical skills while being “fully supported with specific time for feedback afterwards.” Students felt the experience provided a realistic “taste of what it is actually like to be an outpatient psych provider.” 71% of students felt the STC increased their compassion for patients with mental illness. 75% of students felt they had autonomy in the clinic. 82% of students indicated that their clinical skills had improved. 94% of students would recommend the STC to other students. While the inpatient psychiatry experience is a valuable experience for medical students emerging literature highlights the benefits of the outpatient experience<sup>1</sup>. This educational case report describes how the STC addresses previously identified barriers to provide opportunities for

students to have a meaningful clinical experience in outpatient psychiatry. This teaching model can be replicated by other academic institutions.

**Saturday May 04**

### **Harm Prevention: An Act of Compassion**

Amber Edinoff M.D.; Sarah Kaufman M.D.; Rachel Voss M.D.

Over the years multiple different models encompassing addiction have been introduced including ones for medical moral psychodynamic social learning socio-cultural and public health. The medical model has been prominent in medicine and views addiction as a disease and total abstinence as the goal of treatment. The moral model has predominated in public policies as seen in punitive repercussions for drug use such as prison sentences. These models have either missed large swaths of the public due to rigid requirements for treatment or by punishing people suffering from addiction rather than treating the problem at hand. Harm reduction refers to policies programs and practices that aim to minimize negative health social and legal impacts associated with drug use drug policies and drug laws. Harm reduction as an approach stands in opposition to the traditional medical model of addiction which labels any illicit substance use as abuse as well as to the moral model which labels drug use as wrong and therefore illegal. Resistance to harm reduction possibly stems from a culture that values abstinence and because harm reduction is seen as being “value-neutral.” However we argue that harm reduction is fundamentally value-rich and is guided by clinical ethics focusing on the care of individual patients and their interactions with society as a whole. The values provided to patients through harm-reduction strategies are autonomy nonmaleficence beneficence and justice. Autonomy is respecting the individual’s right to make decisions for themselves while nonmaleficence is the obligation to avoid inflicting

harm. Both of these values can be seen in needle exchange programs which a recent study showed can be effective platforms to motivate participants to enroll in treatment programs. Beneficence is the promotion of the well-being of others which can be seen in opioid overdose education programs and naloxone distribution. A study that looked at overdose rates in the state of Massachusetts found that overdose rates dropped between 24-46% in communities that implemented overdose education and distributed naloxone. Justice promotes equality in healthcare and can be seen in opioid replacement therapy which gives people the opportunity to have a life free of illicit drug use for those who are unwilling or unable to stop using opioids at the present time. In this poster we will discuss the compassion and value-rich nature of harm reduction strategies in the face of current addiction treatment modalities.

**Saturday May 04**

### **Insurance Denial Appeals for Substance Use Disorders in New York State**

Ping Ping Zeng; Arvin Azam; Lulu Wei; Cathryn Galanter M.D.

Background: In the past decade general medical care utilization increased among adults with substance use disorders (SUDs) in the United States due to insurance expansions but SUD treatment utilization has remained consistently low at about 10%. Various barriers to SUD treatment exist including stigma lack of readiness financial barriers and denial of coverage by health insurance plans. Patients have the right to appeal insurance denials which can be overturned. Most healthcare plans have an internal appeal process which can be escalated to external appeal performed by an independent party. Appealing denials can result in delays in healthcare and can negatively impact patient health outcomes. The aim of this study is to characterize the demographics of SUD external appeals in New York State (NYS) and identify factors associated



with successful appeals. Methods: The NYS External Appeals database was queried for 2019-2022 SUD cases (N=1060). We collected patient age gender decision year denial reason diagnosis treatment and reviewer references. Annual appeal volume was calculated and analyzed by linear regression. The association between decisions and characteristics was analyzed by  $\chi^2$  tests and factors related to overturns were analyzed through multivariate logistic regression. Results: 60.2% of SUD appeals were successfully overturned compared to the 32.3% overturn rate in appeals of all conditions. The rate of successful appeals per year has not changed significantly. Those who appealed were more likely to be male (81.1%) treated inpatient (91.6%) suffering from more than 1 substance (58.4%) insured through Medicaid (58.9%) and initially denied due to lack of medical necessity (99.3%). The factors that were significantly associated with successful appeals were inpatient treatment and SUD with more than 1 substance. 60.5% of reviewers referenced Level of Care for Alcohol and Drug Treatment Referral (LOCADTR) guidelines and 16.6% referenced American Psychiatric Association (APA) guidelines. Appeals that referenced APA guidelines (OR: 8.43 95% CI: 4.89-14.6  $p < 0.0001$ ) or LOCADTR guidelines (OR: 3.07 95% CI 2.34-4.01  $p < 0.0001$ ) had increased odds of being successfully overturned. Conclusions: Appeals for denied SUD claims had almost double the rate of successful overturns compared to appeals for all conditions. These findings suggest that health insurance plans may inappropriately deny coverage for necessary treatment and services which delays care. The relatively high rate of successful appeals warrants further research in insurance claim denials and appeals in substance use-related conditions so that we can minimize unnecessary delays and barriers in healthcare for SUDs.

## Is Substance Use Disorder in our population fully understood? A cross-sectional analysis.

LAURA HANDAL M.D.; Alexa Zaheri; Madison Casey M.S.; James Patterson MD PhD

Background: To respond to the growing burden of drug misuse in Louisiana we believe that a deeper understanding of the at-risk population could help provide more information to practitioners. The aim of this study is not only to identify common characteristics of patients admitted to an addiction center in Shreveport Louisiana but authors also hypothesized that patients with previous traumatic events are at higher risk of polysubstance use. Methods: A cross-sectional study was conducted after extracting data from electronic health records of a local inpatient addiction treatment center between 2021 and 2023. Variables studied were existence of polysubstance abuse defined as to the consumption of one or more licit/illicit substances over a defined period or simultaneously mental health comorbidities according to DSM V diagnosis previous suicide attempts social network by analyzing patient's current occupation status/educational level/marital status and the presence of previous traumatic events described by the Life Events Checklist for DSM-5 (LEC) a self-report measure designed to screen for potentially traumatic events in a respondent's lifetime. T-test and Correlation analysis were used to analyze the relationships between polysubstance status and LEC score. Chi square analysis was performed to analyze the relationship between polysubstance status and PTSD (Post Traumatic Stress Disorder) diagnosis. Results: The characteristics of 523 patients are described (mean age = 39.5 61% male). Only 21% had full time jobs 5.5% completed college and 13.7 % had domestic partner or married. The most common psychiatric comorbidity was Generalized Anxiety Disorder at 53.7 % followed by Major Depression Disorder at 48.6% of the patients. The past suicide attempt rate was 26.4%. Cigarettes were used by 96.2% of the population Amphetamines was the second most common drug used in our population (67.1%) and polysubstance use was found in 513

of our patients. There was a significant difference in LEC score between polysubstance use group ( $M = 3.51$   $SD = 0.15$ ) and no polysubstance use ( $M = 2.98$   $SD = 0.17$ );  $t(520) = 2.32$   $p = .001$ . A Pearson correlation coefficient was computed to assess the linear relationship between LEC score and number of drugs used there was a significant positive correlation between the two variables  $r = .16$   $p = .0002$ . Although all the patients diagnosed with PTSD corresponded to the polysubstance use group no statistical difference was found  $\chi^2(1, N=523) = 1.34$   $p = 0.67$ . Conclusion: Patients with past trauma events have higher risk of polysubstance use. The value of trauma assessment is illustrated in this study by noticing that most of the patients at an addiction center have adverse past life events and PTSD remains underdiagnosed. We strongly believe that substance use disorder (SUD) facilities should train their professionals to provide integrated assessment of this dual diagnosis to better further treatment.

Saturday May 04

### **Medical Student Utilization of Mental Health Services: Mixed Method Analysis of Factors That Impact Where Students Seek Treatment**

Kyle Webster Ph.D.;D.O.; Alyssa Smith M.D.; Sarah Kong D.O.; Alla Sikorskii

Objective. Medical students are disproportionately affected by mental health conditions including depression anxiety and suicidal ideation [1-3]. As such it is crucial to improve access to care for this population. Understanding why students seek mental health services at their institution or external to their medical schools could further provide insight to improve student engagement with services. The authors aimed to elucidate these factors by surveying medical students at Michigan State University College of Osteopathic Medicine

(MSUCOM). Methods. This study was approved by the institution's IRB under exempt status. In fall 2019 all medical students at MSUCOM were offered a voluntary anonymous survey which inquired about demographics (age gender sexual orientation race year in medical school); if they had sought mental health treatment; where they sought treatment (internal vs external to the institution); if they had not sought treatment where they would prefer to seek treatment; what factors influenced this decision; and what symptoms were present. Differences in proportions of reasons for seeking internally vs externally were compared using a chi-square test. A multinomial logistic regression model was used to estimate the 95% odds ratio for preference of seeking services internally vs externally. The model was adjusted for demographic factors including age sex and year in training. Results. Three hundred fifty-four students completed the survey. Of these 167 (47%) sought mental health care during medical school including 108 who sought care internally and 59 externally. Top factors cited as influencing this decision included convenience what symptoms were present and trust/comfort with provider. Additionally students further in medical school training were more likely to seek care externally ( $p=0.001$ ). There was not a statistically significant difference in where individuals utilized services for race/ethnicity sexual orientation or gender. Additionally of the 354 respondents 109 participants (30.8%) reported utilizing mental health services prior to medical school; of these 78 (71.6%) reported utilizing mental health services during medical school. Conclusions. Forty-seven percent of medical students had received mental health treatment in medical school of which 35% sought mental health care externally. Factors determining where medical students sought treatment included convenience confidentiality concerns and year in medical school. As medical schools increase internal availability of mental health services to their students it is important to consider these factors in designing resources. As over a third preferred external resources it is important for medical schools to provide information of available resources.

Saturday May 04

### **Modeling fetal cannabinoid syndrome: Effects of dronabinol given during gestation and lactation on behavioral and brain alterations of the offspring**

Jorge Manzanares; Daniela Navarro; Ani Gasparyan; Francisco Navarrete Rueda

**Background:** There is a worrying increase in cannabis use during pregnancy and lactation. This study aimed to establish a novel animal model for perinatal exposure to dronabinol and assess the resultant behavioral and neurological modifications in the offspring. **Methods:** Five days after the beginning of pregnancy in female C57BL/6J dronabinol (10 mg/kg/12 h p.o.) was given to mothers to postnatal day 21. Behavioral studies (anxiety depression and cognition) were assessed in the offspring (male and female). Relative gene expression of key components in the stress axis (corticotropin-releasing factor (CRF) and glucocorticoid receptor (GCR)) and reward system (tyrosine hydroxylase (Th) and mu-opioid receptor 1 (Opmr1) cannabinoid receptor 1 (Cnr1) and cannabinoid receptor 2 (Cnr2)) were analyzed by Rt-PCR. Protein expression of brain-derived neurotrophic factor (BDNF) Neurofilament 200 (NF200) and neuronal nuclear protein (NeuN) in the hippocampus (Hipp) and cerebral cortex (CCx) was examined by immunohistochemistry. The excitatory/inhibitory balance in the Hipp and CCx was also evaluated by immunohistochemistry. Cnr1 and Opmr1 gene expressions were measured in brain regions of mice submitted to studies of alcohol consumption and motivation. **Results:** Offspring exposed to THC displayed elevated levels of anxiety depression and cognitive impairment and increased susceptibility to alcohol consumption and motivation in males and females. Notably these behavioral changes were accompanied by significant reductions in Crf gene expression in the paraventricular nucleus (PVN) in males and females and a decrease in TH expression in males in the ventral tegmental area (VTA). GCr expression in the Hipp was significantly

increased in males and TH expression in the VTA of females. The Cnr1 gene expression decreased in the Hipp of males and increased in females. The Cnr2 gene increased in Hipp of males and females. Cortical lamination in the cerebral CCx and Hipp of males and females was disrupted suggesting abnormal brain maturation. BDNF and NF200 protein expressions were reduced in the Hipp of males and females. VGluT1/VGAT protein expression was altered in the excitatory and inhibitory loop. In mice subjected to ethanol-self-administration we found increased Cnr1 gene expression in males and Opmr1 females and decreased Cnr1 expression in females and Opmr1 males. **Conclusions:** These results reveal the severe consequences of perinatal dronabinol exposure on various behavioral and neurochemical aspects. These may result from alterations observed in cortical development mechanisms stress axis regulation and reward circuits. A decrease in neuronal plasticity accompanied the findings. Further studies are required to complete the characteristics of a “fetal cannabinoid syndrome” with a relevant impact on our society.

Saturday May 04

### **National trainee perspectives on global mental health and related topics in psychiatry residency training programs in the US**

Leyi Kang; Colleen Stiles-Shields; Seeba Anam M.D.

**Background:** Global mental health is considered a specialty area in residency training likely contributing to few psychiatry programs offering adequate training opportunities in this area. To examine the scope of training regarding global mental health (GMH) and related topics (e.g. health equity/health disparities mental health in low-resource settings mental health-related stigma) in current psychiatry residency programs

throughout the United States (US) we conducted a survey assessing residents' opinions on the interest availability and importance placed on GMH related training during residency.

Methods: Psychiatry residents were recruited via email invitations to 288 psychiatry residency programs in the US. We recruited programs stratified for program type program size region and urbanicity to support generalizability of the findings. The survey specifically assessed integration importance and interest of GMH related topics within psychiatry residency curricula and was deployed and maintained by Qualtrics. Demographic characteristics and questionnaire data were analyzed using descriptive statistics while chi-square analyses were conducted to explore differences in residents' level of interest as well as importance in offered curriculum based on demographic characteristics. Results: A total of 263 survey responses were received with 192 ultimately included in analyses (49.5% female 56.8% Caucasian) due to an item response rate of >80%. A representative national sample was recruited based on program location and type (i.e. 35% southern US 27% northeastern US 24% midwestern US; 40% university-based 36% community-based university affiliated). Overall 76.5% of participants (n=147) considered it important to receive formal training in GMH while over half of the participants (68.8% n=132) were interested in obtaining more training in this topic. Over 80% of the sample also considered it either somewhat or very important to receive training in all related topics. However only 25% of the participants (n=48) reported that GMH training curricula was offered in their current programs and only 23.9% (n=46) of residents felt that their programs have well-prepared them to handle GMH-related issues. Over 30% of the sample reported not receiving formal training on the following related topics: cultural concepts of distress (31.8% n=61) immigrant mental health (51.5% n=97) refugee mental health (57.8% n=111) and human rights (35.4% n=68). Conclusions: Despite expressing strong interest and voicing the importance of GMH and other related topics most trainees reported a lack of formal training in these areas within residency

training programs. Our findings highlight perceived learning needs of trainees and identifies gaps in residency curricula. These gaps must be addressed to equip the next generation of psychiatrists to address rising mental health needs in both global and local contexts.

Saturday May 04

### **Nicotine Pouches – „Oral nicotine pouches – results of a study on nicotine kinetics“**

Andrea Rabenstein; Benedikt Rieder; Nadja Mallock-Ohnesorg

Background: Nicotine pouches or pouches are nicotine-containing products that are free of tobacco. Nicotine pouches are essentially made of plant fiber components to which nicotine has been applied. They are placed under the upper lip and deliver nicotine that is absorbed through the oral mucosa. Pouches are available with varying nicotine content ranging from 1 to 50 mg of nicotine per pouch. The nicotine delivery and acute effects of these products have been poorly studied. In particular the rate of nicotine onset in the first 5 min of use has been associated with a high potential for addiction. Pouches have been classified as food in several court rulings and food must be free of nicotine which is why trade in Germany has been banned. Nevertheless they can be obtained via online trade from abroad which is why it is necessary to be able to assess the product in terms of its effect. Aim und methods: We examined nicotine delivery craving reduction and side effects associated with the use of high-dose nicotine pouches compared with low-dose pouches and pouches without nicotine and compared with tobacco cigarettes. A five-arm crossover study of 15 smokers examined the use of pouches containing 0 mg 6 mg 20 mg or 30 mg of nicotine and a tobacco cigarette. Venous blood samples were collected at defined time points during the 240-minute study period and analyzed for nicotine concentration. Effects on smoking craving and side effects were assessed

using questionnaires. Cardiovascular effects and influences on arterial stiffness were determined using an appropriate device (Mobil-O-Graph). Results: The nicotine delivery of the 30 mg nicotine pouch exceeded the nicotine delivery of cigarettes. In the acute phase the increase in plasma nicotine levels was comparable when consuming the cigarette and the 30 mg pouch. The desire to smoke and the acute craving for a cigarette were reduced by all products including the nicotine-free pouch. Using the cigarette and the high concentration nicotine pouch (20 mg and 30 mg nicotine) showed a significant increase in heart rate. Irritation of the oral mucosa in the first minutes after consumption was found to be higher with all pouches regardless of their nicotine content than with the tobacco cigarette. Conclusions Nicotine pouches with high doses (30 mg) can lead to higher plasma nicotine levels than cigarettes. The steep increase of plasma nicotine in the acute phase indicates a possibly high addictive potential of these products. In addition the higher nicotine delivery has been associated with more severe side effects. Such high doses of nicotine do not seem to be necessary to satisfy cravings as pouches with lower doses or even without nicotine also reduced the craving to smoke.

Saturday May 04

### **Pre-Clinical Medical Student Bias Against Mental Health and Psychiatry: Factors Affecting Improvement**

Alyssa Smith M.D.; Joseph McCann M.D.; Laura Quast M.D.; Lauren Bryant M.D.; Martin Plawecki M.D.; Ph.D.

Background: Patient outcomes are worsened by provider bias against mental health. Thus examining and reducing such bias is important[1-4]. Prior work showed that pre-clinical psychiatry education reduces bias in first-year medical students[5]. In our prior study we asked what would change perceptions of psychiatry; over half of respondents answered increased patient

exposure[5]. In this study we examined how post-graduate medical education specialty of interest and the addition of structured patient exposure mediated change in bias. Scores from 2022 to 2023 were compared to examine perception changes associated with patient exposure. 2023 scores were examined to determine how specialty of interest affected bias. Methods: At Indiana University School of Medicine first-year medical students receive education in psychiatry and neurology through a course entitled "Neuroscience and Behavior." In 2023 the course included two patient "townhalls" each consisting of a patient with a psychiatric condition speaking about their conditions and answering pre-submitted and live student questions. Each townhall was moderated by a psychiatry resident with faculty supervision. All 365 first-year students were offered our IRB-approved survey which included the Mental Illness: Clinician's Attitudes version 2 (MICA-2; 16 Likert-scale questions; lower scores indicate less bias)[6] and supplemental questions including current specialty of interest. A small gift card was offered to completers of both surveys. 2023 MICA-2 results were analyzed using paired t-tests and compared to 2022 results using a paired t-test. Specialty of interest's effect was analyzed using ANOVA. Results: In 2023 82 students completed both pre and post surveys with mean scores of 35.80 (SE=0.82) and 34.48 (SE=0.82) a change of -1.32 (p=0.04). 26 students completed only the pre survey and were excluded from analyses. Students interested in psychiatry (N=8; mean change -2.88) and those interested in medical specialties (N=50; mean change -1.70) showed a greater decrease than those interested in surgical specialties (N=24; mean change -0.04; p=0.01). In 2022 117 students completed both surveys with mean pre and post scores of 36.56 (SE=0.74) and 33.64 (SE=0.75) a change of -2.92. The difference between pre and post score change in 2022 and 2023 was statistically significant (p=0.03) with the change being less in 2023. Conclusions: In both years bias towards mental health decreased following the pre-clinical psychiatry and neurology course. Improvement was less in 2023 than 2022 perhaps from addition of the patient exposures indicating early exposure may worsen bias.



Specialty of interest was also significantly associated with change; those interested in medical specialties and psychiatry had a greater reduction than those interested in surgical specialties. Future work will aim to refine discipline specific challenges and the impact of patient exposure timing within medical education.

**Saturday May 04**

### **Prevalence of substance use among high school students in a district in Nepal.**

atit tiwari; prabhat sharma

**Introduction:** Substance use is common among youths and is one of the major public health burden among the countries globally [12]. It significantly decreases the productivity of the nation and increases the health care cost. In low- and middle-income countries where access to treatment is limited the impact on an individual and the society can be even more detrimental [3]. The aim of this study was to find out the prevalence of substance use among the high school students in Morang district in Nepal. **Methods:** A descriptive cross-sectional study was conducted in nine public high schools in Morang district in Nepal from November 2021 to February 2022. Convenience sampling method was used. Five Hundred sixty-five students were included in the study. Data were collected based on semi structured questionnaire and were analyzed using the Statistical Package for the Social Science version 23.0 and Microsoft Excel version 16.0 Point estimate at 95% Confidence Interval was calculated along with frequency and percentage for binary data. **Results:** The prevalence of substance use by the respondents was 85 (15.04%). Out of 565 students majority of the respondents 480 (84.95%) belonged to the age group 15 - 18 years and were mostly males 365 (64.61%). Among the 85 students who were involved in substance use 45 (53.94%) consumed alcohol 17 (20.00%) took cigarette 13(15.29%) used tobacco and 10 (11.76%) took marijuana

whereas 35 (41.17%) reported consuming multiple substances. Among the substance users 33 (38.82%) reported imitating their family members and 52 (61.17%) reported consuming substances under peer pressure. Significant association was found between prevalence of substance use among the high school students and their family history of substance use with the  $\chi^2$  value of 7.27 and p-value 0.006; which is less than 0.05 significant. **Conclusions:** The prevalence of substance use among high school students is high in Nepal. Nepal needs policies and programs for preventing its youths from getting involved in substance use and enough funds need to be allocated for treating substance use disorders and other mental health problems.

**Saturday May 04**

### **Psychopharmacology for Primary Care: Addressing Provider Student and Patient Comfort in Psychiatric Care**

Isreal Munoz; Vivian Lee; Shilpa Rajagopal; Emma Rowlinson; Navin Oorjitham M.D.

**Background** While shortages of psychiatrists have led more primary care providers (PCPs) to address initial mental health concerns data suggests that many PCPs may not feel comfortable in initiating pharmacological-based psychiatric treatment for patients. To address provider and student comfort with psychopharmacology our team created workshops using the Waco Guide an evidence-based clinical decision support tool (CDST). Additionally our team aimed to investigate the impact of the clinic environment on patients' clinical experience at St. Vincent's Clinic (STV) a student-run free clinic in Galveston Texas. **Methods** 9 workshops were hosted for STV students and residents in family medicine internal medicine and OBGYN reaching nearly 150 trainees. During workshops participants were educated on how to use the Waco Guide and

implement it in their own practice. Surveys at workshops included various questions on participant confidence in treating psychiatric disorders on a scale of 1 (low) to 5 (high). For the second portion of the project patients were given surveys before and after their appointment to gauge patient comfort and perception of clinical environment. Additionally volunteers themselves completed surveys sharing their perceptions of the waiting room and patient rooms (on a Likert scale 1-5 with 1 being least relaxing and 5 being most relaxing). Results OBGYN residents showed significant improvement in having more confidence with psychiatric treatment plans (paired difference mean (PDM) = +1.45) and having more psychiatric tools (PDM = +1.58). Medical students showed significant improvements in confidence with treatment plans (PDM = +1.06) and confidence in having having more psychiatric tools (PDM = +1.44). For patient environment surveys were gathered from 21 patients and 30 volunteers. Appointment duration was negatively correlated with changes in perception of the patient rooms ( $r_s = -0.422$   $p = 0.064$ ) but not the waiting rooms (NS  $p > 0.1$ ). This decrease in patient room perception was subsequently significantly correlated ( $\chi^2(120) = 5.321$   $p = 0.0211$ ) with increases in patient anxiety (OR = 0.257 95%CI[0.0581.139]). A thematic analysis showed negative impacts of the environment on patient comfort (“less cared for” “agitated” “anxious”)and concerns regarding long wait times. Suggestions for items to improve the environment included lamps books magazines sound machines with relaxing sounds stress balls and coloring books. Conclusion Workshops have received a positive response from STV residents and students increasing their overall comfort with managing psychiatric care. Patient environment results indicate that student volunteers and patients showed that there is a clear desire for aesthetic comfort and functional enhancements to improve patient satisfaction. Future directions include adding the suggested items to the environment and evaluating their impact on patient and volunteer experience and satisfaction.

Saturday May 04

## Representation in Psychiatry Leadership: A Parity Analysis of Gender and Racial/Ethnic Diversity of Department Chairs in Academic Psychiatry

King Fok MSc; Nhi-Ha Trinh MD MPH

Background. Health equity seeks to improve care access and treatment for historically and intentionally excluded groups. Diversity equity and inclusion (DEI) initiatives have centered on ensuring racial/ethnic diversity and representation of mental health providers. While DEI efforts have led to an increase in the aggregate number of self-identified female and ethnic/racial minoritized faculty in academic psychiatry little investigation has been made to identify whether efforts have translated to a concomitant increase in representation in psychiatry leadership. Methods. The purpose of this study is to assess parity in leadership within academic psychiatry departments across the United States. A cross-sectional analysis of self-identified race/ethnicity and gender in academic psychiatry departments from 2012 to 2022 was conducted using data from the American Association of Medical College’s Faculty Roster. The number of psychiatry department chairs to psychiatry faculty stratified by race/ethnicity (American Indian or Alaska Native Asian Black or African American Hispanic/Latino/Spanish Origin Native Hawaiian or Other Pacific Islander White) and gender (female or male) were used to calculate the Leadership Parity Index (LPI) for each year of analysis. LPI is defined by the representation of a specific group as leaders relative to the workforce adapted from the Executive Parity Index a measure utilized in the business sector to examine data on gender and racial/ethnic equity in executive and professional levels. In this study LPI was calculated as the proportion of a group’s percentage representation as psychiatry department chairs relative to the group’s percentage representation as academic psychiatry faculty. An LPI of 1 represents parity in representation; an LPI > 1 indicates

overrepresentation in chair positions as compared to faculty representation; an LPI < 1 indicates underrepresentation in chair positions as compared to faculty representation. Results. The absolute number of faculty across all racial/ethnic and gender groups have increased except for Native Hawaiian and Pacific Islander males. LPI calculations found that faculty who identified as male were consistently overrepresented (average LPI = 1.65) as department chairs in every racial/ethnic group except for Asian males. Female faculty across all races/ethnicities were consistently underrepresented (average LPI = 0.39). Asian males and females ranked the lowest in leadership parity among the racial/ethnic groups studied (average LPI = 0.70 and 0.24 respectively). Conclusion. Although faculty representation has become increasingly diverse there continues to be underrepresentation of females and racial/ethnic minoritized groups in academic psychiatry leadership. The findings of this study suggest that further efforts must be made to promote females and racial/ethnic minoritized groups at every level of leadership in psychiatry.

Saturday May 04

### **Simple Practical and Underappreciated Interventions in Muslim Communities: Mental Health First Aid and Certified Peer Specialists...Eventually**

Ali Syed D.O.

Mental Health First Aid (MHFA) certification training is an evidence-based skills-based public health educational intervention that is effective in decreasing stigma increasing mental health literacy identifying signs and symptoms of mental health disorders including substance use and encouraging individuals to self-help and/or professional help resources in the local community for those experiencing a mental health or substance use challenge (Troxel et al. 2022). In

three MHFA trainings we sought to examine attitudes toward certified peer support specialists (CPS) as a potentially effective intervention in Muslim faith communities. CPS use their lived experience including spiritual experiences when appropriate (Walter et al. 2022) to inspire hope empower peers and promote recovery in those experiencing substance use challenges. The use of CPS for treating those who suffer from substance use has garnered substantial empirical support in recent years (Hoffman et. al 2019). However using CPS in religious circles may pose unique challenges related to perceived stigma. Prior to implementing CPS in Muslim faith communities we explored attitudes towards CPS by surveying 59 Muslim adults who participated in MHFA trainings. On an attitude scale ranging from 0 (strongly disagree) to 5 (strongly agree) Muslim participants reported that having CPS in their religious communities would reduce mental health stigma (M = 4.06). Notably participants believed that if a religious leader became a CPS it would reduce mental health stigma in their communities (M = 3.86) and they disagreed that people would question the spirituality of their faith leaders if they were to become CPS (M = 1.89). Results overwhelmingly support positive attitudes toward implementing CPS in Muslim faith communities. Unfortunately participants also reported that behavioral health stigma would prevent Muslims from becoming CPS in the first place (M = 3.42). Our preliminary data suggest that implementing CPS services might be particularly effective in helping those with substance use problems in Muslim communities; however it will be necessary to reduce stigma to some extent prior to successful implementation of CPS support services. We plan to use our findings as a potential avenue to educate decrease stigma empower and support Muslim faith communities in combatting substance use through delivering MHFA trainings while highlighting and emphasizing the role of CPS in behavioral health care.

Saturday May 04

## **STUDY OF PSYCHIATRIC CO-MORBIDITY AND QUALITY OF LIFE AMONG OPIOID DEPENDANT PATIENTS**

Manmeet Singh M.D.

**Abstract** Background: Opioids usage is second among the illicit substance used after cannabis. The prevalence of opioid use in India is three times the global average. Psychiatric disorders coexist with opioid abuse and also impacts quality of life (QOL). Methods: The study was conducted among 114 opioid dependent patients in accordance with ICD-10. The selected patients were evaluated for demographic variables by using semi-structured proforma and then MINI plus was used to evaluate psychiatric morbidities. The patients were assessed for their quality of life by using the WHOQOL-BREF Questionnaire. Results: Mean age of patients was 27.9±6.9 years. Ninety seven percent of the patients were male 55.2% had studied up to high secondary school and 64.9% patients were employed. Most of patients had started taking opioids between age of 21-30 years. Majority of opioid users (47.3%) preferred a combination of routes such as intravenous chasing and oral. More than half (54.4%) of patients were abusing a combination of heroin and pharmaceutical opioids and 59.7% were Hepatitis C Virus positive. In our study 84 (73.7%) patients had psychiatric co morbidities. More than half of the patients (54.3%) had major depressive disorder either alone or in combination with other psychiatric co morbidities. In the present study 39.4% had only major depressive disorder 12.3% of patients had major depressive disorder with suicidality 9.7% of patients had an anti social personality disorder 6.1% had adult attention deficit hyperactivity disorder and 3.5% of patients had the presence of general anxiety disorder and 2.6% had major depressive disorder with antisocial personality disorder. Patients with higher secondary education (51.2%) majority of employed opioid-dependents patients (60.7%) patients taking heroin and pharmaceutical opioids patients taking opioids using a combination of routes such as intravenous chasing and oral had more

psychiatric co morbidities (48.8%) and the association was statistically significant ( $p < 0.05$ ). Poor quality of life was reported among all the participants in respect of the Physical (15.6±7.4) Psychological (14.3±8.3) Social (17.4±8.8) domains and moderate quality of life in the Environmental domain (25.8±7.6) and the distribution of patients according to WHO- Quality of life BREF was found to be statistically significant ( $p < 0.05$ ). Conclusion: Our cross-sectional study found a strong correlation between psychiatric disorders and opioid dependent patients. Opioid-dependent patients have a poor quality of life and require professional and emotional support to quit their addiction and improve their quality of life. Thus the mental health professional should be aware of this association while assessing opioids dependent patients.

Saturday May 04

## **Transcriptomic Profiling Identifies a Gabapentin-Responsive Subtype for Precision Medicine in Alcohol Use Disorder**

Joshua Wang; Yuna Kim; Eugene Laska; Kelly Ruggles; Charles Marmor M.D.

Alcohol use disorder (AUD) is a clinically heterogeneous condition lacking targeted treatments. Contrasting with prior clinical trials that reported limited efficacy of gabapentin in reducing heavy drinking days (HDDs) our research has shown that specific clinical biomarkers can pinpoint a subset of AUD patients responsive to gabapentin. Breaking new ground this genomics study explores baseline RNA gene expression from whole blood in 342 adults diagnosed with AUD over a 6-month period to enhance precision medicine through systems pharmacology. Utilizing unsupervised learning methods including Weighted-Gene Correlation Network Analysis (WGCNA) and Non-Negative Matrix Factorization (NMF) we discerned 4 distinct patient subgroups. Two of these groups displayed significantly divergent Profile of Mood States (POMS) scores

with variations primarily attributed to differential gene expression in inflammatory pathways notably IL-1 signaling and heightened lipopolysaccharide (LPS) reactivity. This suggests a potential role of inflammation in exacerbating mood dysregulation and cravings in AUD. Guided by prior predictive signatures we examined 8 pathways encompassing voltage-gated channels alcohol reward circuits oxidative stress and neuroinflammation aimed to predict gabapentin's efficacy in reducing HDDs. We employed a validated causal inference framework wherein models trained on the gabapentin cohort were applied to placebo participants to hypothesize their response to the drug. Remarkably a 6-gene panel (AUC 0.77 sensitivity 77% specificity 75%)—consisting of neuronal and immune apoptosis regulators—effectively distinguished between responders and non-responders. In addition we compared the actual HDDs against the counterfactual predictions in the placebo group and showed a significant mean difference of 4.8 fewer drinking days ( $p=0.006$ ) for those predicted to respond to gabapentin while non-significant differences were seen for those predicted to not respond. This finding underscores the panel's relevance to gabapentin's mechanism in reducing AUD symptoms in specific patient subgroups. Our study shifts the paradigm from the previously observed minimal efficacy of gabapentin in heterogeneous AUD cohorts to a nuanced biomarker-guided approach for identifying stress response subgroups likely to benefit from the treatment. Future directions aim to incorporate mutation and epigenomic data further clarifying the predictive models and regulatory elements underlying variable treatment response. Ultimately this genomic analysis dissects clinical heterogeneity in AUD illuminating responsive subgroups for precision-aligned mechanism-based treatments.

Saturday May 04

## Understanding the Socioeconomic Factors Associated with Concomitant Opiate and Sedative Use Disorders in Emergency Department Patients

Henna Hundal; Ryan Wang; Kamil Taneja B.S.; Sanjay Chandragiri

Introduction: In patients with established opioid use disorder (OUD) socioeconomic determinants associated with concurrent abuse of other medications (e.g. sedatives) are not well characterized. Our study identifies risk factors of concomitant opiate and sedative use disorders (SUD) in patients presenting to the emergency department (ED) and examines their odds of hospital admission. Methods: We conducted a retrospective analysis of the Nationwide Emergency Department Sample (NEDS) from 2015 to 2019 of patients with OUD throughout the U.S. A multivariate logistic regression with patient and hospital characteristics was used to identify factors associated with a concurrent SUD. Then we used a multivariate logistic regression to determine factors associated with hospital admission of the OUD/SUD patient population. Results: In the studied years 134430 patients diagnosed with OUD presented to the ED. Of these patients 4376 had a concurrent diagnosis of SUD (30.7%). The insurance status with the highest prevalence of concurrent OUD and SUD were patients on Medicaid (45.8%); uninsured patients had a prevalence of 20.7%. Interestingly there was a similar prevalence of concurrent OUD and SUD throughout all median household income quartiles (22.3% 26.4% 24.2% and 27.1% for first to fourth income quartiles respectively). Probing factors significantly associated with concurrent OUD and SUD black patients were less likely than white patients to present with comorbid substance use disorders (OR 0.39 95% CI: 0.25 - 0.61  $p< 0.001$ ). Controlling for additional variables patients with OUD in the fourth median income quartile had a higher chance of concurrent SUD compared to patients in the first quartile (odds ratio (OR) 1.6 95% confidence interval (CI): 1.1 - 2.3  $p=0.014$ ). Patients with OUD who presented to hospitals in the South (OR 1.83 95% CI: 1.2 - 2.7  $p=0.002$ ) had a higher chance of



concurrent SUD. Among various comorbidities heart failure was an independent risk factor for concurrent SUD (OR 4.19 95% CI: 1.3 - 14.0 p=0.020). Admission risk for patients with both OUD and SUD differed based on demographic factors and comorbidities. Patients ages 21 - 44 had a higher odds of admission compared to patients ages 11 - 20 (OR 11.2 95% CI: 1.1 - 111.7 p=0.039). Medicaid patients had a lower chance of admission compared to Medicare patients (OR 0.03 95% CI: 0.00 - 0.40 p=0.008). Patients of the second median income quartile were less likely to be admitted compared to patients of the first quartile. Among various comorbidities patients with hypertension were more likely to be admitted (OR: 14.0 95% CI: 2.5 - 80.0 p=0.003). Conclusion: Age insurance status income and certain comorbidities are associated with hospital admission in concurrent OUD and SUD. Improved understanding of contributing factors to these disorders and their influence on inpatient admission may aid in risk stratification and supportive care strategies.

Saturday May 04

### What is the benefit of intermittent opioid agonist treatment in patients with prescription opioid use disorder?

Roger Weiss M.D.; Margaret Griffin PhD

Introduction Studies have consistently shown that patients with prescription opioid use disorder (OUD) respond to buprenorphine treatment. Few studies have followed these patients long-term. Our research has shown that opioid abstinence is associated with receipt of opioid agonist treatment. We also found that many patients did not use agonist treatment consistently. Thus the benefits of intermittently receiving agonist treatment are unclear. Objective The current study examined patients during the 3.5 years following participation in a 3-month treatment trial for prescription OUD. The association between

agonist treatment and opioid use was examined at 3 follow-up time points. Methods This secondary analysis (N=309) of a multi-site national randomized controlled trial of treatment for prescription OUD assessed variability in receiving opioid agonist treatment through the 3.5-year follow-up period and the association between agonist treatment and opioid abstinence. Participants were assessed at 18 30 and 42 months following study entry; participants with only one follow-up assessment (n=29) were excluded from this analysis. Results During follow-up most study participants reported current opioid abstinence at >1 assessment: 38% were always abstinent 41% sometimes abstinent and 21% never abstinent. Half of the participants (51%) never reported current receipt of opioid agonist treatment with the remainder split between sometimes (26%) or consistently (23%) receiving this treatment. Participants who reported receiving agonist treatment at all follow-up assessments were most likely to be always opioid-abstinent (69%) with 25% sometimes and 6% never opioid-abstinent. Participants who reported receiving agonist treatment at none of the assessments were equally likely to be abstinent never (32%) sometimes (35%) and always (32%). Participants who sometimes reported receiving agonist treatment were most likely to report abstinence sometimes (65%) with fewer reporting abstinence never (14%) or always (21%). As expected those always receiving opioid agonist treatment were most likely to be consistently opioid abstinent (69%) compared to those sometimes (21%) or never (32%) receiving opioid agonist treatment. Also as expected those never receiving opioid agonist treatment were most likely to report never being opioid-abstinent (32%) compared to those sometimes (14%) or always (6%) receiving opioid agonist treatment. Notably those who sometimes received this treatment were more likely to be abstinent sometimes than those who never received opioid agonist treatment (65% vs. 35%) and were less likely never to be abstinent than those who never received this treatment (14% vs. 32% p<0.01). Conclusion Receiving opioid agonist treatment has been shown to be associated with opioid abstinence during long-term follow-up. This study

extends those findings to show that even those who only intermittently receive this form of treatment are likely to benefit.

Saturday May 04

### **Roid Rage"-The Psychiatric Manifestations of Anabolic Steroid Use: A Review of the Literature and New Case Findings"**

Andrew Greenhalgh; Amanda Wilder

**Abstract:** Intro: The psychiatric implications of androgenic anabolic steroid (AAS) use has been a rising issue for 30 years in psychiatry due to the increase in body dysmorphia in young adult males. Rarely excessive and unregulated use can be accompanied by psychiatric symptoms known as "Roid Rage." Despite the known destructive tendencies of AAS-use the literature is sparse on cases discussing the diagnosis and management of this condition in the emergency psychiatry setting. Here we conducted a review of case studies regarding AAS-use behavioral sequelae and report on a new case of AAS induced mood disorder in a 20 year old male US Navy airman. **Methods:** We conducted a literature search of case studies using Embase and PubMed with key terms "Anabolic steroids" AND "Case report" and "Anabolic steroids" AND "Case." Cases were considered from the last 10 years due to rapid changes in "designer" AAS. Inclusion based on psychiatric AAS-related manifestations relied on case abstracts and titles with clinical judgment assessing relevance according to symptomatology. **Results:** A total of 13 cases of AAS-use behavioral manifestations were found in the literature. This report considered all behavioral symptoms and was not confined to any one diagnosis. The average age of patients exhibiting behavioral disturbance was 28.2 years with all identifying as cisgender heterosexual male. The most commonly reported psychiatric manifestation of AAS-use was aggression (seen in 8 of 13) as well as attempted or completed homicide (seen in 6 of 13). Other symptoms included psychosis mania delirium depression

and suicidality. Our case describes a 20-year-old cisgender heterosexual male in the US Navy admitted for an interrupted suicide attempt amid subacute depressive symptoms and excessive alcohol use. Following days of patient agitation depression and suspected underreporting a command-ordered wellness check on the patient's barracks room uncovered various AAS types syringes and needles. The patient admitted to 15 weeks of AAS use recently ceased and provided a comprehensive history aiding diagnosis. Referred for substance use disorder treatment he received outpatient endocrinology and primary care. Initial treatment encountered challenges due to hypogonadotropic hypogonadism effects. Continual engagement with our Substance Abuse Program 50 mg clomiphene and 150 mg trazodone led to improvement in symptoms. As of this writing the patient has been dismissed from the military. **Conclusion:** Given the rise of AAS use it is important to have AAS-induced mental health disorder when evaluating an otherwise healthy patient for new onset psychiatric symptoms. Taking a thorough history using collateral contacts and expanding recreational drug work-up to include common AAS are imperative to ensuring these patients do not slip through the cracks and potentially cause harm to themselves or others. "

Saturday May 04

### **"Super Second" a unique residency training model to support intern transition and encourage resident growth as educators**

Jin Hong Park M.D. M.S.; Megan Kummerlowe D.O.; Nicholas Allen M.D.; Robert Morgan M.D.

**Introduction** The start of the academic year can be a challenging transition for interns and PGY2s. The "Super Second" rotation within the Mayo psychiatry residency program pairs second-year

residents with first-year residents to provide peer-mentorship during the first three months of training. Super seconds take an active role in teaching interns how to navigate clinical scenarios supervise patient interactions and provide direct feedback to support interns in their development. This study aims to evaluate if this model is satisfactory to residents reduces overall stress and whether it encourages interest in careers as educators in PGY2s. Method Residents' expectations and experiences of the "Super Second" rotation were evaluated through self-report questionnaires two weeks prior to their rotation and following the rotation in 2021 and 2022. Questionnaires used a Likert scale (very positive positive neutral negative very negative) to assess predicted and actual satisfaction stress and educational goals and achievements. Residents were also asked to provide open feedback about the rotation. Results A total of 13/20 (65%) residents responded to the pre-rotation survey and 19/25 (76%) residents responded to the post-rotation survey. Overall satisfaction was 100% for interns and 84% for PGY-2s. Among second-year residents teaching skills (84%) giving constructive feedback (74%) reduction of stress (68%) and inspiration to become a clinician-educator (63%) were reported areas of growth during the rotation. 31% of PGY-2 residents reported a reduction in stress. Residents reported that having a Super Second helped them to learn how to adjust to a new hospital culture (92%) navigate the medical system (85%) and document medical information (77%) in their intern year. Conclusions The Super Second rotation was viewed positively by PGY-2 residents in the Mayo psychiatry residency. The rotation provided ample opportunities for residents to develop educational skills; however stress was only reduced in a minority of PGY-2 residents. Future directions include replicating these results in other residencies and evaluating whether resident participation correlates with future educational endeavors.

**Saturday May 04**

### **A unique case of lymphadenopathy secondary to Lamotrigine treatment**

Sukaina Rizvi M.D.; PRACHI PATEL

Lamotrigine belongs to an anticonvulsant class of drug which has its clinical implications in maintenance treatment of bipolar disorder bipolar depression and neuropathic pain. It works as a voltage gated sodium channel antagonist. It is associated with common side effects such as benign rash headaches visual disturbances tremors and many more. It can also lead to rare but life threatening conditions Steven-Johnson syndrome Toxic epidermal necrolysis or drug hypersensitivity syndrome. However there are only a few cases that recognize rare side effects of lamotrigine related lymphadenopathy. Herein we present a case of a 25-year old Hispanic American female who developed submandibular and submental lymphadenopathy due to lamotrigine after three weeks of initiation therapy. This case is unique as patients presented with isolated lymphadenopathy without any systemic findings. Very few cases have been reported in literature with such findings.

**Saturday May 04**

### **Alcohol Withdrawal and Benzodiazepine Use in an Acute Inpatient Rural Hospital**

Sonja Johnson D.O.; Joseph Jackmovich

Introduction On August 19 2021 Good Samaritan Hospital initiated an alcohol withdrawal protocol based on research as listed below. Good Samaritan Hospital is a rural hospital in Vincennes IN the county seat of Knox County Indiana which as of 2021 has a population of 35956 people and catchment area that includes 181117 people over a 8 county area.<sup>4</sup> The need for standardization prompted a treatment protocol to be agreed upon and implemented throughout the internal medicine department. The purpose of this study is to standardize and thereby decrease

benzodiazepine use for alcohol withdrawal through a standardized hospital-wide protocol. **Methods** A chart review was conducted to complete a pre-post interventional research design. Charts were evaluated for all patients medically admitted to Good Samaritan Hospital for AUD related diagnoses for six months before and six months after protocol initiation. Charts were evaluated for the following: length of stay (LOS) number of different benzodiazepines received number of Ativan equivalents received if a titration was used readmissions within 30 days and complications during hospitalization. To analyze the data each variable from both groups was evaluated and compared using chi-square and t-tests where appropriate. Descriptive statistics were used to evaluate frequency of specific complications. **Results** The two groups consisted of patients admitted before and after the implementation of the protocol. The breakdown was 90 patients before ages ranging from 29 to 79 with 78% men and 88 patients after with ages ranging from 17 to 84 with 73% men. There was a significant decrease in total Ativan equivalents prescribed (10.61 to 9.51 units) for patients as well as a significant decrease in medical complications (44.3% to 14.1%). Hematologic complications specifically decreased significantly (14.77% to 1.18%). The length of stay did significantly increase (3.99 to 4.52 days). **Conclusions & Discussion** The current guideline for the management of AUD is based on the use of benzodiazepines. This study evaluated the treatment of patients admitted to the medical hospital with an AUD associated diagnosis. While length of stay did significantly increase the amount of Ativan equivalents that patients received significantly decreased along with the complications experienced. Of importance hematologic complications significantly decreased. The goal of the protocol is to uniformly guide alcohol withdrawal symptom management and reduce complications from benzodiazepine overuse. Key features of the protocol include emphasizing adjuncts starting naltrexone and establishing a scheduled taper with breakthrough prn dosing. This should result in better overall care as it no longer relies solely on nursing CIWA scores which can be unreliable and

varies greatly depending on the evaluator. With the tighter ranges more patients are more likely receiving adequate detox resulting in a lower need for higher dosages later.

**Saturday May 04**

### **Case Series of Recreational Nitrous Oxide Use and Discussion of the Neuropsychiatric Manifestations of 'Whip-its'**

Jennifer Yoon M.D.; Eric Kramer M.D.;M.P.H.; Bryan Shapiro

**Background:** Nitrous oxide is an inhalant that does not appear in routine urine drug screens. It can be purchased at vape shops and is commonly perceived as a safe 'legal high.' Recreational nitrous oxide use can cause Vitamin B12 (cobalamin) deficiency which can result in subacute combined degeneration. Nitrous oxide use has been independently associated with a varied neuropsychiatric symptoms including depression memory loss and psychosis. We present a case series of two patients who presented to the ED with psychiatric sequelae of recreational nitrous oxide with a general review of typical presentations and treatment considerations. **Results:** Case 1: A 27-year-old female with past psychiatric history of major depressive disorder presented to the emergency department (ED) with lower extremity swelling with paresthesia. The psychiatry consult/liaison service was consulted for concurrent behavioral agitation and passive suicidal ideation. Patient endorsed multiple uses of 'whip-its' 3 weeks leading to ED presentation. Medical work up was notable for elevated B12 post-supplementation elevated methylmalonic acid (MMA) and T2 signal abnormality in spinal dorsal columns consistent with subacute combined degeneration. Urine drug screen was positive for cocaine. The patient's agitation improved with observation and she was discharged home with home health services

including Vitamin B12 injections. Case 2: A 23-year-old female with no past psychiatric history presented to the ED with chest pain and altered mental status. The psychiatry consult/liaison service was consulted for rapid mood swings and paranoid delusions. Patient endorsed daily use of 'whip-its' 1 week leading to ED presentation used in party settings. Medical work up was notable for sinus tachycardia but otherwise benign findings on imaging and labs. Urine drug screen was positive for tetrahydrocannabinol which she used chronically. The patient's agitation improved with observation and she was discharged with substance use cessation resources. Discussion: These two cases highlight the varied neuropsychiatric presentations of nitrous oxide misuse. Symptoms frequently occur in the absence of B12 deficiency and clinicians should not depend on laboratory findings (e.g. B12 homocysteine/MMA) to confirm the diagnosis. Psychiatric symptoms of nitrous oxide use may also be misinterpreted in individuals with concurrent substance use disorders or established mental health conditions. Conclusion: Nitrous oxide use should be assessed when screening for substances especially in young patients presenting with acute neuropsychiatric symptoms. Patients with characteristic findings (e.g. paresthesias weakness) should be evaluated for subacute combined degeneration of the spinal cord. Given the risk of morbidity associated with nitrous oxide misuse there is an urgency to increase recognition of this condition and identify optimal treatment strategies.

Saturday May 04

### **Characterizing hallucinogen use disorder among last-year adult users of hallucinogens**

Tesiya Franklin BS; Jennifer Ellis; Austin Zamarripa; David Mathai

Background: Hallucinogens are being increasingly explored for their therapeutic utility in various mental health conditions. However they have also been classified historically as substances with high potential for abuse. As such there is a need to better characterize epidemiological data on abuse liability and potential for risk. In this study we investigated the prevalence and underlying factors associated with DSM-V hallucinogen use disorder (HUD) within a large cohort of Americans (aged 12 and above; n = 36 284) who used hallucinogens within the past year. Methods: Individuals in this study were drawn from the 2020 National Survey on Drug Use and Health (NSDUH) dataset. We examined rates of substance use disorders among individuals reporting past-year use of the following substances: alcohol cannabis cocaine heroin and hallucinogens. To analyze correlates of HUD we conducted logistic regressions in a restricted sample of adults who reported using any hallucinogen in the past year (N = 1067). The selected correlates included 1) demographic variables 2) specific types of hallucinogens used in the past year and 3) experiencing a major depressive episode (with and without severe role impairment) in the past year. We presented both unadjusted and adjusted odds ratios and results with and without analysis weights calculated by NSDUH to allow for better representation of the US population. Results: Among persons reporting past-year hallucinogen use the rate of hallucinogen use disorder was 5.9% (3.6% weighted). Comparatively these rates were 17.8% (15.8%) for alcohol 29.9% (27.7%) for cannabis 19.1% (22.4%) for cocaine and 76.1% (72.2%) for heroin. The subset of adults reporting hallucinogen use in the past year was comprised of many young adults aged 18-25 (55.3%). In unweighted adjusted analyses screening positive for hallucinogen use disorder was associated with being unemployed (OR=1.88 95% CI = [0.98 3.60]) using multiple hallucinogen types (OR=2.31 95% CI = [1.15 4.65]) and experiencing a major depressive episode with severe impairment (OR=3.21 95% CI = [1.80 5.74]). At this level of analysis there were no significant differences between mono-substance use of LSD MDMA or ketamine and risk for HUD. Conclusion: The low prevalence of hallucinogen use disorder in this



sample of last-year hallucinogen users is consistent with other scientific literature suggesting that hallucinogen use disorder is a possible but relatively uncommon outcome of hallucinogen use. These data also lend support for better defining typology for hallucinogen users as specific use patterns and individual characteristics may increase the risk for a substance use disorder. While it is unclear the extent to which these findings translate to the therapeutic use of hallucinogens in medical contexts researchers and clinicians could benefit from improved understanding of and risk-assessment for problematic hallucinogen use.

**Saturday May 04**

### **Demographics of Opioid Deaths Versus Naloxone Distribution in Lucas County**

Alyssa Davis; Erik Southard; Chadwick Huss; Tanvir Singh

Objective: Addiction Medicine Club was created by medical students at the University of Toledo College of Medicine and Life Sciences to spread awareness of addiction medicine and contribute to the efforts to reduce opioid overdoses in Lucas County. We partner with the Lucas County Health Department and the CommunityCare Clinics to provide naloxone kits and fentanyl testing strips to patients at a student-run clinic in Toledo Ohio. Opioid overdoses continue to be a major cause of preventable deaths across the country. This includes Lucas County Ohio which experienced a 38.6% increase in opioid deaths from 2019-2020 likely due to the COVID-19 spike. With continued prevention efforts the health department has noted a 7% decline in deaths by overdose in 2021 (n=274) to 2022 (n=221). From January 2021 to June 2023 the proportion of fatal opioid overdoses by age range were 35-44 years (27.5%) 25-34 years (27.3%) and 45-54 years (20.8%). The majority of people who died by overdose were male (66.1%) versus female (33.9%). The majority of deaths by opioid overdose were among White people (73.1%) versus Black (26.5%) or Hispanic/Latino

(0.4%). Although Black individuals make up a minority of opioid overdose deaths Lucas County reported a significant increase in the proportion of deaths from 9% in 2019 to 26.5% in 2022. This shifting demographic among opioid deaths in the county is alarming and far exceeds the uptick of statewide trends among this population. The goal of this project is to compare the demographic information of deaths by opioid overdose to the population receiving naloxone in Lucas County. Methods: From January 2021 until July 2023 more than 11600 naloxone kits were given to the at-risk population in Lucas County. To better understand the population in need of naloxone the Lucas County Health Department collected demographic information including age gender and race of those who have received naloxone kits. Results: The largest proportion of naloxone recipients were ages 35-44 years (23.1%) followed by 25-24 years (20.6%) and 45-54 years (18.4%). A majority of people were female (53.3%) versus male (45.6%). Finally most naloxone recipients were of White race (59.8%) or Black (28.9%) with a small minority identifying as Hispanic/Latino (7.2%). Conclusion: Within Lucas County the largest number of naloxone recipients within each demographic group excluding gender correlates with the rates of opioid overdose. This suggests that the target groups of naloxone distribution are being reached. However the disparities in naloxone distribution between Black people versus White people may be a contributing factor to the rise in opioid overdoses among the Black population. This demographic information should be used to focus prevention efforts on at-risk members of the community and to define populations which may have lack of access to harm-reduction services.

**Saturday May 04**

### **Demonstration of the Synchronization of the Minds of Individuals in a Non-Dual/“We-Mode” during Empathic Clinical Assessments: A Case Series Report**

Parameshwaran Ramakrishnan M.D.;Ph.D.

**Background:** The non-dual state of mind as seen in meditation when achieved during empathetically listening (EL) interactions is called the “We-mode” of the brains of those individuals. The we-mode of the physician-patient brain during their EL interaction has never been studied. **Aims and Objectives:** To verify the non-dual/We-mode of the mind of the clinician provider and recipients during their EL interactions using an EEG-based device to verify the contemplative neuroscientific framework of the EL process. **Methods and Materials:** This is an exploratory study to understand the We-mode/non-dual states of mind of the clinical care provider and also of the care recipients using a commercially available portable electroencephalogram (EEG) device. Five clinical care interactions two of which are clinical chaplaincy case studies on EL assessments wherein only the chaplain (who is also a psychiatrist) was wearing the device. The other three “lab” studies were conducted in medical/chaplaincy classrooms at a tertiary care hospital wherein the chaplain and care recipients (dyads) both had worked the EEG devices during their EL interactions. **Results:** All five dyads were able to complete their interviews while wearing the devices. The average duration of visits was 34.6 minutes (? : 10.73). The EEG-based device consistently recorded the meditative pattern in all five EL dyads. The neurofeedback recordings confirmed that the brains of individuals in all the dyads went into a non-dual meditative state. The EEG recording of a clinically trained chaplain’s brain in particular revealed three distinguishable stages of the meditation as the dyad progressed through the EL interaction: (1) the stage of focused attention marked by alpha predominance on the EEG (2) the mindful-meditative state marked by theta-predominance and (3) the final state of self-transcendence marked by gamma predominance. **Discussion and Conclusion:** This study demonstrates neuroscientific evidence of the “Mindfulness to Transcendence” (MT) framework of the chaplain’s EL process. This is the first of the studies that demonstrate how neurofeedback recordings obtained from inexpensive commercially available portable EEG-based

devices can be overlapped manually to demonstrate the We-mode/non-dual state of mind in EL interactions. This is also the first of the studies to demonstrate an objective (EEG) evidence-based framework of the clinical chaplains’ EL assessment process. Knowing the evidence-based frameworks of a chaplain’s EL assessment process will help us adapt it for diagnostic and other care assessments in psychiatry and other clinical disciplines.

**Saturday May 04**

### **Determinants of quality of life and mental health in lung cancer patients: A cross-sectional study**

Theresa Halms; Marcus Gertzen

**Background:** Lung cancer (LC) represents one of the most common cancer diagnoses and accounts for the largest number of cancer deaths worldwide. Although Quality of Life (QoL) is considered to be a critical endpoint in health research and poorer QoL among cancer patients has been demonstrated compared to the general population data on factors associated with QoL in LC patients are limited. Given that smoking constitutes the main cause for the development of LC and its negative impact on the disease trajectory we hypothesize that smoking status is negatively associated with QoL in LC patients. **Aims:** The purpose of this cross-sectional study is to investigate the impact of smoking status on QoL as well as to determine other factors associated with QoL among LC patients. **Methods:** From December 2021 to April 2023 patients ? 18 years of age treated for LC at the University Hospital Augsburg Germany were invited to participate in the study. By means of validated self-administered questionnaires symptoms of borderline personality disorder (BSL-23) depression (BDI) anxiety and stress (DASS-21) pain (MPQ) and quality of life (MQOL-15) were assessed. Further participants were asked to

provide information on sociodemographic characteristics and their smoking behavior. Results and findings: Findings refer to a sample of 51 respondents (49% female) with a mean age of 63 years (SD ± 9.7). The majority of participants (59%) were ex-smokers 25% were active smokers and 16% were never-smokers. Results showed no significant association between smoking status and overall QoL as well as the physical psychological and existential domains of QoL (p=0.395 p=0.356 p=0.460 p=0.673 respectively). For social QoL one-way ANOVA with šidák correction revealed significant differences between active and ex-smokers (p=0.022) indicating better social QoL among active compared to ex-smokers. Further results showed significant associations between overall QoL as well as the physical psychological and existential domains of QoL and symptoms of borderline personality disorder depression anxiety stress and pain (all p?0.003) indicating lower QoL in the presence of mental health conditions. Conclusion: Results suggest an impact of several factors on QoL in LC patients. In particular the influence of perceived pain and pre-existing mental health conditions such as depression borderline personality disorder or anxiety were associated with poorer QoL.

**Saturday May 04**

### **Digital Addiction in the Smartphone Era: Exploring Patterns and Influences Among Young Adults**

Rachael Murphy M.D.; Christopher Sielski M.D.; Kara Jacobs M.D.

Background: The surge in digital media addiction amplified by the challenges of the COVID-19 pandemic has propelled increasing engagement with various platforms such as social media online videos and video games (12). Analogies to narcotic drugs underscore its severity (3). The rise of both social media and gaming addiction aligns with the access and popularity of smartphones. This intricate issue affects health academics

employment and social life emphasizing its broader implications. Accordingly the aim of this study is to systematically evaluate the prevalence characteristics and influences of digital media activity. Methods: The study employed two research methods: systematic review and survey. The review involved searching databases for qualitative research from 2017-2023 related to smartphone and digital media addiction. The survey purposed to identify media usage patterns and influences among 50 adults (18-35) with postgraduate degrees via Reddit Instagram and X (formerly Twitter) without offering incentives. Basic statistical techniques were employed primarily using percentages of responses. Results: A review of previous research revealed the negative impacts of digital addiction on health and well-being. Various studies evidenced links between behavioral addictions mental health and excessive smartphone use. Some studies found correlations between smartphone addiction scores and depression anxiety and sleep quality levels. The overall survey response rate was 100%. Any form of social media was used daily by 85.71% and online videos were watched daily by 70.83% of survey respondents. Reading" and "gaming" showed similar daily (31.25% and 29.17%) and weekly (37.5% and 8.3%) usage in this group. Health experts have recommended that an acceptable amount of screen time is less than two hours a day (4). Smartphone addiction appeared to be forming as 61.22% spend up to 1-3 hours on mobile devices daily while 28.57% spend over 3 hours daily. Regarding influences "friends" (98.00%) are trusted for app choices due to shared age followed by "family" (86.00%) and "educational content" (74%). Conclusion: Prior research underscores the detrimental impact of digital addiction on mental health and social well-being emphasizing the need for a comprehensive understanding and targeted interventions. By fostering a balanced relationship with technology the goal is to alleviate negative effects and encourage mindful integration for improved well-being."

Saturday May 04

## Emergence of Xylazine in the Opioid Epidemic: A Comprehensive Literature Review

Charissa Nichols M.D.; Han Chen Tom Tsou;  
Alexandra Fleck

**Background:** The escalating incidence of xylazine detection within street-level opioids has become a critical concern paralleled by a surge in overdose cases. In response this systematic study aims to augment the existing literature and offer valuable insights to help medical practitioners address the multifaceted challenges posed by the infiltration of xylazine into the opioid landscape.

**Methods:** A comprehensive literature review was conducted using PubMed with the search terms “xylazine and opioid” including publications within the past five years. Articles included in this analysis provide information on the prevalence of illicit xylazine within the opioid epidemic unique and distinguishing features, potential challenges and approaches to treatment.

**Results/Discussion:** Xylazine was first identified in the United States in Philadelphia in 2010 detected in less than 2% of opioid and fentanyl overdoses at the time [4] and has since grown exponentially identified in 25.8% of overdoses by 2018. With the increase in incidence of xylazine-associated opioid overdoses currently impacting the northeast and beginning to spread westward it is crucial to recognize signs of xylazine use and to establish a protocol for treatment. The main challenge faced with the addition of xylazine is that as an alpha-2 agonist and the current standard of care for treatment of opioid overdoses naloxone cannot effectively counter its effects. The aim of this study is to augment the existing literature and offer valuable insights to aid medical practitioners in addressing the multifaceted challenges posed by xylazine's infiltration into the opioid landscape.

Saturday May 04

## Examining Use of Simulation-Based Education in Psychiatric Medical Education

Sakshi Sehgal MPH MA

**Background:** The use of simulation-based education (SBE) particularly within the field of medical education has drastically increased within the past decade. The majority of US-based medical schools have adopted SBE in at least some capacity with a range of modalities from partial body task trainers and high-fidelity manikins to standardized patient actors and extended reality. SBE is grounded in multiple learning theories that support the use of experiential learning as a cornerstone for directly applicable and immediately relevant concepts and skills for adult learners. This review sought to synthesize the literature on psychiatric SBE for medical students.

**Methods:** A search of relevant medical education and clinical literature was conducted primarily using PubMed as well as additional sourcing through MEDLINE and Google Scholar. Search criteria (including related terms tagged in MEDLINE) included (simulation learning) and (psychiatric education) filtered for public access initially yielding 222 results. Exclusion criteria for these results excluded articles without a specific focus on medical education and those articles that were not directly related to SBE yielding 25 results for review. From these results five articles were considered within defined inclusion criteria: United States-based studies published between 2013 and 2023 studies with medical students as participants and studies that addressed psychiatric education.

**Results:** Among the studies reviewed a total of 673 participants were considered. Each study incorporated a simulation-based activity related to psychiatric education in which medical students participated and were assessed using measures of post-activity confidence and comprehension of the relevant concepts. Three out of five studies (60%) demonstrated a statistically significant increase (two of which reported significance at  $p < 0.001$  and one

reported  $p < 0.05$ ) in medical student confidence and comfort including ease of taking a history considering patient presentation arranging differential diagnoses and developing an assessment & treatment plan. The remaining two studies additionally reported increases in student performance and high Likert-type scale scores assessing similar measures of self-efficacy following the activity. Conclusion: Medical students completing a simulation-based activity as part of the psychiatric education curriculum expressed greater post-activity comfort with diagnosis and treatment plans as well as developing effective rapport with the patient. Statistically significant increases in learner performance and confidence were reported in the majority of studies as well as improvement from baseline in all included studies. These results demonstrate the positive effects of SBE in psychiatric education.

**Saturday May 04**

## **Gas Station Heroin: Tianeptine Misuse and Implications**

Ihechi Akwuole; Ayyub Imtiaz M.D.; Ankur Sah Swarnakar M.D.; Ashwin Jacob Mathai

Background: Tianeptine also known as “gas station heroin” or “zaza” is a medication structurally similar to tricyclic antidepressants (TCAs) approved for depression and anxiety in some countries. Tianeptine is not FDA approved in the United States for clinical use; however it is still marketed and sold over the counter and online as a nootropic or cognitive enhancer in several states. At high enough doses tianeptine is able to act on the mu- and delta-opioid receptor and induce euphoric effects. As a result there has been an increased interest in tianeptine in the United States. There is also evidence suggesting that tianeptine possesses a low tolerance threshold as compared to other medications requiring higher doses to achieve desired effects resulting in increased potential for misuse. The purpose of this review is to consolidate the

current literature regarding tianeptine misuse in the United States. Methods: A comprehensive but non-systematic literature search was performed using relevant keywords on PubMed PsycInfo and Google Scholar. The search resulted in 14 case reports on patients with chronic tianeptine abuse. Qualitative analysis was performed to assess common factors symptoms and themes that were present within the cases. Results: Tianeptine incidence has increased 24-fold over the past few years with reported cases demonstrating individuals ingesting over 40 times the maximum recommended dose. Tianeptine has been ingested orally snorted and injected per reports. Tianeptine comes in 2 salt forms sodium and sulfate with the latter thought to be more potent and longer lasting. Despite the longer-lasting action its half-life is estimated to only be 2.5 hours. This is due to its metabolism by beta-oxidation rather than cytochrome enzymes in the liver unlike other TCAs. Both TCA and opioid overdoses have respiratory suppression but the former has pupil dilation and opioid overdose has pupil constriction. Tianeptine overdose resembles opioid overdose but is often complicated with TCA withdrawal symptoms too due to the short half-life. The common symptoms seen in TCA withdrawal are due to cholinergic overdrive and includes symptoms such as anxiety sleep disturbances hot flashes agitation and gastrointestinal distress which are also present in tianeptine withdrawal. It is speculated that individuals presenting with opioid overdose symptoms concurrently exhibiting agitation and severe abdominal pain or other TCA withdrawal symptoms may be indicative of tianeptine overdose. There have been successful cases of managing acute tianeptine overdose with nasal and intravenous naloxone. Conclusion: With the ongoing evolution of the opioid crisis and as the demand to achieve opioid-like effects through various substances continues to increase psychiatrists should factor in the use of tianeptine when assessing patients displaying clinical signs of opioid use despite negative urine drug screens.



Saturday May 04

## Grading the Machine: Assessing ChatGPT's Psychiatric Knowledge through Boards-Style Assessment

Kaitlin Hanss MD MPH; Karthik Sarma MD PhD; Ramotse Saunders; David Elkin

Background: Over the past decade artificial intelligence (AI) approaches have transformed from theoretical aspirations to tangible realities. Most recently new Large Language Models (LLMs) a subtype of AI models focused on interpreting and generating written language have shown massive performance gains garnering enthusiasm about their use in clinical informatics and patient care. While studies across various medical specialties have aimed to evaluate the knowledge encoded in commonly available LLMs (for example OpenAI's GPT3.5 and GPT4 commonly known as "ChatGPT") few efforts have focused on knowledge in psychiatric domains. The research objective of this study is to evaluate and characterize the psychiatric knowledge of GPT3.5 and GPT4 via their performance on a selection of standardized multiple-choice questions.

Methods: 150 single-answer multiple choice questions (MCQs) answers and question domains were extracted from a practice test in the Psychiatry Test Preparation and Review Manual. MCQs were encoded to be uniform in structure using multiple choice single answer without forced justification (MC-NJ) format and prefaced with a standard prompt explaining the MCQ task. The encoded MCQs were input into GPT3.5 and GPT4 and answers to the MCQs were extracted from the LLMs' responses. LLM accuracy was assessed via the percentage of MCQs answered correctly. Binomial tests evaluated for variations in accuracy across different question domains ( $\alpha = 0.004$  after Bonferroni Correction). Incorrect questions on the higher-performing model were qualitatively assessed for themes. Results: GPT3.5 answered 105 questions (70%) correctly 39 questions (26%) incorrectly and did not answer six questions (4%) due to various exceptions. GPT4 answered 127 questions (85%)

correctly 18 questions (12%) incorrectly and did not answer five questions (3%). Binomial tests showed no statistically significant accuracy differences across question domains. Qualitative analysis of GPT4's incorrect answers revealed that one response greatly overestimated the rates of violence among patients with schizophrenia. In contrast two questions were not answered due to the LLM identifying "stigmatizing terminology" in the question stem. Conclusion: In a 150-question practice test from the Psychiatry Test Preparation and Review Manual 4th Edition GPT3.5 and GPT4 correctly answered 70% and 85% of questions respectively. One of GPT4's incorrect responses appeared to reflect common societal biases towards mental illness suggesting such sentiments may be encoded in the training data set used to develop the LLM and perpetuated by the model. While the scope of this study was limited to structured knowledge assessment the performance of both GPT3.5 and GPT4 appeared to be comparable to passing human performance. However the presence of answers that reflect societal stigma against mental illness underscores the need for caution and further exploration of these models.

Saturday May 04

## Handoff Policy Among Psychiatric Residents in an Inpatient Psychiatric Setting

Breonna Kinnison D.O.

Objective: The objective of this study is to further update and expand on information obtained by Arbuckle et al. (2014) by investigating protocols and policies regarding transitions of patient care implemented by US psychiatry residency programs. In addition to policies this study investigated challenges faced by programs and highlights a proposed best practice as it relates to inpatient psychiatric facilities. Methods: A 17-item survey was distributed to US adult psychiatry

residency program directors. The survey contained questions regarding handoff policies and procedures among residents in the inpatient psychiatric setting training curricula specific handoff types in various contexts impacts of implemented handoff policies and methods of assessing handoff competency. Data was analyzed qualitatively using descriptive statistics. Results: There was an 18% response rate with 55 survey respondents out of 309 program directors. Only 11% did not have an existing handoff curriculum. For training curricula 60% use lecture and didactics and/or observation with feedback (60%). To assess competency 72% implement direct observation and feedback by an attending. Program directors shared similar opinions that handoff would reduce patient harm (60%) and medical errors (54%). Verbal in person handoff was used for transitions from primary day team to night team (50%) and night team to day team (46%). Written handoff in the EMR was used primarily when transitioning from weekday primary team to weekend covering team (34%) and weekend covering team to weekday team (38%). The majority (63.0%) did not use standardized options such as I-PASS SBAR etc. Conclusion: Overall program director opinions regarding the impact of handoff policy training and implementation generally aligned with the suggestion that with improved handoff training patient safety would improve. In order to appropriately suggest a best practice for the inpatient psychiatric setting it is important to consider the various contexts in which handoff would be occurring. Adult psychiatry residency program directors report they are currently utilizing in person verbal handoffs for the majority of their handoffs (primary day team communications with night team) but utilize written handoff in the EMR more when communications occur among weekday primary teams and weekend covering teams and with residents assuming care from off-going residents on rotations. Connecting these findings with malpractice claims more commonly associated with verbal handoff communication failures rather than written handoff communication failures furthers the need to investigate outcomes associated with specifically implementing verbal

versus written handoff communications in the inpatient psychiatric setting. These findings can be more widely applied to other healthcare providers outside of residency programs.

Saturday May 04

### Healthcare Students' experience of Screening Brief Intervention and Referral to Treatment (SBIRT) training: A Qualitative Analysis

Courtney Hawes Medical Student; Victoria Balkoski; Jeffrey Winseman M.D.; Nicole Bromley PsyD

Background: The misuse of alcohol tobacco and drugs is this country's most serious health problem. Substance use exists on a continuum and not all individuals who may be at risk for adverse health consequences and could benefit from treatment or intervention will require an addiction specialist. SBIRT is an evidence-based intervention that includes: screening patients for substance use and identifying their risk level brief intervention that relies on motivational interviewing techniques and referral to treatment for individuals with a substance use disorder who may require more specialized treatment. Method: Following a SAMHSA awarded SBIRT grant our Psychiatry Department at a large Academic Medical Center trained a diverse sample of health care trainees including physician assistants (N=53) nurse practitioners (N=66) pharmacists (N=136) psychiatry residents and psychology pre-doctoral interns (N=38) and medical students (N=168). Training in SBIRT consisted of online modules a didactic session that included presentations and review materials and role plays with feedback. All trainees were invited to complete a post-training survey that included two open ended questions: "What about the training was most useful in supporting your work and responsibilities?" and "How can we improve the training?". Results: We received responses from 449 trainees. Two coders independently analyzed the responses using a thematic analysis and

generated an initial list of codes. Coders then met with two additional investigators to discuss the codes. The coding group addressed coding discrepancies and reached a final consensus of 26 unique coded responses for the question pertaining to “Usefulness”. These codes were subsequently collated into 5 lower order themes and 2 higher order themes which were labeled “Education” and “Applicability”. For the question pertaining to “Improve” coders reached a final consensus on 16 unique codes and subsequently collated these codes into 6 lower order themes and two higher order themes which were labeled “Additional Training” and “Modification of Training”. Conclusion: Overall students in our study found training in SBIRT to be a useful tool for addressing and approaching the topic of substance use with patients. This may suggest that many trainees initially felt discomfort and ill prepared to address substance use with patients. Many trainees commented on the usefulness of specific education related to the communication and motivation skills they learned and felt that these were widely applicable. Students also provided useful information about how SBIRT training can be improved. These themes included additional role play practice and more information pertaining to their specialty. Trainees also suggested that future trainings reduce redundancy include more interactive components and offer refresher sessions. SBIRT appears to be an effective intervention that is useful for a variety of health care disciplines.

**Saturday May 04**

### **How much “tranq” is too much? Unintentional overdose while hospitalized amongst known injection drug users**

Manasi Parrish MD MPH; Sean Oldak MD; Emily Goncalves M.D.; Mitchell Rovner

**Background** It is estimated that upwards of three million individuals in the USA inject drugs. People

who inject drugs may not disclose to providers for fear of being stigmatized and being labeled as “drug-seeking.” Xylazine (“tranq”) a veterinary tranquilizer has become increasingly available in South Florida. As availability of tranq increases there is a corresponding increase in overdose-related deaths hypotension and skin abscesses. Governments community groups and healthcare organizations have been addressing the overdose burden with multiple strategies: harm reduction programs (needle exchanges medication assisted treatment (MAT) clinics) providing rehabilitation services increasing awareness and controlling prescribing practices of these substances. Overdoses in the hospital setting can occur for a variety of reasons including medication errors adverse reactions or in rare cases patients self-medicating. Hospitals have protocols in place to prevent overdoses. This study analyzed the behavior of two young injection drug users who overdosed while admitted to a large public hospital. **Methods** Two injection drug users who unintentionally overdosed while admitted to the same hospital in South Florida were compared. “Overdose” was defined as using an excessive amount of an illicit substance resulting in the need for emergent medical intervention. The patients’ substance use access to MAT overdose outcome and final disposition were compared. **Results** Both patients were in their 20s and were known to use lethal substances (fentanyl and xylazine via injection and insufflation) and benzodiazepines (alprazolam and lorazepam). Both patients were found unconscious by clinical staff initiating emergent protocol response. Both cases were non-fatal and required naloxone and oxygen. In the first case the patient was admitted to the labor and delivery floor for treatment of an abscess secondary to xylazine use during her second trimester of pregnancy and was undergoing MAT with methadone. The second patient was not receiving MAT despite daily fentanyl insufflation for months. With the assistance of methadone the female patient successfully delivered a healthy infant at 37 weeks. The male patient was committed to a 90-day rehab program as per Florida substance abuse statute. He has been hospitalized many times since this admission. **Conclusion**

Although patients are searched prior to being admitted to inpatient facilities providers are unable to control what visitors may bring into the hospital. Xylazine is particularly lethal and dangerous as there is no known antidote for overdose reversal as there is for opioids with naloxone. As psychiatrists it is our duty to create a trusting non-judgemental environment and destigmatize substance use to empower patients to be forthright with us. By strengthening this therapeutic alliance our hope is that this may lower the risk of overdoses both inside and outside the hospital.

**Saturday May 04**

### **Initial Outcomes from a Pilot Course in Resident Education by Article Discussion (READ)**

Samuel Dunham M.D.;M.S.; Kevin Ha; Sara Noble

**Background:** In 2022 the American Board of Psychiatry and Neurology (ABPN) introduced the Article-Based Continuing Certification (ABCC) Pathway as an alternative to the traditional Maintenance of Certification (MOC) exam. To boost proficiency in reading research articles and encourage participation in the ABCC pathway we designed the Resident Education by Article Discussion (READ) course implementing a Team-Based Learning (TBL) format. Offered in August 2023 this elective course targeted psychiatry residents in post-graduate years 2-4. Spanning 4 weeks the course convened weekly for 4 hours (2 hours in the final week) on Tuesday afternoons. Eligibility hinged on achieving a score  $\geq$  25th percentile on the Psychiatry Resident In-Training Examination (PRITE) the preceding year.

**Methods:** Assigned articles and supplementary materials were perused by participants ahead of classes which featured group discussions and ABCC-style group tests. In pre- and post-course surveys residents rated (scale of 1-5) their knowledge of the ABPN recertification process

value of understanding the PICO method confidence in reading and interpreting scientific articles confidence in discussing scientific articles and likeliness to continue engaging with scientific articles. These ratings were compared using paired-samples (pre vs post) t-tests reporting Hedges' g (Cohen's d correction) and p-values. **Results:** Of the 46 residents eligible for elective coursework 11 residents enrolled in the course while the remainder enrolled in other electives. Additionally 5 fourth-year medical students also participated. Participants' knowledge of the ABPN recertification process increased significantly (178% increase  $g=0.67$   $p<0.001$ ). Understanding of the PICO method's value saw a 17% increase ( $g=0.67$   $p=0.005$ ). Confidence in reading and interpreting articles' methods and results sections improved significantly (88% increase  $g=0.53$   $p<0.001$ ) as did confidence in discussing articles in group settings (100% increase  $g=0.60$   $p<0.001$ ). While likelihood of reading articles increased slightly post-course (6% increase  $g=0.64$   $p=0.191$ ) intention to present at the residency journal club significantly rose (50% increase  $g=0.51$   $p<0.001$ ). **Conclusions:** The ABCC pathway offers a flexible approach to MOC that encourages lifelong learning. The READ course's TBL format effectively enhances knowledge and skills related to critically analyzing and discussing scientific articles. These findings highlight the READ course's potential to foster research article literacy and facilitate active engagement with the ABCC pathway thereby contributing to the professional development of psychiatry residents.

**Saturday May 04**

### **Investigation into the presentation of cannabis induced psychosis in previously healthy individuals and changes in brain morphology: Literature Review**

Deanna Egenburg M.D.

**Background:** Legalization of cannabis for recreational use has led to increased use and

heightened public discussion regarding the potential to induce psychotic-like presentations in individuals with no prior psychiatric history. Objective: This literature review aims to highlight the psychotic manifestations and morphological changes in the brain associated with cannabis use in cannabis-users with no prior psychiatric history. Methods: A search was done on PubMed CambridgeCore Jove ScienceDirect and JNeurosci. Data is analyzed from a systematic review of case reports from a 17-center study across six countries including 655 unique cases on first episode psychosis (FEP) between the ages 18-64 and 654 controls cannabis-users with no clinical diagnosis or treatment for psychological disorder. The money spent on cannabis was used to quantify the extent of use. 3T magnetic resonance imaging (MRI) scans of 10 cannabis-induced psychosis (CIP) patients and 12 non-psychotic cannabis users (NPCU) were used to draw conclusions of the morphological changes in the brain. A modified Cannabis Experience Questionnaire and Brief Psychiatric Rating Scale (BPRS) was used respectively to quantify cannabis experiences. Results: The literature evidenced notable differences in the presentation of new onset psychotic symptoms between cannabis-induced psychosis (CIP) patients and non-psychotic cannabis users (NPCU). In CIP patients with FEP symptoms of thought disorganization and hostility/suspiciousness were reported more frequently than NPCUs. CIP patients with FEP reported higher cEEs and psychotic-like experiences (cPLE) no matter the frequency of use money spent or potency of drug use compared to controls. Additionally CIP patients demonstrated lower gray-matter volumes in the prefronto-temporo-limbic network rich in CB1 receptors that bind to tetrahydrocannabinol (THC) the principal ingredient in cannabis compared to NPCUs ( $p < 0.001$ ). Conclusion: These findings suggest significant implications of cannabis in the presentation of new onset psychotic symptoms in patients with no prior psychiatric history. A CIP diagnosis prior to FEP seems to predict elevated positive and negative symptoms of psychosis. Additionally cannabis use in patients without prior psychiatric history who recently developed psychosis demonstrated reduced volumes of

gray-matter in regions of the brain typically stimulated by THC. While substance comorbidities were considered to isolate cannabis use in the development of FEP confounding variables were not teased out. Understanding the mechanisms underlying these psychotomimetic experiences is crucial for developing targeted interventions and informing public health policies to mitigate potential adverse effects of cannabis use on vulnerable individuals.

Saturday May 04

### **Laboring over the potential of magnesium supplementation in peripartum depression: a call for further inquiry**

Michelle Lanspa BS;D.O.;M.B.A.;M.S.; Zina Meriden

Background The incidence of peripartum depression (PPD) is 10-20%. Both adequate dietary magnesium (Mg) and supplemental Mg alone or as augmentation have been shown to be associated with a decreased risk for major depression; however the specific use of Mg in PPD has not been well investigated. Magnesium regulates mood by modulating NMDA receptor activity neurotransmitter balance and the production of brain-derived neurotrophic factor (BDNF). As Mg has shown some benefit in major depression more generally this review sought to evaluate the hypothesis that Mg supplementation might also play a role in the treatment of PPD in particular. Methods A systematic literature review was performed using PubMed Web of Science Medline Embase PsychINFO CINAHL and PsychArticles for primary source research articles examining the role of Mg serum levels dietary intake or supplementation in the treatment of PPD. The keyword search included "postpartum depression" or "peripartum depression" and "magnesium." The relevance of articles was assessed through a hierarchical approach. Eligible



study designs included randomized control trials cohort studies and cross-sectional studies. Exclusion criteria included meta-analyses systematic reviews case reports editorials non-human or murine studies and lack of access to the available text in English. A flow diagram was developed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 outline. Results The database search identified 190 articles. Duplicates ineligible study types records deemed not relevant to the study aim and results with unavailable full text were eliminated. Ultimately 8 studies were evaluated 4 human studies and 4 murine studies. All 4 murine studies induced PPD through a progesterone withdrawal model and found that Mg had a dose-dependent positive effect on reducing depressive behaviors. The results of the human studies were more mixed. Two of the 4 human studies evaluated supplementation with Mg sulfate and neither found a change in depressive symptoms after 6 weeks; however 1 of the studies showed that at 2 weeks postpartum Mg supplementation resulted in a larger change in mean Quick Inventory of Depressive Symptomatology. The other 2 of the 4 human studies concluded that serum Mg was not correlated with PPD. Conclusion The few human studies evaluating Mg in PPD have only considered the Mg sulfate formulation. Other forms like Mg L-threonate have been shown to exhibit greater success in crossing the blood-brain barrier and promoting neuroprotection. Given the high incidence of PPD the positive results of magnesium in the treatment of major depression the promising results of murine studies the promotion of Mg supplementation by online peripartum communities and the tolerability of Mg in pregnancy and while breastfeeding more primary research is warranted to evaluate the potential benefits of Mg supplementation in the peripartum population.

Saturday May 04

## Lessons Learned from ‘Psych in the Cinema’ Residency Curriculum at a Military Hospital: Can Attitudes on Substance Misuse Change?

Ian Yeager D.O.; Rachel Han M.D.; Jon Lindefjeld M.D.; Jose Roberts D.O.; Candice Passerella

Background: Bias in medicine and psychiatry impacts patient care and outcomes. Cinema is a powerful medium to tell human stories and peer-led discussion-based learning fosters attitude change and cultural awareness reducing bias. Understanding different cultural contexts creates opportunities for connection between colleagues and with patients. Understanding and demonstrating proficiency in diversity equity and inclusion (DEI) is a core ACGME milestone. ‘Psych in the Cinema’ is a resident-created and operated initiative that has been folded into core didactics to meet these goals. The model consists of two events: quarterly noon conferences during which a short clip is shown followed by small group discussion and bi-annual DEI-related film showings during didactics followed by discussion. The most recent noon conference was on the topic of addiction which has unique cultural implications and career considerations in the military due to national security concerns and the military’s rank structure. Methods: We present quantitative data on military psychiatry residents’ attitudes toward substance misuse using anonymized pre- and post-intervention surveys after viewing a substance-use related short clip and subsequent peer-led discussion. Responses to 5 questions from the Yale Brief Substance Abuse Attitude Survey included in our survey were recorded using a Likert five point scale. We also share lessons-learned to aid other residencies in implementing this initiative. Results: The study involved 26 participants (15 in-person 11 virtual) in pre-intervention responses with a slight drop in the post-intervention participation (7 virtual 16 in person). Of note there is a discrepancy in one pre-versus post-intervention in person participant. Among the pre-intervention responses 88% of respondents indicated that they “know someone personally who has struggled with addiction.” Based on data from the specific Yale survey

questions results show that attitudes towards substance misuse use disorders and treatment modalities remained fixed. However among the post-intervention responses 30% of participants answered that their attitudes on the survey questions changed after this intervention. Conclusion: The global change in attitudes showcases that this intervention did have an impact on participants and can be further implemented to discuss sensitive topics. Cinematic storytelling can be leveraged to help psychiatry trainees develop a deeper understanding of the differences in human experiences due to differences in backgrounds and identities. Cinema can be used to explore examine and analyze how systemic oppression shapes our experiences. The goal of DEI Psych in Cinema is thus to improve awareness of DEI issues and how bias comes into play in all human interactions to include the psychiatrist-patient interaction and to ultimately grow our abilities to understand and empathize with those whose experiences differ from our own.

Saturday May 04

### **Measuring Standard of care Physical Parameters in an Academic Psychiatric Practice During COVID Pandemic – a Trainee Driven Quality Improvement Study**

Himangshu Rathinakumar M.D.; James Luebbert M.D.; Karuna Poddar MD MS

Background: Psychiatric services need to cater to certain evidence-based quality indicators that promote patient safety and guide standards of care. Our Child and Adolescent psychiatry (CAP) fellow outpatient clinic provide psychotherapy and pharmacological management to the population in a major metropolitan city who belong to various social determinants of health and may have limited access to quality care. Our clinic provided care through the COVID period through increased use of telemedicine modality and continued to maintain the evidence-based quality measures for our patients who were on medication

management by tracking their necessary vitals. The COVID pandemic has brought about a lot of changes in psychiatric practice. Simultaneously our Telepsychiatry has been evolving and the pandemic accelerated its use and accessibility. This study aims to determine if this has resulted in changes in compliance with evaluation of basic parameters of our patients during the peri-pandemic era. Objectives:

Evaluate the quality of care before COVID pandemic using certain indicators

Determine the changes of these indicators during and after the pandemic

Evaluate the effect of trends in telemedicine on these indicators

Methods: This retrospective analysis looks at the practice of basic clinical parameters during outpatient visits pre during and post COVID and to determine any variability in these practices. These include height weight BMI percentiles charts of these parameters pulse and BP measurement (8 parameters) with additional progress note if abnormal BMI. As part of the division QI project we have been collecting data at two time periods of fall and spring in a year. 2-3 patients per fellow for a total of 12-22 charts were randomly selected each year and they were evaluated for compliance with measuring these parameters. Results: Before the pandemic an average of 5 out of 9 variables met the quality-of-care standard of 90% compliance (range 3-9). During the pandemic (Jan '20 to June '21) 4.5 variables on average met the standard (range 1-8) and after the pandemic 4.5 variables again (range 3-6). ANOVA analysis showed no difference between the groups ( $p=0.98$ ). The compliance was maintained by pulling data from care everywhere functionality of the electronic medical record system for example in the 2023 data: nine of the sixteen patients (56.25%) had measurements pulled from nearby hospitals and clinics using the same electronic health record system.

Conclusion: With the changes in the peri pandemic requirements from exclusively virtual provision of care to hybrid provision of care in the immediate post pandemic era using telemedicine and adapting to the virtual child psychiatric practice the clinic continued catering to attention through quality measure and maintained quality of care.

Saturday May 04

### **Middle-Aged Female with Severe Ropinirole-Induced Psychosis**

Nicholas Kotsyubko M.D.; Rossano Bangasan MD

Introduction: Ropinirole is a dopamine agonist primarily used in treatment of Restless Leg Syndrome and Parkinson's Disease. Its affect is primarily linked to two dopamine receptors D2 and D3 thereby targeting the mesolimbic and mesocortical pathways. Given ongoing research it is believed that excess stimulation of said receptors can cause significant shifts in dopaminergic neurotransmission which in turn can increase risk for psychosis. Here we describe a case of middle-aged female who developed new severe psychosis including hallucinations delusions and worsening mood disturbances after starting Ropinirole with Primary Care Provider. Symptoms resolved after discontinuation of the Ropinirole and given severity of symptoms augmented with low dose Aripiprazole (high affinity for D2 D3 receptors working as pre and postsynaptic partial agonist) Case: Patient is a 51-year-old Caucasian female with history of PTSD GAD MDD Borderline Personality Disorder controlled on Duloxetine 60mg daily for depression neuropathic pain Buspirone 15mg BID for anxiety Gabapentin 800mg QAM 800MG Qnoon 1000mg QHS for anxiety neuropathic pain sleep and formerly trialed mirtazapine which she did not find beneficial and thus discontinued. In late 2022 patient developed restlessness disorganized thought process and auditory hallucinations hearing unknown voices and radio playing with poor sleep and mood which began 4 weeks prior gradually worsening. In the same time frame patient started Ropinirole 0.5mg QHS by her Primary Care team which was further increased to 1mg QHS. She otherwise denied any other changes in regimen recreational drug use or any lifestyle changes. Patient was asked to discontinue the Ropinirole given distressing

symptoms. She reported gradual resolution of restlessness hallucinations with linear thought process after stopping this medication. Treatment was further augmented with low dose Aripiprazole 5mg daily for psychosis and further mood stabilization which she tolerated well.

Discussion: There appears to be an association between activation of D2 and D3 dopamine receptors with Ropinirole and onset of psychosis explained by changes in dopaminergic neurotransmission and signal processing in mesocortical and mesolimbic pathways. However not everyone who takes Ropinirole may experience psychosis as some may be more prone due to genetic factors. Risk of psychosis may be dose-dependent and affected by speed of titration thus higher doses of Ropinirole may be more prone to trigger psychosis. Should symptoms arise discontinuing the medication may be necessary along with augmentation with low dose Aripiprazole which as a partial agonist may both activate and block receptors lowering dopaminergic neurotransmission in mesolimbic pathway and enhancing mesocortical transmission. Providers should exercise caution when prescribing Ropinirole and monitor closely for novel neuropsychiatric symptoms.

Saturday May 04

### **Mood over Matter: literature review on benzodiazepine tapering current practices and updates on adjunct mood stabilizers**

Phuong Vo M.D.; Karim Rashid; Zahab Qazi; Cesar-Michael Rafano M.D.

Benzodiazepines widely prescribed to treat anxiety and insomnia offer relief but come with a considerable risk for misuse and dependence. A recent study published in JAMA Network Open reveals that between 2014 and 2016 about 10.4% of U.S. adults or an estimated 25.3 million reported using benzodiazepines. Alarming nearly 17.2% of these individuals admitted to misuse.

Furthermore the National Institute on Drug Abuse (NIDA) documented that benzodiazepines were implicated in over 14% of opioid overdose deaths in 2021. A separate report from the CDC pinpointed benzodiazepines as a factor in nearly 7000 overdose deaths across 23 states from January 2019 to June 2020 constituting 17% of all drug overdose deaths. This timeframe saw a staggering 520% surge in deaths related to illicit benzodiazepines while fatalities from prescribed benzodiazepines rose by 22%. As such Psychiatry and Addiction medicine play an integral role in being vigilant about benzodiazepine misuse abuse and addiction and providers need to be up to date on practices for helping patients taper to discontinuation if possible. Significant challenges exist during the process of tapering patients who have been chronically using benzodiazepines including difficulty tolerating intense withdrawal symptoms such as heightened anxiety mood shifts sleep disruptions and tremors. If done inappropriately sudden withdrawal can prove fatal with delirium tremens and seizures. This poster seeks to document a brief literature review of current benzodiazepine tapering practices review outpatient challenges of detoxification and address barriers to complete discontinuation with a specific emphasis on reviewing literature regarding mood stabilizer adjunct use. Historically in multiple forms of literature Carbamazepine has been proposed to be used adjunct or prophylactically to curb intense withdrawal symptoms and keep patients on track for discontinuation. However this medication has been met with much criticism regarding efficacy. This medication is well documented to have a series of concerning side effects including skin reactions agranulocytosis leukopenia and significant drug-drug interactions by nature of its metabolism begging the question of whether the risks are really worth the benefit. Oxcarbazepine has been proposed as an alternative with small scale clinical trials noting some efficacy in helping with detoxification with lower side effect concerns. Other mood stabilizers particularly with anti-epileptic effects warrant a further look for those with benzodiazepine addictions. Through a more current literature review we hope to increase the tools available to psychiatrists for more

success in discontinuation and maintaining sobriety for patients.

**Saturday May 04**

### **Naloxone Distribution at Project DAWN Sites in Lucas County Ohio and the Role of Bystanders in Opioid Overdose Reversals: A Retrospective Study**

Kelli Curcillo Medical Student; Summer Drees Medical Student; John Najjar Medical Student; Tanvir Singh

Kelli Curcillo<sup>1</sup> Summer Drees John Najjar Tanvir Singh Abstract Background: Preventing opioid overdose has been a major public health focus in Lucas County Ohio due to the significant death toll devastating the county. One harm reduction strategy is the administration of naloxone a ? antagonist utilized to reverse opioid overdose. Educating and equipping laypersons or bystanders with naloxone and training empowers them to act in overdose emergencies to reverse opioid overdoses. The Lucas County Health Department has worked with Project Dawn (Deaths Avoided with Naloxone) to train community members and provide naloxone without cost. This study retrospectively analyzed the distribution of naloxone to laypersons in Lucas County. Methods: Project Dawn follows a train-the-trainer model in which the health department trains community members to provide naloxone distribution at sites throughout the county specifically targeting zip codes with the highest burden of opioid overdoses. These community members distribute naloxone without cost and educate their community on its use. During naloxone distribution clients receiving naloxone are given an anonymous survey which collects information on demographics and past naloxone use. This study analyzed these data focusing on the use of naloxone that was distributed from 2020 through 2022 under Project Dawn in Lucas County Ohio. Results: The data included a total of 11539 responses and a total of 20451 naloxone kits were distributed. Of these responses 7663

clients received naloxone for the first time and were trained on how to effectively recognize and respond to an overdose. Respondents who reported that this was not their first time receiving naloxone were 524 clients in 2020 1203 clients in 2021 and 1441 clients in 2022. Given these responses returning clients were asked how their last kit was used. 1813 or 8.9% of naloxone distributed were reportedly used for an overdose reversal. The total number of reported successful opioid overdose reversals from these 3 years was 1699 or 8.3% of naloxone distributed were used to successfully reverse an overdose. Of the kits that were used on a person who was overdosing 93.7% of overdose reversal attempts resulted in survival 1.2% resulted in death and 5.1% did not report survival or death. The overall opioid overdose death toll in Lucas County from 2020 2021 and 2022 was 296 276 and 222 deaths respectively. Conclusion: In Lucas County Project Dawn has funded community efforts to train and distribute naloxone. Naloxone was largely distributed to first-time receivers of naloxone. Many returning laypersons who had previously received naloxone utilized this naloxone for opioid reversals. Of the kits that were used on an overdosing person a large amount resulted in survival showing the capability of bystanders when adequately trained and provided naloxone to reverse opioid overdoses

**Saturday May 04**

### **National trends in naloxone and buprenorphine compared to opioid-related mortality**

Jordan Zeldin

Background: Opioid use disorder is a significant cause of morbidity and mortality in the United States and several medications are available for treatment and rescue. Population trends can capture effects not seen in clinical trials. We can compare national trends in prescriptions of these

medications to opioid-related mortality. The Comprehensive Addiction and Recovery Act (CARA) allowed nurse practitioners (NPs) and physician assistants (PAs) to prescribe buprenorphine going into effect in February 2017. Similarly in March 2016 the CDC published guidelines on the use of 4mg intranasal naloxone shortly after it was approved by the FDA. Methods: Data from IQVIA include 91% of all prescriptions in the U.S. from 2012 to 2017 at the monthly level. Opioid mortality data is from CDC WONDER. Interrupted time series was performed to determine 1. changes in prescription rates of naloxone and buprenorphine and 2. changes in opioid mortality. Results: Immediately after CARA went into place NPs and PAs sharply increased their prescriptions of buprenorphine (p-value<0.001). We estimate there were 17000 additional prescriptions in the first year alone. At this same time point the slope of opioid-related mortality changed from increasing to decreasing (p-value 0.016). When intranasal naloxone was approved and recommended for widespread use by the CDC prescriptions sharply rose (p-value <0.001) but the slope of opioid mortality increased (p-value = 0.0273). Conclusion: NPs and PAs being granted legal authority to prescribe buprenorphine was met with a significant increase in buprenorphine prescriptions and correspondingly a significant decline in opioid mortality nationwide. However when intranasal naloxone became widely prescribed opioid mortality counterintuitively increased. It may be that patients rescued with naloxone in the emergency setting are at higher risk of lethal overdosing after discharge. Setting up patients with buprenorphine before discharge may prove crucial in preventing these deaths and bridging patients until they are able to establish long-term care.

**Saturday May 04**



## Outcomes in Women with Opioid-Addiction-Associated ED Visits in the United States

Waliah Ajisafe M.D.; yusra gimie BS; Uzoamaka Nwosu M.D.

**Introduction:** Opioid addiction and prescription drug misuse is an epidemic in the United States that has gradually increased in the past two decades. In 2020 the Centers for Disease Control and Prevention (CDC) estimated the cost of opioid addiction to be nearly \$ 1.5 trillion and the trend is likely to increase in the coming years. This has become a major public health issue with a significant impact on morbidity and mortality. **Aim:** To determine the profile and outcome in women with opioid-addiction-associated ED visits in United States. **Methodology:** We analyzed data on Opioid addiction Emergency Departments visits utilizing the Nationwide Emergency Department Sample (NEDS) database from January 2018 to December 2019. In a multivariate analysis we determined the association between opioid addictions and ED visits because of attempted suicides assaults and unintentional injuries. We also explore the influence of opioid addiction on health outcomes such as in-hospital mortality total hospital charges length of hospitalization and discharge disposition. We adjusted for covariates such as patient's age race/ethnicity insurance type income quartile hospital parameters (ownership region of hospital hospital urban-rural divide teaching hospital status) depression dementia and preexisting comorbidities (hypertension diabetes and obesity). We also adjusted for the mechanism of disease. Samples were weighed to generate nationally representative estimates. **Result:** There were 214056 opioid-addiction-associated ED visits during the study period. The median age was 39 years (Interquartile range: 30-52 years). Among these patients 73.0% were White 14.8% were Blacks and 8.5% were Hispanics. 21862 (10.2%) of these patients' ED visits were on account of unintentional injuries 3510 (1.6%) were due to attempted suicides and 17760 (0.8%) were on account of assaults. There were 1424 deaths. After adjusting for covariates opioid addiction

remains a significant predictor of attempted suicides (OR=1.60 95% CI 1.47-1.74 p<0.01) unintentional injuries (OR=2.18 95% CI 1.96 -2.42 p<0.01) and assaults (OR=1.88 95% CI 1.67 -2.13 p<0.01). It also remains a major predictor of in-hospital mortality (OR=2.9195% CI 2.34-3.63 p<0.001). **Conclusion:** Opioid addiction remains a significant driver of adverse health outcomes among women who presented to the ED in the United States.

**Saturday May 04**

## Paying it forward: understanding Alumni engagement in a psychiatry residency training program

Nicole Bejany MD; Amber Khan; Ana Ozdoba M.D.

**Background:** Alumni are frequently used in higher education as a resource for philanthropy and service. The examination of Alumni engagement in Universities has shown that a sense of connection and belonging is predictive of ongoing Alumni involvement in their alma mater.<sup>1</sup> Currently limited data exists on motivations for Alumni engagement within Residency programs. This remains a topic of interest as they are an invaluable resource in our program and others that are short staffed.<sup>2</sup> Alumni provide needed support to resident training at Montefiore serving as teachers supervisors and mentors. Studies that have examined the use of Alumni as mentors in healthcare training found increased mentee satisfaction with research involvement career opportunities work-force retention and improved work-life balance.<sup>3</sup> Our survey aims to evaluate the experience of Alumni mentors and educators in Montefiore Psychiatry residency program as well as assess what factors continue to encourage Alumni engagement in the residency training experience. **Methods:** This study is designed as a descriptive cross-sectional survey-based research study. The survey contained 56 questions on demographic information residency satisfaction current engagement in the Montefiore community and attitudes around their current

educational roles as a mentor supervisor or teacher. Questions were either multiple choice likert scale (0-5 very satisfied to not satisfied) or fill in the blank. The survey was emailed to 72 Alumni currently working as supervisors teachers and mentors. Faculty that are not program Alumni were excluded from the study. Results: A total of 47 Alumni responded to the survey. Respondents graduated between 1979 to 2022. All participants were age 30 and above with 47% identifying as women and 53% identifying as male. Respondents reported working in a private setting (30.43%) academia (36.96%) and public/community psychiatry (32.61%). Alumni reported satisfaction with their training and 97.67% would recommend the program to medical students. More than half of respondents reported staying connected to the program through faculty supervision for trainees mentoring residents and attending grand rounds. The prominent theme that emerged when asked about motivations for engagement was “paying it forward.” Additional drivers included expanding learning opportunities and nurturing leadership. In terms of barriers to engagement 75% of participants reported limited time. Conclusion: The desire to pay it forward was reported as an important motivation for alumni's continued engagement in their home psychiatry residency program particularly in roles that involve directly training the next generation of clinicians. Time restrictions were found to be a significant barrier. Strategies that offer meaningful but flexible and convenient teaching and mentoring experiences to alumni are needed to continue engaging this underutilized resource.

Saturday May 04

### **Perceived Importance of Transition to Practice Competencies by Psychiatry Residents in Canada: A Cross-Sectional Evaluation**

Michael Mak M.D.

Background: As Canadian psychiatry residency programs transitioned to the competency-based model the Royal College of Physicians and Surgeons of Canada released a list of Transition-to-Practice (TTP) competencies. These competencies include the integration of skills directed towards life-long learning and management of clinical administrative and financial aspects of practice. A Canadian study of 16 psychiatry training programs identified gaps in resident self-perceived skills in physician-manager training areas such as program planning career development and innovation - indicating a demand for TTP competencies to align with the needs of psychiatry residents. Objective: To determine which skills/proficiencies are perceived as the most valuable to psychiatry residents during their transition to practice. Methods: An online questionnaire was sent to all senior psychiatry residents (PGY4 and above) in Canada via the Coordinators of Psychiatric Education (COPE) from January to March 2023. Residents were asked to rank the Royal College TTP competencies based on perceived levels of importance. Rankings were converted into quantitative data with 1 = Least Important and 5 = Most Important. Additionally residents were given the opportunity to include open-ended comments addressing other aspects of training they felt were important but not captured in existing TTP competencies. Results: We received 72 responses (57% PGY4 and 42% PGY5) from 15 of 17 Canadian medical schools. The top 3 TTP competencies were management of adverse events practice management and business aspects of practice. The TTP competencies ranked as least important were evaluating costs of patient treatment in different settings quality improvement initiative and social media training. Areas not captured by the Royal College TTP competencies that residents perceived as important included managing practice-related finances and how/where to apply for jobs. Conclusion: Insights gained from this evaluation provide an opportunity to refine the PGY5 TTP curriculum in psychiatry residency training. Educators and curriculum designers may focus on prioritized TTP competencies perceived by residents. Furthermore areas determined by

residents as valuable but not captured by the Royal College TTP competencies reflect unmet needs in psychiatry residency training where development of supplementary resources may be needed going forward.

**Saturday May 04**

### **Predictors of pain and psychiatric comorbidities in bereaved family members of 9/11 victims**

Alexis Cross D.O.; Stephen Cozza M.D.; Joscelyn Fisher Ph.D.; Jing Zhou; Christin Ogle Ph.D.

There is a longstanding history of treating bodily pain and psychiatric comorbidities as separate entities. However there are bidirectional relationships between bodily pain and mental health disorders including depression post-traumatic stress disorder (PTSD) and anxiety. For instance recent studies have shown that psychiatric conditions share neural pathways with physical pain and individuals affected by pain are less likely to show improvement in their psychiatric conditions without treatment for their pain condition. Victims of the 9/11 terrorist attacks have an increased risk for developing physical and psychiatric conditions; thus examining how bodily pain is related to psychiatric conditions in this population would be informative. The present study classified family members of 9/11 victims according to whether they met threshold for PTSD Prolonged Grief Disorder (PGD) Major Depressive Disorder (MDD) Generalized Anxiety Disorder (GAD) and the presence of bodily pain. Three groups were identified by latent class analysis (LCA): Healthy (70.9%) high pain/high grief/low comorbidity (HP/HG/LC) (7.6%) and intermediate pain/high grief/high comorbidity (IP/HG/HC) (21.4%). Participants in the healthy group were least likely to meet criteria for a psychiatric condition and were least likely to report bodily pain. The HP/HG/LC group was most likely to report bodily

pain (66.3%) but less likely to meet threshold for a psychiatric condition except PGD. Compared to the IP/HG/HC group this group was also more likely to include older males. The IP/HG/HC group had a moderate probability of experiencing bodily pain (43.5%) high likelihood of meeting threshold for PGD and the highest likelihood of meeting threshold for PTSD MDD and GAD. Compared to the healthy group participants in this group were more likely to be younger (odds ratio (OR) = 0.92 95% CI [0.89 0.96]) less educated (OR=3.78 95% CI [1.40 10.23]) and include more bereaved parents (OR=4.88 95% CI [1.33 17.96]) compared to other relationship types. They also endorsed more negatively valenced post-9/11 life events (OR=0.85 95% CI [0.76 0.95]) and had less satisfaction with social support (OR=0.44 95% CI [0.32 0.62]). LCA with distal outcome models suggested that individuals in this group were more likely to meet threshold for alcohol use disorder ( $p<0.05$ ) and functional impairment ( $p<0.01$ ) compared to the healthy group. Compared to the HP/HG/LC this group was more likely to include younger bereaved mothers with higher levels of functional impairment. Results indicate how symptoms of bodily pain cluster with psychiatric conditions among family members of individuals who died during the 9/11 terrorist attacks. Greater understanding of the demographic and mental health correlates of bodily pain and psychiatric comorbidities in this population can facilitate the identification of groups that are at higher risk of developing comorbid pain and psychiatric disorders.

**Saturday May 04**

### **PTSD Pain Platoons & Procedural Intervention. A novel approach for treating comorbid AUD in U.S. Military members: a case report & literature review**

Alexis Cross D.O.; Zachary Brooks D.O.; Victoria Vuckovic MD resident; Simone Bernstein M.D.; Peyton Gaumer D.O.

Stellate Ganglion Blocks (SGBs) have been used by pain and anesthesia physicians to treat pain conditions such as complex regional pain syndrome (CRPS) and phantom pain after amputation for nearly one hundred years. The psychiatric benefits of SGBs were discovered in the early 1990s when a patient with Post-Traumatic Stress Disorder (PTSD) and CRPS experienced an improvement in her PTSD symptoms and pain relief after receiving the treatment. Since then research into SGBs has exploded particularly in military settings with data showing dramatic improvements in symptomatology in service members with PTSD. The stellate ganglion is located bilaterally anterior to the C6 and C7 vertebrae and is responsible for providing sympathetic output to the brachial plexus and the inferior cardiac nerve. The premise of SGBs interrupts sympathetic output to the heart and brachial plexus leading to a decrease in the classical physiologic symptoms thought to be associated with PTSD. This improvement in symptoms seen in patients with PTSD has led to SGBs now also being studied in numerous subsequent psychiatric conditions ranging from anxiety disorders to personality disorders to psychotic spectrum disorders. PTSD and Alcohol use disorder (AUD) are among the most prevalent conditions in U.S. military veterans and often co-occur. Among active-duty military members and veterans the prevalence of PTSD is twice that of the civilian population with data showing that a diagnosis of PTSD increases the risk of developing AUD. Knowing this frequent overlap exists and having seen the positive effect of SGBs on PTSD it would be reasonable to propose using SGBs for co-occurring PTSD and AUD. In this poster we discuss the case of a 38-year-old active-duty male U.S. service member with psychiatric diagnoses of PTSD and AUD who demonstrated symptom improvement in his trauma-related symptoms as well as a sustained period of sobriety after receiving a stellate ganglion block. Using this case as an example we will explore the current literature on the proposed mechanism and effectiveness of SGBs for PTSD the shared risk factors for PTSD and AUD and the existing literature for other off-label use for SGBs. Given the significant morbidity of PTSD and AUD in the

military and veteran population it is essential to continue to evaluate additional possible treatment strategies. Stellate ganglion blocks are minimally invasive procedures with a low prevalence of adverse events and the ultrasound-guided technique can be widely taught to physicians without interventional pain training. If SGBs could treat both PTSD & AUD in an austere environment this could revolutionize the treatment of stress-related psychiatric disorders in a deployed setting.

**Saturday May 04**

### **Racial Disparities in Urine Drug Screening During Pregnancy: An Aggregated Analysis of Testing Practices and Outcomes**

Dania Albaba M.D.; Megan Howard M.D. M.P.H.

Urine drug screening during pregnancy is a critical tool for identifying potential risks to both mother and fetus. However the decision to test should be based on clinical indications rather than racial or ethnic biases. Pubmed EMBASE and PsycINFO databases were systematically searched for the following key terms: drug screen" and "pregnancy." Only five studies ultimately met inclusion criteria. The aggregated findings reveal a disproportionate frequency of testing among African American or Non-Hispanic Black patients despite no corresponding increase in positive results. These disparities have significant implications for clinical practice research education and policy emphasizing the need for equitable and evidence-based medical practices."

**Saturday May 04**

### **Scoping review: Impact of the prolonged COVID-19 pandemic on child and**

## adolescent mental health in the United States.

Nils Went M.D.; Xiao Xiong You M.D.

**Background** The COVID-19 pandemic and associated societal infection control measures have massively changed the daily lives of individuals particularly children and adolescents in the United States. Their psychosocial environment has changed significantly; they experienced uncertainties fears and physical and social isolation negatively affecting their well-being and mental health. **Methods:** We performed a scoping review following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines to explore the impact on the various mental health outcomes over three years. Peer-reviewed articles from PubMed Web of Science medRxiv Web of Science Google Scholar and APA PsycINFO published between May 2020 and March 30 2023 were collected. Longitudinal or cross-sectional surveys studies of retrospective measures cohort panel and time series published in peer-reviewed journals using validated measures to assess the effect of the pandemic-related stressors on mental health symptomatology in samples of children and adolescents. The quality of the studies was evaluated using the NIH Study Quality Assessment Tool. **Results:** Based on the qualitative analysis of 134 included studies with 20265508 subjects aged from 5 to 24 years indicating a decreased psychological well-being and increased mental health problems such as increased distress and heightened depressive and anxiety symptoms during the pandemic. Children adolescents and young adults were at an elevated risk of experiencing psychological distress worry loneliness anxiety depression traumatic symptoms other psychological disorders suicide risk sleep disorders and impaired psychosocial functioning. Data suggest that the intensity of societal infection control measures and infection dynamics were positively associated with the severity of the psychopathology. The most recounted influencing factors were age gender previous mental and physical health self-

regulation abilities parental mental health family functioning social support socio-economic status isolation and loneliness. Age gender and negative coping strategies were identified as risk factors for developing mental health problems. Social peer and family support and a positive coping style were associated with better outcomes. **Conclusion:** The findings of this scoping review highlight the psychopathological consequences of the COVID-19 pandemic on children and adolescents in the United States and call for improved access to child and adolescent mental health care and prioritization for any future pandemic and natural crisis response.

Saturday May 04

## Swiping Scrolling and Suicidality: Examining Social Media Addiction in the Context of Adolescent Psychiatric Emergencies

Ujval Pathak MD; James Burden MD; Gibson Anugwom MD; Britney Lambert M.D.

**Background:** Social media use has proliferated among adolescents; studies show up to 95% of teens have access to a smartphone and use YouTube Instagram or TikTok daily. Overuse of these platforms has been associated with mental health risks in young individuals including depression anxiety disordered eating and suicidal ideation (SI) often driven by habitual checking and prolonged engagement through endless streams of algorithmically selected content. Concerningly evidence shows adolescents' maturing nucleus accumbens causes their reward processing to be more sensitive to this social reinforcement. Nevertheless research specifically on the problematic usage of TikTok and Instagram Reels in adolescents is limited thus a further investigation into their impact on youth mental health crises is warranted. **Methods:** We conducted a retrospective case series examining the clinical correlations of TikTok and Instagram Reels use with self-harm risk taking and addiction behaviors in 7 patients (aged 11-18) who



underwent emergency psychiatric evaluation following social media-related mental health crises since January 2022 at a tertiary care center. Data on social media use patterns clinical addiction and associated mental health decompensation were gathered through clinician interviews and detailed chart review. Results: All patients reported TikTok or Instagram Reels use consistent with a minimum of 1 addiction criterion including longer than intended use social consequences as a result of use withdrawal or distress when device access was restricted. 5/7 patients demonstrated at least 2 addiction criteria and 3/7 had ? 3 criteria. Of this sample 2/7 patients reported at least 7 hours of TikTok use daily. 86% of patients presented with SI with self-inflicted wounds and 71% ultimately required inpatient psychiatric stabilization for SI. Notably one patient was intubated and dialyzed in the ICU after an ingestion and cited TikTok as the trigger for his attempt. Two patients in this sample (aged 11 and 12) formed romantic relationships with adult men and a separate 12 year old patient was publishing videos of herself using sexual paraphernalia. Conclusion: In this case series we emphasize the predominance of mental health crises in adolescents in the context of problematic social media consumption of TikTok or Instagram Reels. Despite small sample size the severity of self-harm suicidality and patterns of addictive use correlated with goal-disoriented scrolling or inadequate safeguards against unmonitored contact with adults. Given the recent data demonstrating the negative effects of the addictive design features of these platforms efforts should be made to curb youth access to harmful content. To strike a balance between access to media and sensitivity towards a particularly vulnerable population a deeper inquiry is needed into whether these platforms cause or merely exacerbate mental illness.

Saturday May 04

## The Role of Pregnancy and Motherhood on Alcohol Use

Radhika Patel D.O.; Christina Spoletti D.O.; Jerica Gerena; Alex Slaby

Rates of alcohol use in women have been on the rise in recent years. With the up trending rates of alcohol use in women of child-bearing age there is increasing concern for alcohol use in pregnancy and subsequent complications. Thus perinatal alcohol use patterns are of particular interest. Recent literature has demonstrated pregnancy to be a protective factor in alcohol consumption with lower prevalence of alcohol use disorder (AUD) in pregnant women compared to a general female population of child-bearing age. We will discuss two cases of pregnant women with history of AUD to evaluate the impact of pregnancy on alcohol use mediating factors for relapse during the perinatal period and patient care implications. Case one is a 30 year old female G4P1021 at 18 weeks gestation with past medical history significant for Type I diabetes diagnosed during gestation and psychiatric history significant for AUD tobacco use disorder bipolar II disorder who was referred to psychiatry by ObGyn due to worsening anxiety. During assessment the patient reported history of alcohol use consisting of multiple wine bottles daily prior to pregnancy. She reported alcohol was a coping mechanism for her anxiety and reported alcohol use cessation upon discovering pregnancy status. Patient also reported a history of smoking cigarettes since age 16 and was attempting to cut back at the time of consultation. Case two is a 33 year old female G2P0010 at 20 weeks gestation with past psychiatric history of AUD bulimia major depressive disorder generalized anxiety disorder and cannabis use disorder who was referred to psychiatry by ObGyn due to depressive symptoms. During assessment the patient reported history of daily alcohol use since her teenage years with cessation of both marijuana and alcohol upon discovering pregnancy status. Patient reported both alcohol and marijuana helped with motivation and she only felt "happy or content" when under the influence. Patient denied a history of alcohol withdrawal seizures though

endorsed frequent blackouts when using alcohol. These cases demonstrate pregnancy as a motivating factor for alcohol cessation in pregnant patients with history of AUD. Therefore it is imperative that pregnant women be routinely asked about alcohol use during the perinatal period and evaluated using validated screening tools to better identify women susceptible to alcohol use during pregnancy. Moreover the cases suggest the perinatal period may be a critical time for interventions addressing alcohol use. However despite the presence of motivational factors for abstinence in pregnancy an individual's capacity to accomplish this is strongly influenced by social and structural health determinants. These cases may be representative of alcohol use patterns of a larger population. Through these cases we hope to apply recent literature findings of predictive risk factors and further identify contributory factors in alcohol use patterns.

Saturday May 04

### **Threshold Concepts in Psychiatry: A Qualitative Exploration of Medical Student Experiences**

Aanchal Shah; William Butler M.D.

Objective: Threshold knowledge is a theory of learning that involves deeper understanding of a subject. It has been described as an “aha!” moment that changes the way a learner views the subject and world around them. Psychiatry education has been identified as being likely to benefit from this approach. However research into this area is limited. To address this gap we identified and described threshold concepts experienced by medical students during behavioral medicine and psychiatry rotations to better apply threshold learning to the dynamic learning of psychiatry. Methods: 498 U.S. medical students were administered an electronic survey that included demographic and qualitative and free-response components. The responses

were coded using a hierarchical nodal system to generate themes and relationships among responses. They were compared via Pearson coefficients for similarity and grouped by nodes to identify overlapping clinical concepts. Results: Most threshold concepts occurred in clinical settings with inpatient units being the most common (33%) followed by outpatient clinics (28%). Themes were identified across in three overarching categories: (1) the current state as learner (increased empathy and decreased judgement deeper understanding of mental health conditions and treatment mental illness as treatable and challenges to preconceived beliefs and bias) (2) the future state of provider (providing patient-centered care provider biases and patient injustice) and (3) the healthcare system (integrated care for comorbid conditions). Conclusions: This research provides a framework to investigate threshold concepts more empirically from the learner perspective. Recommendations are discussed for incorporating threshold concepts into medical education.

Saturday May 04

### **Adolescent Opioid Stabilization and Treatment: Case Series and 13-Hospital System Stabilization and Treatment Protocol Standardization**

Megan Mroczkowski M.D.

Background: Despite national efforts to identify and treat substance use disorders drug overdose deaths remain stubbornly high in the United States. In 2019 there were 70630 overdose deaths across the United States and roughly 70% involved opioids.<sup>1</sup> Adolescent overdose deaths in the United States have increased in the past decade; there were 518 overdose deaths in 2010 compared to 954 in 2020 and deaths increased further to 1146 in 2021.<sup>3</sup> Despite recent improvements in identifying and treating substance use disorders opioid use and addiction still start at young ages. Furthermore nationwide

surveys have reported at least 5%–6% of high school students have tried prescription opioids non-medically before graduating.<sup>4</sup> The American Academy of Pediatrics Committee on Substance Use and Prevention advocates for increasing access to medication-assisted treatment (MAT) for opioid use disorder in young people and for pediatricians to prescribe these medications when indicated.<sup>5</sup> Yet studies<sup>6</sup> show the majority of youth with opioid use disorder do not receive MAT and those who do are often delayed by at least six months from their diagnosis. **Methods:** A case series involving one patient who presented to a large urban academic medical center on several occurrences will be described. J is a 16-year-old male from the Dominican Republic with severe opioid use disorder. He presented four times to the Pediatric Emergency Department showing signs of withdrawal and seeking treatment. No standardized guideline to stabilize and treat him existed. **Results:** While the hospital had an evidenced-based opioid stabilization protocol for adults none such existed for adolescents. We created an evidenced-based opioid stabilization protocol for adolescent patients in the 13-hospital enterprise. We outlined the rationale and process for using medications for opioid use disorder including buprenorphine clonidine methadone naltrexone and other adjuvant medications. We then formed an interdisciplinary enterprise-wide taskforce including child and adolescent psychiatry addiction psychiatry emergency medicine pediatrics pharmacy hospital administration nursing leadership and others. This taskforce formalized the stabilization protocol and implemented it throughout the enterprise. **Conclusions:** It is possible to create and standardize an evidenced-based opioid stabilization and treatment guideline for adolescents in a large hospital system. With this treatment guideline trainees in all involved disciplines will feel more comfortable using these medications in their clinical practice. The barriers to widespread implementation of similar guidelines include limited education buprenorphine waiver issues and stigma in treatment. We advocate for all hospitals to adopt similar guidelines.

**Saturday May 04**

### **Applying Natural Language Processing and Multilevel Modeling to Online Reviews of SUD Treatment Facilities and Drug-Induced Mortality Rates**

Matthew Abrams M.D.

**Background:** Drug-induced mortality across the United States has continued to rise. To date there are limited measures to evaluate patient preferences and priorities regarding substance use disorder (SUD) treatment and many patients do not have access to evidence-based treatment options. Patients and their families seeking SUD treatment may begin their search for an SUD treatment facility online where they can find information about individual facilities as well as a summary of patient-generated web-based reviews via popular platforms such as Google or Yelp. Web-based reviews of health care facilities may reflect information about factors associated with positive or negative patient satisfaction. **Objective:** The objective of this study was to examine the association between online review content of SUD treatment facilities and drug-induced state mortality. **Methods:** A cross-sectional analysis of online reviews and ratings of SAMHSA (Substance Abuse and Mental Health Services Administration)-designated SUD treatment facilities listed between September 2005 and October 2021 was conducted. The primary outcomes were (1) mean online rating of SUD treatment facilities from 1 star (worst) to 5 stars (best) and (2) average drug-induced mortality rates from the Centers for Disease Control and Prevention (CDC) WONDER Database (2006-2019). Clusters of words with differential frequencies within reviews were identified. A 3-level linear model was used to estimate the association between online review ratings and drug-induced mortality. **Results:** A total of 589 SAMHSA-designated facilities (n=9597 reviews) were included in this study. Drug-induced

mortality was compared with the average. Approximately half of states (24/47 51%) had below average ("low") mortality rates (mean 13.40 SD 2.45 deaths/100000 people) and half (23/47 49%) had above average (high") drug-induced mortality rates (mean 21.92; SD 3.69 deaths/100000 people). The top 5 themes associated with low drug-induced mortality included detoxification and addiction rehabilitation services ( $r=0.26$ ) gratitude for recovery ( $r=-0.25$ ) thankful for treatment ( $r=-0.32$ ) caring staff and amazing experience ( $r=-0.23$ ) and individualized recovery programs ( $r=-0.20$ ). The top 5 themes associated with high mortality were care from doctors or providers ( $r=0.24$ ) rude and insensitive care ( $r=0.23$ ) medication and prescriptions ( $r=0.22$ ) front desk and reception experience ( $r=0.22$ ) and dissatisfaction with communication ( $r=0.21$ ). In the multilevel linear model a state with a 10 deaths/100000 people increase in mortality was associated with a 0.30 lower average Yelp rating ( $P=.005$ ) Conclusions: Lower online ratings of SUD treatment facilities were associated with higher drug-induced mortality at the state level. Elements of patient experience may be associated with state-level mortality. Identified themes from online patient-derived content can inform efforts to improve high-quality and patient-centered SUD care."

**Saturday May 04**

### **Assessing the impact of expanding health coverage on provider-level pharmacological and behavioral treatment provision for OUD**

Marya Rana MPhil; Andres Roman Urrestarazu MD PhD MFPH

Background: OUD affects 16 million people worldwide and 3 million in the US alone. It is a chronic relapsing disorder and the most effective treatment strategy is generally MAT involving a combination of pharmacotherapy and behavioral

therapy. One potential means of addressing OUD is by expanding health care coverage for vulnerable populations; in the US this occurred through Medicaid expansion under the ACA. However MAT may not be implemented fully especially among low-income patients who are overwhelmingly enrolled in state-run Medicaid programs as the use of behavioral treatments depends on payment schemes and is inversely related to use of pharmacological therapies. This study assessed the effects of Medicaid expansion on provider-level pharmacological and behavioral treatment provision for OUD between 2010 and 2019. Methods: Data from the NSSATS-2010 NSSATS-2019 TEDS 2010 TEDS 2019 and US Census Bureau were used to run two mixed effects logistic regressions with random intercepts for state and year to assess the relationships between: facility characteristics; inpatient outpatient and residential treatment; demographic variables; and the provision of a) buprenorphine and b) special programs for people with co-occurring disorders. Results: Medicaid expansion status of a state was not significantly associated with the provision of pharmacological or behavioral treatment in facilities in that state. Instead factors associated with higher odds of offering buprenorphine in a facility were facility-level: Medicaid acceptance (OR: 1.364  $p<0.001$ ) substance use treatment (SUT) (OR: 2.779  $p<0.001$ ) detox provision (OR: 8.007  $p<0.001$ ) inpatient hospital beds (OR: 1.241  $p<0.001$ ) outpatient substance abuse (SA) services (OR: 1.284  $p<0.001$ ); and state-level poverty (OR: 1.082  $p<0.01$ ). Factors associated with lower odds were facility-level: private non-profit ownership (OR: 0.604  $p<0.001$ ) local government ownership (OR: 0.525  $p<0.001$ ) and tribal government ownership (OR: 0.531  $p<0.001$ ) as compared to private for-profit ownership; and state-level unemployment (OR: 0.923  $p<0.01$ ). Factors associated with higher odds of offering special programs for co-occurring disorders were facility-level: Medicaid acceptance (OR: 1.688  $p<0.001$ ) SUT (OR: 4.447  $p<0.001$ ) detox (OR: 1.281  $p<0.001$ ) inpatient hospital beds (OR: 1.132  $p<0.001$ ) outpatient SA services (OR: 1.097  $p<0.025$ ) and residential beds (OR: 1.124  $p<0.001$ ). Ownership by federal (OR: 1.646  $p<0.001$ ) and state (OR: 1.466  $p<0.001$ )

governments were associated with higher odds while tribal government ownership was associated with lower odds (OR: 0.742  $p < 0.01$ ) as compared to private for-profit ownership. Conclusion: This study suggests that Medicaid expansion has not had a dramatic effect on the provider landscape for OUD treatment; instead economic and commercial factors continue to drive inequity in MAT provision. There is no funding to disclose for this study.

**Saturday May 04**

### **Association with pathological gambling and depression among Korean adults**

Young-Eun Jung

Objectives: Pathological gambling correlates with many adverse health measures including depression suicide divorce job loss and debt. However in South Korea studies on the prevalence of pathological gambling are limited. We assessed the pervasiveness of pathological gambling and its related factors. Methods: A quota sampling strategy was considered appropriate to ensure the collection of representative age and gender data. The study sample comprised 500 community-dwelling adults aged 20–59 years living in Jeju South Korea. This study assessed participants for pathological/problem gambling using the Korean version of the Diagnostic Interview Schedule (K-DIS-IV). Endorsement of five DSM-IV criteria was considered to reflect pathological gambling and we considered endorsement of one to four criteria to indicate problem gambling. To obtain information regarding depression we administered the Patient Health Questionnaire-9 (PHQ-9). The demographics and frequency of depression were analyzed among pathological/problem gamblers in comparison with controls; both odds ratios and significance levels were calculated. Results: Lifetime prevalence rates of pathological gambling and problem gambling were 1.2% ( $n=36$ ) and 7.2% ( $n=6$ ) respectively. The total PHQ-9 score of the 42 participants with problem/pathological gambling was  $4.71 \pm 4.19$  and 17 (40.5%)

participants who were problem/pathological gamblers had depression (PHQ-9  $\geq 5$ ). Multivariate analysis further showed a significant relation between being a man (odds ratio [OR] 2.62; 95% confidence interval [CI] 1.18-5.84;  $p=0.018$ ) and depression (OR 2.84; 95% CI 1.42-5.68;  $p < 0.001$ ) with pathological/problem gambling. Conclusions: Pathological/problem gambling is highly associated with depression suggesting that clinicians should carefully evaluate and treat depression in gamblers.

**Saturday May 04**

### **Cannabis and Alcohol use trends in US high school aged youth 2013-2021**

John Hartman; Danielle Thistle; Erick Messias M.D.

Background: Cannabis and alcohol are among the most widely used substances in the US in the 21st century specifically among adolescents. These two substances are of particular interest to the psychiatric community as they impact many aspects of the health of youth including significant morbidity and mortality. This study examined current (use within 24 hours of an in-class survey) alcohol and cannabis use to identify youth that use these substances most frequently. Methods: Data from this study was obtained from the Youth Risk Behavior Surveillance Survey (YRBSS) a national school-based survey from the CDC that surveys thousands of high school aged youth every other year. Our group analyzed the results of YRBSS data between 2013-2021 (5 survey data sets) to compare current alcohol and cannabis use in US high school age youth. Results: Current alcohol use has decreased from 34.9% in 2013 to 22.7% in 2021 and current cannabis use has decreased from 23.4% in 2013 to 15.8% in 2021. This represents a statistically significant decrease in current use of both alcohol and cannabis in US high school age youth. When stratified by race/ethnicity there is a statistically significant difference between the year 2013 and 2021 across



all racial/ethnic groups with a few exceptions. Racial/ethnic groups with non-significant changes in substance use include: alcohol use in American Indian and Alaska Native youth alcohol use in Native Hawaiian and Pacific Islanders and cannabis use in Native Hawaiian and Pacific Islanders. A linear regression model revealed a positive association between years passed (2013-2021) and decrease in current use of alcohol and cannabis. Conclusion: Based on a large survey of US high school age youth current alcohol and cannabis use has decreased between 2013 to 2021.

**Saturday May 04**

### **Characterizing alcohol and other substance use in PLWHA with medication non-adherence.**

Adam Kolb; CARLA RASH

Background/Objectives: Anti-retroviral (ART) therapy is effective in managing HIV; however only 27-80% are adherent far below the recommended 95% adherence rate required to achieve virological suppression. Persons using illicit substances are overrepresented among non-adherers. Unfortunately information on alcohol use in solely non-adherent HIV populations in the United States is currently lacking. This study aims to characterize alcohol use in a non-adherent sample. Methods: 101 male and female participants who were HIV+ and had elevated viral loads were recruited from clinics in the Northeast. This secondary data analysis categorized participants by their recent alcohol use as defined by any drinking within the past 30 days (versus none) and examined differences in participants' demographic characteristics illicit substance use and medication adherence. Results: Recent alcohol users had more days of cocaine use (M = 3.70 SD = 7.09) and marijuana use (M = 8.26 SD = 11.80) in the past month compared to those without recent alcohol use (cocaine [M = 0.65 SD

= 2.94] marijuana [M = 2.96 SD = 8.36]). Recent alcohol use was negatively correlated with medication adherence based upon a scale where one represents no adherence and seven represents complete adherence  $r = -0.21$   $N = 101$   $p = 0.04$ . However the percentage of patients who reported they were adherent all or most of the time (a 6 to 7 on the previously mentioned scale) did not differ across alcohol status groups  $\chi^2(1) = 0.65$   $p = 0.42$ . A multiple regression model with alcohol cocaine and marijuana use within the past month as predictors of medication adherence was significant  $F(3, 96) = 6.53$   $p < .001$ . Among predictors only cocaine use was significantly associated with adherence. With each one day increase in use medication adherence scores decreased by  $-0.11$   $B = 0.38$   $95\% \text{ CI} = -0.16-0.05$   $p < .001$ . Conclusions: Cocaine use was a better predictor of medication (non)adherence compared to alcohol. Clinically however alcohol may signal need for greater attention to cocaine use screening. Interventions focusing on reducing cocaine and secondarily alcohol use may help improve medication adherence in patients with elevated viral loads.

**Saturday May 04**

### **Disparities in Unintentional Drug and Alcohol Overdose Deaths Preceding and During the COVID-19 Pandemic**

Judith Gutierrez MD; Julia Lopez M.D.; Daryl Shorter; Maria Mejia

Background: According to the World Health Organization in 2019 about 600000 deaths were attributable to drug use. Despite extensive research a gap persists in the literature regarding the progression of unintentional drug and alcohol overdose under the impact of the COVID-19 pandemic. The objective of this study is to assess mortality rates resulting from accidental drug and alcohol overdoses both prior to and during the COVID-19 pandemic across different socio-demographic characteristics. Methods: This is a study of population-level death certificate data

from the US Centers for Disease Control and Prevention Public WONDER dataset between 2018 and 2021. The deaths of interest were identified using the ICD-10 codes X40 to X45 X65 and Y15 corresponding to deaths due to unintentional drug overdose and alcohol poisoning among US residents. We analyzed the age-adjusted data by year age group race/ethnicity gender and urbanization. Joinpoint regression was used to determine mortality trends across time and t-tests were executed to determine differences in mortality prior to and during the pandemic. Results: In this period there were 310303 deaths for which the underlying cause was non-intentional overdose. 300314 deaths were due to non-intentional drug overdose (DO) and 9989 deaths were due to alcohol overdose (AO). During this period there was no significant change in the AO deaths trend ( $p=0.08$ ) however DO-associated fatalities increased by 62% (with an Average Annual Percentage Change (AAPC) of 19.2  $p=0.024$ ). 91102 (29%) of the registered overdose deaths occurred in females while 219201 (71%) deaths occurred in males. The time trends according to gender show an increase in deaths during the pandemic of 52% (AAPC=17.1  $p=0.032$ ) and 65% (AAPC=19.9  $p=0.023$ ) in females and males respectively. Considering race/ethnicity the group of American Indians/Alaskan Natives exhibited the most significant rise in mortality (Death Rate (DR)=55.1) experiencing a substantial 95% (AAPC=27  $p=0.018$ ) increase in mortality rates. Subsequently the Black/African American population encountered a surge in overdose deaths with an increase of 115%. (DR=37.5) (AAPC=31.3  $p=0.012$ ). Similarly the White population encountered a 47% uptick in deaths featuring a DR of 35.8 which exhibited no notable statistically significant AAPC ( $p=0.07$ ). In relation to age two main groups experienced changes in DO deaths. Those between 15 and 19 years had a rise in deaths of 137% but the AAPC was not significant. Among 70-to-74-year-olds the death rate increased by 74% (AAPC=20.7  $p=0.002$ ). Most deaths occurred in the urban setting. Conclusion: There was a notable increase in non-intentional drug and alcohol overdose-related deaths during the COVID-19 pandemic especially among males

minority groups and the elderly. This emphasizes the importance of addressing mental health and substance misuse amidst health crises. This work was funded by the grant T32HP1003.

**Saturday May 04**

## **Drugs diagnosis and hospitalizations**

Inês Figueiredo

Introduction: Acute care visits including emergency department visits and hospitalizations related to substance use disorders (SUD) are increasing and substance use continues to be an important problem among adult and younger mental health patients either as main diagnosis or as comorbidity. There is a high rate of comorbid SUD and anxiety disorders (4.1%) depressive disorders (3.8%) bipolar disorder (0.5%) attention-deficit hyperactivity disorder (1.1%) psychotic illness (0.3% for schizophrenia) and personality disorders with 1 in 4 individuals with severe mental illness (SMI) presenting a SUD. 24% to 32% of patients with Substance Induced Psychosis develop later a schizophrenia spectrum disorder or bipolar disorder leading to a chronic use of medication and several times to a psychiatric in-patient treatment with long hospital stays and high readmission rates. Objectives: Our goal was to analyze substance use prevalence across our sample's diagnosis and if it was associated with higher psychiatric hospitalization rates. Methods: We examine how many episodes were associated with substance use and its distribution according the main diagnosis. An independent-samples t-test was run to determine if there were more hospitalizations among patients with substance use. Results: A sample of 4385 in-patient treatment episodes was used. Of those 1696 were female patients 908 male patients and 823 had substance use. That indicates that 18.8% ( $n=823$ ) had a comorbid SUD and concerning the major diagnoses in these episodes we found that 63% had alcohol or other SUD 19.7% had schizophrenia 19.8% psychosis

non-specified 18.5% personality disorders 15.1% bipolar disorder 12.5% conduct disorders 10% anxiety and adjustment disorders and 6% Depressive disorders. We also found that episodes reporting substance use had a statistically significant higher hospitalization rate ( $6.82 \pm 5.27$ ) than the ones without it ( $5.32 \pm 4.84$ )  $t(1483) = 6.945$   $p < 0.001$ . Conclusions: Concerning the effect of drugs on readmission our findings show a significant effect which goes accordingly the literature. The comorbidity with SUD in our sample showed higher prevalence in psychotic bipolar personality and conduct disorders than in anxiety disorders which goes against to what is usually described. This is probably explained because our sample is composed by episodes that lead to hospitalization so a sample where conditions as anxiety disorders are uncommon since they are usually treated in ambulatory. It is indubitable the several risks that drugs bring to our health and so the authors aim to raise awareness among the medical community to the importance being alert for signs of use or psychiatric symptoms to avoid reaching a no turning point. Knowledge of substance use behavior may help reducing relapse rates and to reduce the risk of developing a SUD.

**Saturday May 04**

### **Effects of childhood trauma on negative emotionality in individuals with alcohol use disorder with and without post-traumatic stress disorder.**

Tommy Gunawan; Vijay Ramchandani Ph.D.; Melanie Schwandt; Nancy Diazgranados M.D.; Eva Cullins

Childhood trauma is a key risk factor in the etiology of alcohol use disorder (AUD) and post-traumatic stress disorder (PTSD) two highly comorbid psychiatric disorders. Childhood trauma also causes disruptions in negative emotionality (NE) which is dysregulated in both

AUD and PTSD Individuals with comorbid AUD and PTSD have poorer treatment and psychosocial outcomes compared to those with individual disorders. Thus understanding the effect of childhood trauma on negative emotionality among individuals with comorbid AUD and PTSD can help develop targeted treatments for these individuals. Individuals (N=790) who underwent the National Institute on Alcohol Abuse and Alcoholism Natural History Protocol were included in the analysis. Participants underwent the Structured Clinical Interview for the DSM-IV or DSM-5 and were grouped to either AUD only (AUD; n=610) or AUD with comorbid PTSD (CMB; n=180). Childhood trauma was captured with the childhood trauma questionnaire. NE outcomes included physiological measures (heart rate blood pressure) and psychological measures (depression anxiety perceived stress). Alcohol outcomes include the Alcohol Use Disorders Identification Test (AUDIT) Obsessive-Compulsive Drinking Scale (OCDS) Lifetime Drinking History (LDH; total lifetime drinks heavy drinking years age of first drink) and Timeline Follow Back (TLFB; number of drinking days average drinks per day heavy drinking days). Analyses controlled for age sex and race. Psychological and physiological measures of NE were higher in the CMB group. Scores on the AUDIT OCDS LDH and TLFB were higher (age of first drink was lower) in the CMB group compared to the AUD group. The CMB group also endorsed more severe childhood trauma than the AUD groups. Greater childhood trauma severity increased perceived stress anxiety and depression and decreased age of first drink. Childhood trauma severity moderated the relationship between diagnosis and alcohol use outcomes. Across childhood trauma severity categories the comorbid group exhibited higher AUDIT scores and average drinks per day than the AUD group. For heavy drinking days the comorbid group only drank more than the AUD group at none/minimal and moderate/severe levels of childhood trauma. Within the comorbid group severe/extreme childhood trauma was associated with lower total lifetime drinks and average drinks per day than none/minimal childhood trauma. Individuals with comorbid AUD and PTSD exhibited worst NE outcomes compared to those

with only AUD. Childhood trauma was also associated with poorer NE outcomes. Comorbid individuals also tend to exhibit poorer drinking outcomes. However childhood trauma severity moderated some of these effects. Taken together assessing childhood trauma in comorbid individuals is necessary to improve our understanding and treatment outcomes in this population.

**Saturday May 04**

### **Epigenetic changes in the GABBR1 promoter: CpG -4 as a possible sex-specific marker for alcohol-related changes in the reward system**

Fiona Meyer-Bockenkamp

Background: Alcohol Use Disorder (AUD) presents differently in males and females. This study focused on sex-specific epigenetic changes in the proximal GABBR1 promoter in individuals with AUD in blood and brain tissue to identify an accessible biomarker for alcohol associated changes in the reward system. Methods: Post mortem brain and blood was collected from 17 individuals with AUD (4 female 13 male 51.82 years mean age) and 31 healthy controls (10 female 20 male 55.84 years mean age). Brain tissue was collected from the anterior temporal cortex nucleus arcuatus nucleus accumbens hippocampus amygdala and mamillary bodies. We performed epigenetic profiling of the proximal promoter of the GABBR1 gene coding for GABA receptor B subunit 1 via Sanger Sequencing after applying touchdown PCR. Mean methylation between tissues for both sexes was assessed using a one-way ANOVA with Tukey's correction for multiple testing. Differences in single CpG positions between AUD and control group were assessed using a two-sided t-test for independent samples. We used mixed linear modeling (MLM) to detect additional factors influencing methylation levels. Results: This study shows sex-dependent effects of AUD on GABBR1-promoter methylation. CpG-4 showed consistent change over all

investigated tissues. Looking at all tissues together CpG-4 was significantly hypomethylated in men with AUD ( $t(178.33) = 3.668 P < 0.001$ ) Most brain regions showed CpG -4 hypomethylation in male individuals with AUD. CpG -4 was significantly hypomethylated in the amygdala ( $t(32) = 2.158 P = 0.039$ ) and mammillary bodies ( $t(33) = 2.103 P = 0.043$ ). CpG-4 was the only site that remained significant after correction for multiple measurements. Blood samples showed similar results without reaching significance. MLM revealed a superadditive effect of smoking on methylation levels in female individuals with AUD. Conclusion: CpG -4 should be evaluated further to elucidate its significance as an accessible peripheral biomarker that indicates central nervous changes in the reward system due to AUD. Furthermore we saw a sex-specific superadditive effect of smoking on GABBR1 methylation in female individuals with AUD potentially counteracting neuroprotective effects of sex-dependently regulated hormones such as Estradiol or neurosteroids.

**Saturday May 04**

### **Evaluating guidelines for tobacco cessation in pregnancy: an appraisal using the AGREE II instrument**

Mohit Chhatpar

Smoking is the most important preventable cause of adverse outcomes in pregnancy; however most smokers who become pregnant continue to smoke and/or relapse after delivery. Clinical practice guidelines (CPGs) have been published to help identify at-risk patients and guide holistic management of tobacco use in pregnancy but to date there has been no comprehensive review of guideline quality or methodological rigor. Therefore this study set out to identify and assess the methodologic quality of national and international guidelines for the evaluation and management of tobacco cessation in pregnancy.

**Methods:** We conducted a comprehensive search of EMBASE MEDLINE/PubMed SCOPUS and grey literature sources until October 2022. The quality of these guidelines was assessed by four reviewers using the Appraisal of Guidelines for Research and Evaluation 2nd edition (AGREE II). Domain scores were considered acceptable quality if they scored >60% and Intraclass Correlation Coefficients (ICC) were calculated to assess agreement among the appraisers. **Results:** Seven CPGs were assessed for critical evaluation. Among these the World Health Organization (WHO) guidelines achieved an overall rating of high". The remaining six guidelines achieved ratings of "average" or "low". The "Scope and Purpose" domain achieved the highest mean score (87.1%±0.1%) while the "Editorial Independence" domain achieved the lowest mean score (52.4%±19.3%). ICC analysis showed good to very good agreement across all domains (0.55-0.97). **Conclusions:** The overall quality of clinical practice guidelines for the management of smoking cessation in pregnancy are suboptimal with only one guideline rated highly and recommended for clinical use. These findings highlight the variability in methodologic quality of guidelines and may guide the selection and use of these guidelines in clinical practice."

**Saturday May 04**

### **Exploring Psychiatric Patients' Attitudes Toward Hallucinogenic and Non-Hallucinogenic Psilocybin for Mental Health Treatment**

Araam Abboud; clay schiebrel

**Background:** While the therapeutic potential of psilocybin for psychiatric disorders has gathered increasing interest studies specifically exploring patients' attitudes toward its use remain limited. With new avenues opening for the exploration of hallucinogenic and non-hallucinogenic analogues there is a gap in understanding psychiatric

patients' preferences regarding hallucinogenic versus non-hallucinogenic psilocybin. The distinction is important as the psychoactive effects of hallucinogenic psilocybin may not be suitable for all patients and non-hallucinogenic alternatives could offer a viable treatment option without the intense psychedelic experience. Our study addresses this gap by investigating psychiatric patients' attitudes and acceptance of each form of therapy as well as comparing acceptance between them. **Methods:** A cross-sectional survey study was conducted among 96 psychiatric patients aged 18-65 years with a diagnosis of mood anxiety psychotic personality or substance use disorder at a community mental health center in Dayton Ohio. The survey assessed attitudes knowledge and acceptance of hallucinogenic and non-hallucinogenic psilocybin therapies. It collected demographic data mental health diagnoses and drug use history. Attitudes were measured on a 5-point Likert scale. Willingness to accept each therapy was assessed using a one-sided binomial proportion tests (null hypothesis 50%) and agreement with use to treat depression was compared between therapies using a paired t-test. Those with missing data were excluded from the analysis. **Results:** Of the participants 62.4% (58 of 93; 95% CI = 53.9% 100.0%; p = 0.009) were open to hallucinogenic psilocybin therapy and 60.4% (55 of 91; 95% CI = 51.8% 100.0%; p = 0.023) were open to non-hallucinogenic analogs each significantly greater than 50%. Participants were significantly differently interested in hallucinogenic mushrooms and non-hallucinogenic psilocybin-producing mushroom chemical analogues for the treatment of depression with greater agreement associated with the use of hallucinogenic psilocybin (D = 0.214 95% CI = 0.053 0.376; p = 0.010; n = 84). **Discussion:** This study reveals an openness among psychiatric patients to both hallucinogenic and non-hallucinogenic psilocybin therapies with a preference for the hallucinogenic form for the treatment of depression. This finding suggests patients may perceive the hallucinogenic effects as central to psilocybin's therapeutic potential. This underscores the necessity to align clinical practices with evolving therapeutic approaches. Additionally exploring patient



preferences and experiences can contribute to more personalized and effective treatment strategies in psychiatric care enhancing patient comfort adherence and therapeutic outcomes.

**Saturday May 04**

### **Fentanyl Use in a Pediatric Addiction Clinic**

Emma Straton BA; Sivabalaji Kaliyamurthy M.D.

Introduction: Adolescents are experiencing an increase in overdose fatalities at a higher rate than the overall population with many of these deaths being attributable to illicitly manufactured fentanyl use. An increasing number of pediatric patients are seeking treatment for opioid use disorder (OUD) driven by fentanyl use creating a need for clinicians who can identify and manage this condition. However little is known about the features of OUD secondary to fentanyl. An addiction clinic at a pediatric hospital was recently established to meet the unique needs of adolescents struggling with substance use disorders (SUDs) and behavioral addiction on an outpatient basis. We have been seeing more adolescents presenting voluntarily to seek help for their fentanyl use. Our understanding of the needs and challenges of adolescents using fentanyl is poor due to lack of data in this age group. We present data on adolescents collected at intake at the addiction clinic. Methods: Participants included 32 adolescents who presented to the pediatric addiction program between January 3 2023 and August 30 2023. The demographic and medical data including urine drug screens were extracted from the electronic medical record. Participants were enrolled in an IRB-approved study examining the associations between screen time and substance use. Results: Among the 32 patients who presented for treatment 22 reported fentanyl use and met criteria for OUD (Mage of treatment=16.7±1.1 68% Hispanic/Latino/a/x 18% Black non-Hispanic/Latino/a/x (NH) 9% another race NH 5% White NH) The average age at which opioids were first used was 15.6±1.3 years and the average age

at which any drug was first used was 13.3±1.8 years. All but one patient reported previous or current use of substances other than opioids (95% cannabis 91% nicotine 77% alcohol 50% psychedelic 27% over the counter (e.g. lean) and 14% stimulant). Urine drug screens were completed for 81% of the participants and 50% of drug screens were positive for fentanyl yet none were positive for oxycodone. Additionally 27% of patients were diagnosed with a depressive disorder 18% with an anxiety disorder and 18% with Attention-Deficit/Hyperactivity Disorder. All but four patients were started on medication for OUD (MOUD) with 14 patients started on Buprenorphine and 4 started on Naltrexone. Conclusion: In the 8-month study period 22 patients entered treatment at the addiction clinic for OUD due to fentanyl use. Here we present descriptive data on this understudied population of adolescents. More than one third of participants had another psychological diagnosis other than SUD. Most patients (82%) chose to start MOUD. This study is limited by the retrospective design and future studies should examine these constructs longitudinally along with treatment outcomes based on MOUD choice. This study was supported by the Lambert Grant at Children's National Hospital.

**Saturday May 04**

### **Firearms and the Psychiatrist**

Megan Mroczkowski M.D.; Antara Banik M.D.

Objectives: Thousands of children and adolescents are killed by firearms annually in the United States. Suicide is the second leading cause of death for youth ages 10-24 in the United States many by firearm. Injuries (willful malicious or accidental) by firearms kill thousands of children annually. Mass shootings account for 200-600 of firearm deaths of youth annually in the United States. Given this firearm safety education is of paramount importance. There is no standard curriculum for General Psychiatry Residents and

Child and Adolescent Psychiatry fellow trainees in firearm safety and how to counsel patients on firearm safety. We sought to address this gap in education of psychiatry trainees. Methods: We created a one-hour introductory lecture on firearm safety geared towards psychiatry trainees. Pre- and-posttests were administered to Child and Adolescent Psychiatry Fellows (N=14) and General Psychiatry Residents (N=20) at the NewYork-Presbyterian Hospital of Columbia and Cornell Universities and the Columbia University Irving Medical Center. Participants were informed of the voluntary nature of their participation and referred to the IRB with any concerns or questions. Results: Zero percent of participants reported owning a firearm. 89% of participants reported shooting a firearm in their lives. 40% of Child Psychiatry Fellows and 11% of General Psychiatry Residents reported receiving firearm related education through their medical training. 87% of all trainees agreed firearm safety education should be included in their training. Of the Child Psychiatry fellows 20% felt very confident 30% felt somewhat confident 40% felt neutral and 10% felt somewhat unconfident about their ability to counsel a patient regarding firearm safety. Of General Psychiatry residents 22% felt somewhat confident 11% felt neutral and 67% felt somewhat unconfident in their ability to counsel a patient regarding firearm safety. Conclusions: Despite the large number of children and adolescents killed each year by firearms in the United States firearm safety is not routinely taught to General Psychiatry Residents or Child and Adolescent Psychiatry fellows. This lecture sought to address this gap in education and help psychiatrists in training learn basics to utilize in their clinical practice.

Saturday May 04

### **Importance of Maternal Methadone Split Dosing for Relapse Prevention in Pregnant Opioid Use Disordered Population.**

Usman Riaz

Background: Amid the opioid pandemic Methadone treatment has emerged as the standard of care to facilitate patients with reducing their use of narcotics. The inherent physical properties of the treatment promote a long-sustained release from tissues that extends its half-life and minimizes the need for street/illegal opioid use. In pregnant patient population physiological hormonal and metabolic changes during gestation decrease the serum concentration of methadone which can lead to relapse on opioids. Current dosing protocols do not address the elevated disposition of pregnant patients to developing early withdrawal symptoms that maladaptively affect mother and child. This calls to question the need for improved dosing protocols tailored towards meeting the needs of this vulnerable population. Method: An online search was performed on Medline/PubMed to find relevant studies on the safety and effectiveness of Methadone split dosing for maternal and fetal health. Articles were limited to those published in English from the 1990's when the opioid epidemic started in the US. After subjecting all the articles to the selection criteria 56 articles were reviewed. Results: Methadone is a potential opioid-replacement therapy for pregnant women. However there are decreased levels of albumin and A1-acid-glycoprotein during pregnancy result in an increase in the free fraction of methadone and decrease in the total concentration of methadone. Split dosing maintains higher plasma levels of Methadone improves the doctor patient relationship encourages greater compliance for urine toxicology and does not increase the severity of neonatal abstinence syndrome (NAS). Twice-daily dosing at 12-hour intervals is considered optimal for sustained plasma levels and fewer withdrawal symptoms. Peak serum methadone levels (SML) more than twice the trough level (SML ratio >2:1) indicates rapid metabolism of Methadone during pregnancy. A trough level of 400 to 500 ng/ml after first dose and a peak level of twice the amount after 3 hrs (such as 800-1000 ng/ml) is considered ideal for blocking the effects of opioids and preventing the onset of withdrawal symptoms. Conclusion: The

modified dosing protocol underlines the advantages of utilizing a split-dosing regimen to reduce the need for increased methadone dosing while enhancing healthier outcomes during the pregnancy and post-partum period. The single-dosing regimens are correlated with deleterious infant outcomes including neonatal abstinence symptoms as well as increased chances of pre-term birth smaller birthweight and maternal heart rate variability and longer duration of hospital stays. Studies investigating split dosing regimens have brought forth promising results that offer a potential method to prevent the emergence of opioid withdrawal symptoms during gestation. These studies provide a simplified method to support healthy maternal and fetal outcomes as patients continue forward on their path towards recovery.

**Saturday May 04**

### **Mechanisms of Immunosuppressant Induced Inhibition of Binge Alcohol Drinking**

Thomas Beresford M.D.; Patrick Ronan

We have found that the calcineurin mediated immunosuppressants cyclosporine and tacrolimus inhibit binge alcohol drinking in mice. Further we have shown that this effect is mediated directly in brain as intracerebroventricular administration also significantly decreases drinking. As these immunosuppressants have severe systemic toxic effects our goal is to determine proximal mechanisms by which these immunosuppressants are working in order to develop effective treatments for alcohol use disorder (AUD) with fewer side effects. To this end we are employing genomic molecular transcriptomic metabolomic anatomic and behavioral approaches to explore the relationship between binge alcohol drinking and calcineurin mediated immunosuppressants in signaling and neuroinflammatory suppression. Since these immunosuppressants work through the inhibition of calcineurin the question arises of what role

does brain calcineurin play? Calcineurin is a somewhat ubiquitous phosphatase involved in a wide range of signaling pathways – both in neurons and glia. One question is whether immunosuppressant effects are acting through neuronal signaling pathways regulating reward and stress/anxiety pathways or in glia mediating neuroinflammatory effects. We have developed genetic models using a floxed calcineurin line (C57BL/6-Ppp3r1<sup>tm1Stl/J</sup>) to decipher this by knocking out calcineurin in neurons and glia. Initial experiments determined that baseline drinking in this line both acute and chronic were not affected by CN knockout in this neuronal population. Conclusions 1) The immunosuppressant cyclosporine robustly inhibits ethanol consumption. 2) Conditional pan-brain knockout of calcineurin in CamKIIa expressing neurons has NO EFFECT on: A) Ethanol consumption in a chronic binge drinking model B) Cyclosporine (CsA) induced inhibition of ethanol consumption in a drinking in the dark (DID) model. 3) Cyclosporine (CsA) inhibited the expression of a wide range of stress-induced neuroinflammatory markers in the CeA and PVN. A) Cytokines such as IL-2 IL-1? IL-6 TNF? B) Markers of glial activation: CD45 and Iba-1 C) Chemokine and chemoattractant molecules such as CCR2 and CCL2 D) Other inflammatory signaling molecules such as COX-2. E) Some of the largest effects were seen on IL-1? and IL-6 expression in both CeA and PVN and CD45 in PVN. 4) Together these results suggest that the immunosuppressant induced inhibition of ethanol consumption is likely mediated by glial signaling. 5) These findings suggest potential treatment targets for both AUD and PTSD.

**Saturday May 04**

### **Micro-induction of Buprenorphine/Naloxone for Opioid Use Disorder in a Large City Hospital: A retrospective chart review study**

Irina Tardif M.D.; Daniel Lewis; Scott Johnson;  
Michael Sorna

**Background** Opioid overdose death is a significant public health crisis in the US and worldwide. Buprenorphine (BUP) is a partial  $\mu$ -opioid receptor agonist used for maintenance treatment of opioid dependence and significantly reduces mortality. With the emergence of novel high-potency synthetic opioids precipitated withdrawal during standard inductions has increased. Our hospital sees a significant number of patients with chronic opioid use disorder (OUD) IV fentanyl use and medical sequelae from their illness including trauma osteomyelitis and endocarditis. A 3-day rapid microdosing cross titration of BUP along with a full opioid agonist for the first 2 days is a novel method that eliminates the need for an abstinence period. **Methods** A retrospective chart review study was conducted among 48 adult patients with OUD and complex comorbidities who underwent low-dose BUP initiations after presenting to the ED of a large city hospital and were subsequently hospitalized from 2021 to 2023. Analyses primarily focused on the 41 individuals who underwent 3-day microinduction. Univariate analyses along with bivariate analyses (point biserial correlations) were conducted to examine factors associated with the outcomes of titration success recidivism and whether BUP prescription was picked up at the pharmacy. **Results** Patients were primarily female (66.7%) white (83.3%) and uninsured (35.4%). Mean age was 42 (SD = 11) and majority of patients presented initially with an infection (45.8%) psychiatric diagnosis (58.3%) fentanyl use disorder (64.6 %) OUD (27.1%) as well as a chronic pain diagnosis (39.6%). Most of the patients illicitly used within one day prior to admission (68.8%) and 87.5% were successfully titrated to at least 16mg/day BUP. Point Biserial Correlation on 41 individuals who underwent 3-day micro-induction indicates recidivism trending toward a significant relationship with the highest pain score 24-48 hours after induction ( $p=.057$ ). The total daily dose of opioid 72-96 hours post induction is correlated with titration success ( $p=.008$ ). Time from admission to psychiatry consultation was positively correlated with BUP

pickup at pharmacy ( $p=.032$ ). **Conclusion** This retrospective cohort study provides more detailed statistical examination of factors associated with micro-induction technique success of BUP cross titration with full agonist opioids in an inpatient setting of a large safety-net hospital. A high percentage (85.4%) of patients tolerated the cross titration with low pain and COWS scores throughout the treatment. There were zero cases of precipitated withdrawal. Use of full agonists in these patients with OUD was permissible due to an underlying pain condition. These findings support the use of microinductions in pain patients with OUD and complicated medical presentations in the hospitalized setting. Further research is needed to determine usefulness in other clinical settings and with different opposing agonists.

**Saturday May 04**

### **Naloxone Prescribing for Opioid Overdose: Education Alone is Not Enough**

Quang-Trung Dang D.O.; Joan Hyland; Barbara Gracious MD;DFAPA; Robyn Meadows

**Introduction** In 2021 over 75% of all drug overdoses involved opioids. The Center for Disease Control (CDC) has promoted a set of evidence-based strategies to prevent opioid overdose including targeted naloxone intranasal spray distribution. Distribution programs work best when: 1) naloxone nasal spray is supplied to patient populations at high risk of overdose; 2) medical staff are properly educated and comfortable with naloxone distribution; and 3) those administering naloxone via nasal spray are educated on its effects. The aim of this project is to increase naloxone nasal spray prescription in patient populations at risk of opioid overdose following standards of care established by the CDC. **Method** A prospective quality improvement project to increase prescribing naloxone on discharge in patients at risk of opioid overdose was performed at a Southeast

community teaching hospital. The study was initially limited to patients admitted to the Behavioral Health Unit. Following CDC guidelines we provided a 1-hour education session to residents and attending physicians working on the behavioral health unit and also gave handouts with prescription guidelines and patient information. We tabulated pre-education data from 11/01/2022 to 01/31/2023 and compared it to post-education data from 04/01/2023 to 06/30/2023 to determine if the proportion of patients prescribed naloxone at discharge increased. Results There was an increase in the total proportion of patients prescribed naloxone at discharge; 2.44% (pre-education) to 11.54% (post-education). However a Fisher's Exact test did not show a significant difference between pre and post-education and proportion of patients prescribed naloxone. Conclusion As many other studies have shown education alone is not enough to change physician behavior. Multiple factors outside education contribute to discharge management such as time constraint and changes in primary providers. We have requested that our electronic medical record information technology team to add an automated prompt such as the one currently implemented for smoking cessation to lead to a greater proportion of at-risk patients receiving prescriptions for naloxone.

Saturday May 04

### Quantifying Opioid Agonist Therapy during Hospitalization in Patients Who Inject Fentanyl

Amber Alberici; Joseph D'Orazio; Sam Stern

Background: Hospitalized patients with opioid use disorder (OUD) particularly those with chronic injection use of high-potency fentanyl have high rates of mortality and frequent patient-directed discharges (PDDs) and readmissions. Inadequate management of pain and withdrawal are often implicated in PDDs. Guidelines for inpatient management of OUD are not standardized and

typically recommend medications for opioid use disorder (MOUD) including methadone or buprenorphine with adjunctive non-opioids. Limitations exist to this approach including methadone prescribing restrictions difficulty matching high dependency and patient hesitation to start MOUD. Our institution utilizes immediate-release (IR) and extended-release (ER) opioids as a treatment pathway to manage opioid withdrawal and facilitate transition to evidence-based MOUD. This study aimed to quantify and describe this management strategy. Methods: This retrospective single-center study of hospital admissions over a 6-month period from September 2021 to March 2022 included adults with active injection OUD and positive blood cultures. We created a database with details about demographics infections OUD management length of stay (LOS) discharge type readmissions and mortality. This is a subset of that database. Results: We identified 140 patients with 159 admissions with a median LOS of 11 days. Addiction Medicine was consulted in 67% of cases. Discharges were 47% planned 50% PDD and 3% in-hospital deaths. 82% of patients received ER opioids 80% IR opioids and 87% intravenous opioids. 45% transitioned to MOUD (37% buprenorphine 8% methadone). Overall patients received a median of 845 morphine milliequivalents (MME)/day. Average MME for patients with PDD was 683 compared to 935 for patients with planned discharge. The amount of MMEs administered approximately correlated with patients' reported opioid use patterns which were documented for 151/159 admissions. 21% reported using less than half a bundle of fentanyl or an estimated 1-7 bags per day; 28% reported 0.5-1 bundles or 8-14 bags per day; 28% reported 1-2 bundles or 15-28 bags per day; and 18% reported 3 or more bundles or 29 or more bags per day. These groups received a median of 525; 805; 950; and 1430 MMEs per day respectively. No observed overdoses occurred in the hospital for this cohort. Discussion: Our institution cares for a large population of patients with fentanyl dependence. Our approach guided by an Addiction Medicine consult service is to use both IR and ER opioids based on patients' use patterns to match their dependence and stabilize their



withdrawal symptoms while facilitating transition to MOUD. As our data shows patients often require a high daily dose of opioids to manage dependence. We found this approach to be safe with no overdoses observed in the study cohort. In the era of high-potency synthetic opioids novel approaches are needed to improve outcomes in this high-risk group.

**Saturday May 04**

### **Retail Access to Cannabis and Cannabis Use During the COVID-19 Pandemic**

Brody Montoya D.O.; Victoria Teague D.O.

**Introduction** Previous research has shown that the effects of the COVID-19 pandemic on cannabis use were not universal with notable differences between states with and without recreational cannabis legalization. States continue to consider policies regarding retail cannabis which further expands access. Further cannabis use among legal or decriminalized cannabis states with differing access to retail cannabis may experience different responses to periods of universal stress. In this repeated cross-sectional study we analyze changes in the prevalence of cannabis use during the COVID-19 pandemic between two states with differing access to retail cannabis. **Methods** Data was analyzed from the NY and WA Behavioral Risk Factor Surveillance System (BRFSS) from 2019 and 2021 to compare pre-pandemic and pandemic levels of cannabis use between a decriminalized/legal cannabis state without retail cannabis (NY) to a state with established retail cannabis (WA). Respondents reported whether they used cannabis in the past 30 days and whether smoking was their primary method of cannabis use. Data was analyzed using weighted prevalence and 95% CIs estimated using a bootstrap approach with statistics performed by SPSS statistical software. **Results** This study analyzed 75606 responses with a median age range of 45-54 years old 53.8% of responses from

those who identify as female and the following race/ethnicity profile: 74.2% White 6.1% Black 8.9% Hispanic and 10.8% Other (American Indian or Alaskan Native Asian Native Hawaiian or Pacific Islander Other Multiracial and Not Reported). For cannabis use in the past 30 Days NY and WA had a prevalence of 8.2% (7.8% to 8.7) and 14.8% (14.1% to 15.5%) respectively in 2019 with a change of -5.1% (-4.6% to -5.6%) and -0.7% (.2% to -1.7%) in 2021. For smoking as a primary method of use in those with cannabis use in the past 30 days NY and WA had a prevalence of 73% (70.3% to 75.4%) and 63.3% (60.8% to 65.8%) respectively in 2019 with a change of -1.9% (1.8% to -5.6%) and -4.5% (-1.2% to -8.0%) in 2021. **Discussion** In comparison to a decriminalized/legalized cannabis state without retail cannabis access the state with retail access exhibited a greater prevalence of cannabis use within the past 30 days pre-pandemic and less of a decrease in prevalence during the pandemic. However for smoking as a primary method for those who used cannabis in the past 30 days the state with retail access had lower prevalence pre-pandemic and a greater decline in prevalence during the pandemic. These differences might suggest that illicit cannabis markets experienced greater disruption during the pandemic than legal ones which further limited access and decreased cannabis use. Additionally those who purchased cannabis from illicit markets may have had fewer product choices than those who purchased from retailers comparatively limiting their ability to transition from smoking to different methods of cannabis use.

**Saturday May 04**

### **Safe & Efficacious Pharmacotherapy for Alcohol Use Disorder (AUD) in Alcohol-associated Liver Disease (ALD): A Systematic Review**

AKANKSHA DADLANI MD MPH; Manesh Gopaldas; Akhil Shenoy M.D.

Background: AUD is strongly associated with ALD and predicts a 4-fold increase in the rate of cirrhosis i. ALD has become the most common reason for liver transplants in America ii iii. Not surprisingly medical costs related to ALD are greater than all other hepatic pathologies combined iv. Despite the availability of three FDA-approved medications for AUD and the significant morbidity and mortality of this modifiable etiology of liver disease fewer than 10% of patients ever receive medication-assisted treatment for AUDv. No systematic review exists reviewing concerns of safety and efficacy of pharmacotherapy in patients with liver disease. We sought to address this evidence gap. Methods: Three databases were searched: Scopus Embase and PubMed. The search terms included various terms for liver enzymes cirrhosis and AUD/ALD. Inclusion criteria were: English age 18+ Human Trials Year 2000 onwards sample size > 10 study duration > 12 weeks inclusion of safety measures (liver enzyme studies) inclusion of efficacy measures (time to relapse abstinence heavy drinking days. Once all studies were compiled 2174 records were found across all databases. Results were de-duplicated and then manually screened. Results: 22 randomized controlled trials met the inclusion criteria and seven medications were found that reported on liver function tests. GGT was the most studied liver enzyme (n=21). Naltrexone (NTX) was the most studied medication (n=9) revealing an overall reduction in mean GGT in 8 of 9 studies and improved abstinence by self-report compared to acamprosate and disulfiram. Acamprosate Topiramate and Baclofen had three studies each with significant reductions in GGT in the treatment arm. Nalmefene (n=2) Disulfiram (n=1) and Olanzapine (n=1) were also studied with GGT reductions. In all studies only one patient was discontinued in the treatment arm (Disulfiram) for possible drug-induced liver injury (DILI). Heavy drinking days (HDD) was the most common outcome measure found with great variation in reporting treatment outcomes. Conclusion: In all 22 studies liver enzyme levels either showed improvement or were found to be non-inferior on medication for AUD compared to placebo. Further all 7 medications showed superiority to placebo in

efficacy measures. Outcome measures that include liver enzymes may help in clarifying medication safety profile and efficacy of treatment outcomes.

Saturday May 04

### **The complexity of dose-dependent QTc prolongation and management for patients on methadone: a case study and literature review.**

Jeuel Pana M.D.; Lisa Linde M.D.; Arslaan Arshed M.D.;M.S.;MHA

Background: Evidence exists of methadone causing QTc prolongation in a dose-dependent manner that increases the risk of torsades de pointes and sudden death. We report on this increased risk for a hospital patient on methadone 250mg daily in sustained remission from heroin. In 2011 an interdisciplinary expert panel highlighted the cardiac effects of methadone indicating the need for cardiac safety plans for opioid treatment programs (OTPs). However it was unclear how to manage our patient who was complicated by chronic heart failure and comorbid untreated schizoaffective disorder in need of psychiatric stabilization with QTc-prolonging medication. The purpose of this literature review is to develop a consensus for managing QTc-prolonged hospitalized patients who are taking methadone. Methods: We searched PUBMED and EBSCO databases using the key terms “methadone” “QTc prolongation” and “cardiac” filtered by 2013-2023 (158 results). Results: There were 6 total findings including 3 review articles 1 prospective study and 2 retrospective studies after using exclusion criteria. The consensus showed that in treatment settings EKGs should be performed when the methadone dose exceeds 120mg/day. In the hospital setting they offer risk assessment tools and indicate daily QTc-interval monitoring for patients taking methadone and anti-arrhythmics using 12-lead EKGs. A QTc interval exceeding 500ms warrants correcting modifiable risk factors and reducing/discontinuing methadone. Also dual

use of QTc prolonging medications necessitates a repeat EKG once the drug reaches steady state. The descriptive study highlighted the worst offenders for prolonging QTc in hospitalized cardiac patients being quetiapine and mirtazapine. A higher portion who suffered from a cardiovascular event in this study were patients with a lower functioning cardiac baseline. Arrhythmias in this setting occurred at a frequency of 55%. When serum methadone concentrations were obtained in OTP patients those who developed QTc-prolongation were found to have significantly higher serum (S)-methadone concentrations compared to patients without QTc-prolongation. This finding was supported by a retrospective study of levomethadone [an (R)-enantiomer used clinically in Europe that blocks less hERG potassium channels than the (S)-enantiomer] demonstrating ability to reverse and normalize QTc-prolongation in 90% of patients after they had switched from racemic methadone therapy. The development of an FDA-approved (R)-enantiomer in the US market may add to the management algorithm for cardiac safety in methadone patients. Conclusions: Recent summaries align with current guidelines for managing methadone and QTc prolongation with added caveats for hospitalized cardiovascular patients. The complexity of treating these patients may prove challenging and be case specific however we hope potential treatment options can improve flexibility to care.

**Saturday May 04**

### **Thematic and Quality Evaluation of TikTok Videos Related to Opioids Fentanyl and Narcan**

Jasmine Liu-Zarzuola B.A.; Christine Huynh; Navin Oorjitham M.D.

Background: Individuals may use social media platforms such as TikTok to retrieve information about opioids fentanyl and Narcan. Fentanyl has

become the number one cause of mortality for several demographics and Narcan was recently approved by the Food and Drug Administration for over-the-counter sales. Aims: To determine the creator type content type quality of medical information and main themes of videos on TikTok related to opioids fentanyl and Narcan. Methods: Videos were queried in November 2023 with the following hashtags: #opioid #opioidepidemic #opioidcrisis #fentanyladiction #fentanylpandemic #fentanylkills #narcan #narcanawareness and #narcantraining. The hashtags were chosen with the suggested phrases by TikTok based off of the primary keywords of opioid fentanyl and narcan. The top 20 videos were pre-selected from the results of each hashtag. A total of 180 videos were extracted. After exclusion (duplicate in a language other than English and unrelated) a total of 140 videos were analyzed. Parameters such as creator type content type and country of origin were extracted. Four reviewers independently analyzed the videos rated the quality of information using the mDISCERN measurement scale and discussed the themes of the content. Results: Regarding content type 46% of videos were educational 27% personal stories and 11% opinion. For creator type 79% of videos were made by independent users and 9% by healthcare entities. The average mDISCERN was 2.6 and videos from healthcare entities had the highest mean rank score (average of 3). Creators on TikTok debunked misinformation about the three subjects (opioids fentanyl and Narcan) educational information and personal experiences. Common themes that were identified by the reviewers included: common barriers to opioid and pain medications common misconceptions of opioid and fentanyl overdose symptoms of overdose Narcan administration harm reduction recovery and grief. Conclusion: There were several videos that provided accurate information regarding symptoms and treatment of overdose. However the majority of videos were produced by independent users and were of low quality which may be reflective of the creators' fund of medical knowledge and limited use of evidence-based source material. By encouraging healthcare professionals to create content and independent users to be more mindful of their

content general users may be able to access higher quality information on opioids fentanyl and Narcan.

**Saturday May 04**

### **Traumatic Experiences Among Hospitalized Individuals with Opioid Use Disorder: Insights from a Buprenorphine-Integrated Care Clinical Trial**

Shelby Montgomery; Michelle Lofwall M.D.; Paul Nuzzo

Introduction: Persons with opioid use disorder (OUD) often have a high lifetime prevalence of traumatic events. Additionally hospitalized patients with an OUD are frequently subjected to discrimination within the healthcare system. Some qualitative studies suggest that hospitalization for serious injection-related infections (SIRI) may be a traumatic experience for those with an OUD but further research is needed. The study purpose is to evaluate the prevalence and types of traumatic experiences among persons with an OUD who have been hospitalized with a SIRI enrolled in an ongoing randomized clinical trial. This study describes the participant's psychiatric and social determinants of health characteristics. Methods: The Outpatient Parenteral Antimicrobial Therapy Plus Buprenorphine for Opioid Use Disorder and Serious Injection-related Infections study (NCT04677114) is a randomized 2-arm clinical trial. Participants are enrolled during a hospitalization for SIRI and randomized 1:1 to either discharge once medically stable to an integrated outpatient care model combining buprenorphine and OPAT or to treatment as usual. Preliminary responses to a set of validated questionnaires including the Brief Trauma Questionnaire Mini International Neuropsychiatric Interview from the DSM-5 (MINI) and Columbia Suicide Severity Rating Scale were examined at baseline; descriptive statistics were calculated.

The Primary Care Posttraumatic Stress Disorder screen for DSM-5 (PC-PTSD-5) Addiction Severity Index- Lite (ASI) Primary Health Questionnaire and General Anxiety Disorders screen were examined at baseline and every 4 weeks thereafter.

Results: The first 55 participants randomized are included herein. Trauma screening assessments showed 31 (56%) experienced ≥3 traumatic events. Having a life-threatening illness (n=41 75%) and witnessing or fearing death/serious injury of another (n=40 73%) were most reported. Seventeen persons (31%) screened positive for probable PTSD and 5 (9%) met PTSD criteria per the MINI at baseline. The top three non-medical traumas mentioned in the description section of the PC-PTSD-5 were witnessing an overdose (n=32) being in a serious car accident (n=19) and experiencing gun violence (n=8). Of 8 (15%) participants who attempted suicide overdose [7 (88%)] was the method. Of 21 (38%) participants endorsing passive suicidal ideation 8 (38%) reported it was due to pain related to OUD. The medical and drug-use ASI composite scores decreased over time in both groups.

Conclusions: Persons with OUD hospitalized for SIRI experienced multiple traumatic events including fearing for their life due to an illness or witnessing an overdose. Importantly despite the high frequency of trauma observed in the study sample most participants are not meeting diagnostic criteria for PTSD suggesting resilience. Greater understanding of the complexity of this population's life experiences may reduce stigma and improve outcomes.

**Saturday May 04**

### **UFMG-VAC-V4N2 anti-cocaine vaccine safety and immune profile in marmosets.**

Brian Sabato; Nicole Font dos Santos MD; Raissa Lima; Frederico Garcia

Background: Cocaine use disorder is a public health issue that affects countries worldwide; there is no specific treatment for them to this day. The development of vaccines as an adjuvant to

addiction treatment is a possible strategy. The UFMG-VAC- V4N2 is a candidate using calixarenes as carriers. This study assessed the safety and immunogenicity of this new formulation. Methods: Three females and two males of *Callithrix penicillata* marmosets received 5 UFMG-VAC-V4N2 intramuscular injections (days 0, 7, 14, 21, 28, 35, 42) and food intake weight and body temperature were monitored during the experiment period that consisted of 60 days when the animals were submitted to euthanasia. Blood samples from one week prior and days 48 and 60 were analyzed with biochemical tests Enzyme-linked immunosorbent assay (ELISA) and competitive assays to evaluate safety and immune response induction. Results: Vaccinated marmosets showed increased levels of anti-cocaine IgG antibodies from baseline (day 0) until the end of the study with a maximum peak on day 21. The result of the competitive ELISA suggests that anti-cocaine IgG antibodies are specific and showed high avidity for free cocaine in solution. None of the animals treated with the UFMG-VAC-V4N2 formulation presented severe adverse reactions; there were no deaths and no alterations in physiological parameters including renal and hepatic function biomarkers. As for histopathology the analysis showed fibrin necrotic panniculitis and myositis with mild fibrosis at the injection site. Conclusion: The UFMG-VAC-V4N2 vaccine induced the production of high titles of anti-cocaine antibodies confirming the immunogenicity potential of the formulation in non-human primates with mild local adverse effects and no influence on the general health and clinical parameters in the vaccinated animals. Therefore the UFMG-VAC-V4N2 vaccine presented itself as a safe compound with immune response properties in marmosets.

Saturday May 04

**Unveiling Madrid's dark realities: A descriptive analysis of substance-induced**

## **psychoses in an emergency department within one year.**

Carlos Serrano Medical Resident of Psychiatry (PGY 3); Arturo Huerta; Francisco Mir Biribay; Manuel Agustín Morillas Romerosa

Background: Psychotic disorders resulting from substance use known as toxic psychosis pose a significant challenge in emergency care settings. Continuous updating is imperative in this field due to the emergence of new psychoactive substances and the difficulties in tracking many of them through conventional laboratory tests. For this reason it could be valuable to analyze the clinical and sociodemographic variables associated with this condition in our community. Methods: Data were collected retrospectively from databases of emergency department admissions at Hospital Universitario La Paz (Madrid) from September 1 2022 to August 31 2023 focusing on patients diagnosed with toxic psychosis. Demographic information including gender age marital status employment status and residential environment was recorded. Additionally toxicology screening results prescribed antipsychotic medications the need for mechanical restraint substances consumed and the need for hospitalization were analyzed. Results: After data collection 30 patients were examined with the majority (83.33%) being male. The average age of participants was 39.77 years (SD: 12.57). The most prevalent marital status was single (56.67%) and most of the patients (77.78%) were unemployed. Regarding residential environments the majority lived in urban areas (89.29%). Substance use patterns indicated that 50% of patients consumed cannabis while 46% used cocaine and 33.33% reported alcohol consumption. Less frequently participants reported the consumption of mephedrone methamphetamine MDPV 2CB ketamine MDMA and GHB with percentages ranging from 3.33% to 6.67%. Notably 80.77% of patients did not require mechanical restraint in the emergency department. The minority of our sample (33.33%) required hospitalization. In terms of treatment Olanzapine was the most commonly prescribed antipsychotic medication at discharge (44.44%)



followed by Aripiprazole Paliperidone and Tiaprizal. Conclusion: These results may serve as a representative sample of the presentation characteristics of toxic psychoses in the population of Madrid with cannabis and cocaine being the most frequently reported substances of use. The emergence of new psychoactive substances adds complexity to diagnostics necessitating continuous vigilance and adaptation in the field of emergency psychiatry. Understanding the profiles and treatment needs of these individuals is vital for informed clinical decision-making and further research in this challenging clinical population.

**Saturday May 04**

### **Xylazine abuse resulting in limb amputation: A case report and literature review**

Shashi Prabha M.D.; Narpinder Malhi M.D.

**INTRODUCTION:** Xylazine also known as ‘tranq’ is a non-opioid veterinary tranquilizer not approved for human use. It has been linked to an increasing number of overdose deaths nationwide in the evolving drug addiction and overdose crisis. Xylazine present overdose deaths has risen from 0.36 % in 2015 to 6.7% in 2020 in 10 jurisdictions of the US representing all four US Census Regions. Philadelphia has the highest magnitude. From 2015 to 2020 the percentage of all drug overdose deaths involving xylazine increased from 2% to 26% in Pennsylvania. Xylazine was involved in 19% of all drug overdose deaths in Maryland in 2021 and 10% in Connecticut in 2020. We present a case of chronic Xylazine use in an adult male leading to chronic ulcer resulting in forearm amputation. **CASE REPORT:** Patient was a 32-year-old male with no significant past medical history longstanding IV fentanyl and xylazine use who presented with chronic left hand wound. Vitals stable. Labs : Anemia with hemoglobin 6.9 potassium 3.4 normal lactate. X-ray of left hand

indicated osteomyelitis up to proximal ulna and radius. Hand surgery orthopedic surgery and vascular and general surgery consulted. Started on broad-spectrum antibiotic with vancomycin and cefepime which was changed to ceftriaxone vancomycin and metronidazole based on blood cultures which grew MRSA. Pain treated with Dilaudid PCA. He left AMA after 2 days of initial admission got readmitted the next day and underwent left mid arm forearm amputation. He left AMA again without completing antibiotic treatment and after care. **DISCUSSION:** Xylazine is a non-opiate sedative analgesic and muscle relaxant authorized in the United States only for veterinary use. It is not a controlled substance in the United States often added to illicit opioids including fentanyl to lengthen its euphoric effects. Xylazine is long noted in the street opioid supply of Puerto Rico before appearing more recently in Philadelphia. The highest prevalence observed in Philadelphia (25.8% of deaths) followed by Maryland (19.3%) and Connecticut (10.2%). In xylazine-present overdoses Fentanyl (98.4%) is the most commonly co-occurring drug followed by Cocaine (45.3%) benzodiazepines (28.4%) heroin (23.3%) and alcohol (19.7%). Chronic intravenous use is associated in skin ulcers abscesses tissue necrosis which may result in amputation. Overdoses associated with xylazine may be more difficult to identify and treat in clinical settings as they often appear similar to opioid overdoses may not be included in routine drug screening tests and naloxone does not reverse its effects. As many jurisdictions are currently not routinely testing for xylazine in overdose fatalities the magnitude of its epidemiological significance may not be fully understood at present. **CONCLUSION:** It is emerging as a drug addiction and overdose crises difficult to identify and treat in clinical setting.

**Saturday May 04**

### **“I still feel off”: Challenges in Discerning and Treating Comorbid Anxiety Disorders in Substance Use Disorder Diagnosis**

Lucia Boettner M.D.; Mark Sinclair M.D.

Mr. RV a 59-year-old male with a 20-year history of opioid use disorder (OUD) was admitted in May 2021 following an opioid overdose. Prior OUD treatment had been primarily managed through methadone maintenance with recurrent relapses. About four months prior to this admission he had switched to buprenorphine/naloxone sublingual film and been weaned off the medication in a supervised facility about a month before this event. After experiencing lingering withdrawal symptoms he reported taking two sniffs of heroin (with potential fentanyl involvement) which resulted in loss of consciousness and respiratory depression requiring administration of naloxone by his teenage son. While inpatient in May 2021 Mr. RV was reintroduced to buprenorphine/naloxone treatment initially at a dose of 16 mg; 8-2 mg in the morning 4-1 mg in the afternoon and 4-1 mg in the evening. However upon discharge he continued to experience symptoms of opioid withdrawal often necessitating an early afternoon dose. Subsequently in outpatient visit his medication regimen was modified to buprenorphine/naloxone 20 mg; 8-2 mg in the morning and afternoon and 4-1 mg in the evening resulting in symptom improvement. In May 2023 after two years of stability on buprenorphine/naloxone at a daily dose of 20 mg Mr. RV was initiated on Long-acting Injectable (LAI) buprenorphine receiving 300 mg subcutaneously. While reporting increased fatigue since the start of LAI buprenorphine he noted reduced cravings and withdrawal symptoms improved sleep and the ability to better manage daily activities. During follow-up Mr. RV reported ongoing satisfaction with LAI buprenorphine but he reported increased cravings for heroin toward the end of the monthly cycle occasionally requiring a 4-1 mg buprenorphine/naloxone sublingual film as an oral supplement. Additionally he presented with symptoms consistent with panic disorder including tachycardia diaphoresis and a sense of impending doom exacerbated by work-related stress and the death of a close friend around the time of starting the LAI. Administering LAI buprenorphine every three weeks instead of monthly was considered.

Given his reluctance to take psychiatric medications and engage in psychotherapy after years of addressing his substance use disorder only Mr. RV agreed to initially try hydroxyzine for recurrent episodes of panic attacks. This case highlights the complexity (1)(2) of treating OUD and comorbid anxiety disorders. Mr. RV's experience raises questions about self-medication (3) and the unmasking of anxiety with long-term LAI buprenorphine. Further research is warranted to explore the long-term outcomes and optimal dosing intervals for LAI buprenorphine in treating OUD with comorbid anxiety disorders.

**Saturday May 04**

### **28-day Chemical Dependency Patients Who Use Alcohol vs Opiates: Differences in Impulsivity**

Naomi Dhawan; Megan Desai; Michael Angela Omongos

Introduction: Many chemical dependency treatment settings treat patients similarly regardless of the substance for which they are abusing. Our study looked at differences between the two primary substances patients seeking treatment were abusing at the time of treatment alcohol vs opiates. Methods: 275 patients being seen at a suburban medical center's inpatient 28 day chemical rehab consented to complete some assessment measures. The average age of participants was 34.09 years of age (SD=11.6). 75% were Caucasian 11.65% were African American 8.8% were Hispanic/Latino 0.6% were Asian and 3.7% responded as "other." The primary substance they were being treated for was: 34.2% opiates 32% alcohol 1.1% benzodiazepines 4.4% marijuana 20.3% multiple substances. As part of a larger assessment packet patients completed self-reports which included the Barrett Impulsivity Scale-11 (BIS-11; Patten Stanford & Barrett 1995). Results: We found that opiate users showed more impulsivity issues as

compared to alcohol users. On the BIS-11 attention scale we found group differences that showed increased attentional issues with opiate users ( $t = 2.12$   $df=175$   $p=.04$ ). We also found differences on the BIS-11 subscales of self-control ( $t = 2.0$   $df=175$   $p=.05$ ) motor impulsivity ( $t=1.94$   $df=175$   $p=.05$ ) and cognitive instability ( $t=2.45$   $df=175$   $p=.02$ ). Discussion: Our results speak to some significant differences between the two cohorts of patients. We feel that some of the treatment recommendations for patients seeking substance use treatment should take into consideration these differences. Future research should investigate these differences.

**Saturday May 04**

### **A Brief Literature Review on Experiential Avoidance in Substance Use Treatment Behavioral Addictions and Treatment Implications**

Laurel Spack M.D.; Nicole Lanouette

Background: Addiction is now viewed as a multifactorial disease and much of the research on substance use disorders (SUD) has explored the role of negative reinforcement in maintaining the resultant maladaptive behaviors. This creates an interesting question: if one seeks to avoid experiences with substance use are they also partaking in other maladaptive behaviors? Experiential Avoidance (EA) describes “the unwillingness to remain in contact with distressing internal experiences”<sup>1</sup>. EA has been studied in SUDs but researchers are now exploring its relationship to “behavioral addictions” including compulsive sexual behaviors (CSB) disordered eating and gambling disorders. Methods: To examine the association between substance use treatment and experiential avoidance and extend this association to behavioral addictions a brief literature review was conducted through PubMed utilizing search terms (Experiential Avoidance) AND (Substance Use

Disorder) yielding 59 articles. Studies were selected for their investigation of 1- the relationship between EA SUD and BAs in residential treatment settings or 2- how therapies aimed at reducing EA changed outcomes in SUD treatment. The result: 3 studies met the first criteria and 3 met the second. Results: Criteria 1- Two studies in residential treatment facilities examined the relationship between men’s EA levels bulimic symptoms<sup>2</sup> and Compulsive Sexual Behaviors (CSBs)<sup>3</sup>. Both supported a correlation between increased EA with Increased drug/alcohol use but each study also found a correlation between EA and Bulimic symptoms or CSBs. The third study discussed the relationship between PTSD symptoms EA and CSBs in SUD treatment and found that EA was positively correlated to all 3 other measures and path analysis supported a relationship from PTSD symptoms to EA and from EA to CSB thus supporting a model of CSB and SUD being negatively reinforced<sup>4</sup>. Criteria 2- One study observed effects on AUD in a PTSD population and found that Acceptance and Commitment Therapy reduced EA PTSD symptoms alcohol related outcomes and depressive symptoms<sup>5</sup>. Another study used Distress Tolerance Therapy for treatment resistant Nicotine UD patients and the treatment group was significantly more likely to remain abstinent and return to treatment after relapses than the control group<sup>6</sup>. The final study observed that DBT in residential AUD treatment reduced “addictive behaviors” and found treatment correlated with reduced EA as well as reduced gambling CSB compulsive buying and disordered eating<sup>7</sup>. Discussion: A brief review of the literature suggests that screening for EA in SUD treatment may help to identify patients at higher risk of “behavioral addictions” and targeting EA in treatment reduces both substance use and disordered behaviors. Further study is merited regarding the efficacy of treatment modalities and utility in incorporating EA targeting therapies as standard practice in treatment of SUDs.

**Saturday May 04**

## Adverse Childhood Experiences and Adulthood Psychological Distress in the LGBTQIA+ Population

Brody Montoya D.O.; Victoria Teague D.O.; Dillon Rutland M.D.

**Introduction** The LGBTQIA+ community has been shown to experience a higher number of Adverse Childhood Experiences (ACEs) and a higher burden of psychological distress in adulthood than the general population. ACE scores are one of many factors that are positively correlated with the severity of psychological distress in adulthood. However the effects of ACE scores may be decreased through social and environmental interventions including Positive Childhood Experiences (PCEs) and Adult Protective Factors (APFs). In communities with lower PCEs and APFs such as the LGBTQIA+ community ACEs may have a greater contribution to adulthood psychological distress. This cross-sectional study observes the correlation of ACEs and adulthood psychological distress in the LGBTQIA+ and non-LGBTQIA+ populations.

**Methods** Data was from the 2020 WA Behavioral Risk Factor Surveillance System (BRFSS).

**Inclusion** in the LGBTQIA+ group was based on the following responses: gay lesbian bisexual other sexual orientation male to female transgender female to male transgender and gender non-conforming. A modified ACE score maximum = 8 and Kessler Psychological Distress Scale (K6+) score maximum = 24 was calculated from respondent's answers. Data was analyzed in both groups using a simple linear regression to predict a K6+ score based on an ACE score with the standardized regression coefficient (b) reported with a 95% Confidence Interval. **Results** This study analyzed 12902 responses with an average age of 53.9 years old (SD = 19.4) 52.8% responses from females and the following race/ethnicity profile: 78.2% White 2.2% Black 7.3% Hispanic and 12.3% Other Race. From the data 5.5% of respondents identified as LGBTQIA+. For average ACE scores the LGBTQIA+ and non-LGBTQIA+ populations reported scores of 2.78 (SD = 2.33) and 1.57 (SD = 1.90) respectively. For average K6+ scores the LGBTQIA+ and non-LGBTQIA+

populations reported scores of 5.47 (SD = 5.24) and 2.60 (SD = 3.56) respectively. A simple linear regression was calculated from the LGBTQIA+ group to predict K6+ score based on ACE score  $b = .43$  (.39 .47)  $t(629) = 9.54$   $p < .001$ . A significant regression equation was found  $(F(1\ 629) = p < .001$  with an  $R^2$  of .183. Additionally a simple linear regression was calculated from the non-LGBTQIA+ group to predict K6+ score based on ACE score  $b = .37$  (.36 .38)  $t(10036) = 35.34$   $p < .001$ . A significant regression equation was found  $(F(1\ 10036) = 1555.765$   $p < .001$  with an  $R^2$  of .134. **Conclusions** As expected ACEs and psychological distress were greater in the LGBTQIA+ group than the non-LGBTQIA+ group. Also the LGBTQIA+ group's ACE scores showed both a moderately stronger and more positive correlation to K6+ scores than in the non-LGBTQIA+ group highlighting a possibly greater effect of ACEs on psychological distress in LGBTQIA+ adults. These results suggest a need for improving implementation strategies for PCEs and APFs that focus on LGBTQIA+ individuals.

Saturday May 04

## Alcohol Use Disorder Suppresses the Expression of Small Nuclear RNAs in the Liver but not in the Brain

Ilya Blokhin M.D. Ph.D.

Alcohol use disorder (AUD) is a widespread disease which causes impairment of cognitive and executive functions. Genome-wide mechanisms by which alcohol results in deterioration of mental health remain to be elucidated. Splicing constitutes a nuclear process of removal of introns from the precursor RNA which leads to the maturation of transcripts and diversification of transcriptome. Mechanistically splicing is mediated by a spliceosome a nuclear machinery consisting of several small nuclear RNAs (snRNAs) and dozens of splicing factors. In our previous work we found that AUD impairs

splicing on a genome-wide scale in different organs. In the current study we set out to determine the mechanism by which AUD may cause missplicing in liver and brain. RNA sequencing files were generated from liver biopsies from patients with early alcoholic steatohepatitis and severe alcoholic hepatitis. RNA sequencing files were also generated from brain samples that were obtained postmortem from patients with AUD and matched control subjects with following brain regions included in the study: superior frontal cortex nucleus accumbens basolateral amygdala and central nucleus of amygdala. We found that AUD significantly decreased the expression of multiple snRNAs in the liver. Reduced expression of hepatic snRNAs was also observed in experimental settings when rats were chronically exposed for alcohol vapor (7 weeks 5 days a week 14 hours per day). In contrast AUD did not change the expression of snRNAs across all studied brain regions. Our results suggest that mechanisms of AUD-related missplicing are tissue-specific and that AUD-induced impairment of splicing observed in the liver is likely mechanistically associated with the suppression of snRNAs. Further investigation of pathways responsible for missplicing in different organs may help delineate the pathogenesis of AUD and suggest novel therapeutic targets.

**Saturday May 04**

### **Ashwagandha: An Ancient Plant To Treat Modern Drug Addiction**

Lorena Carvajal; Miguel Velasco-Santos;  
ALEJANDRO IÑARRA

Background: The *Withania somnifera* plant's extract is known as Ashwagandha (ASW). Although it is frequently utilized in ayurvedic medicine there is little discussion of it in the literature of contemporary mainstream medicine. However clinical data from large high quality trials suggest a potential for ASW to have anti-

inflammatory neuroprotective adaptogenic memory-enhancing hematopoietic sleep-inducing and anxiolytic properties. Taking this into consideration we aim to review if these properties might be useful in reversing addiction and or reducing relapse in drug dependent patients. Methods: From inception to August 2023 we conducted a literature search on Pubmed/Medline Embase and Google Scholar databases on studies focusing on ASW's use in adult drug dependent patients using the keywords Ashwagandha "Withania somnifera" "substance use" and "drug addiction". We selected meta-analysis chart reviews clinical trials and randomized controlled trials. Secondary literature and articles unrelated to the topic of the review were excluded. Results: Our search yields that a small number of studies have specifically examined the use of ASW in drug addiction models. ASW is classified as an adaptogen plant which results in enhanced stress tolerance in animals as well as human beings. It has been reported that ASW inhibits the stimulation of dopamine transmission and neuron circulation in the nucleus accumbens shell and ventral tegmental region of dopaminergic neurons thereby preventing the alteration of behavior and biochemical changes brought on by morphine and ethanol's electrochemical and neurochemical modifications. Another study highlighted ASW's anti-addictive potential due to modulation of nicotine cholinergic receptor. Furthermore it has been observed that Ashwagandha and a number of other plants have synergistic effects when used to create nicotine-free anti-smoking formulations. Lastly according to a different study GABAergic and serotonergic system modulation by ASW reduces withdrawal symptoms and ethanol consumption in those who have a history of chronic alcohol exposure. Conclusions: ASW represents a promising source for drug addiction treatment due to its adaptogenic properties. Further high quality investigation specifically focused on addiction is necessary before clinical recommendations on ASW can be confidently made."



Saturday May 04

## **Autonomous Sensory Meridian Response: Literature review for potential therapeutic benefits risk of dependence and side effects such as misophonia**

Oleksandra Petryna M.D.; Hussain Abdullah

Autonomous Sensory Meridian Response: Literature review for potential therapeutic benefits risk of dependence and side effects such as misophonia. Authors: Oleksandra Petryna MD Hussain Abdullah MD Autonomous Sensory Meridian Response (ASMR) is a temporary sensory response to auditory and visual cues which has been compared to pleasant paresthesia auditory-tactile synesthesia and mild euphoria one might experience from drug use (1). Cues include low pitch or soft sounds repetitive sounds or repetitive motions watching mundane tasks and watching soft tactile stimulation (1. 2). Currently there are over 25 million videos on YouTube being used to stimulate ASMR. Some studies suggest that ASMR reduces stress and can increase mood (2 3). We performed a literature search through Pubmed using terminologies ASMR ASMR+therapeutic effects ASMR+addiction and ASMR+side effects. We also present a clinical scenario of a patient experiencing persistent heightened sensations to sounds (misophonia) and cravings after discontinuation of audio/video stimulating ASMR content. The literature shows mixed findings of ASMR impact on depressed mood states with studies demonstrating positive effects particularly among those who are sensitive to ASMR (3). ASMR is also proposed to have a positive impact on cognitive functioning such as attention and decision making tasks (4). Literature reports association of ASMR with negative experiences such as misophonia (5). To our knowledge there are no studies reporting dependence and discontinuation symptoms linked to ASMR suggesting addiction risk. We encountered a challenging case in the outpatient setting of an 18 years old male with a history of Autism Spectrum Disorder (ASD) who was using ASMR with progressively increased daily use and significant impact on psychosocial domains of his life. Following initial euphoria the patient eventually

started to experience heightened sensitivity to certain sounds and at times tactile stimulation causing significant distress. Patient has responded to the ASMR related triggers impulsively with verbal outbursts and self injurious behaviors leading to depressed mood hopelessness with passive suicidal ideation (SI) and inpatient psychiatric hospitalizations. Patient had insignificant medical and neurological workup including urine drug screen. Patient had failed trials of multiple selective serotonin reuptake inhibitors and second generation antipsychotics and was treated in the clinic with off label use of Naltrexone to target cravings to use ASMR supportive therapy and education and Gabapentin to address potential somatic discontinuation symptoms such as anxiety irritability and neuropathic pain. Overall the patient reported diminished cravings and intensity of misophonia related anxious and depressed mood symptoms. Literature is limited on ASMR and potential negative effects of ASMR stimulating content warranting further research.

Saturday May 04

## **Beyond Limits: Risk Factors for Exceeding New Canadian Low-Risk Alcohol Consumption Thresholds - A Cross-Sectional Study”**

Wegdan Rashad M.B.B.Ch; Robert Kleinman

Background The Canadian low-risk guidelines for alcohol consumption were updated in January 2023. The new guidelines redefined low-risk alcohol consumption as up to two standard drinks of alcohol per week a substantial reduction from the previous threshold. This change reflects recent evidence about the harms of chronic exposure to lower amounts of alcohol. Identifying the characteristics of individuals who exceed the new low-risk thresholds can inform public health and clinical initiatives to reduce alcohol-related morbidity. Methods: For this cross-sectional

exploratory study we obtained data from the 2019 Canadian Alcohol and Drug Study (CADS) a nationally representative cross-sectional stratified survey. The survey contains questions about tobacco alcohol cannabis and other drug use patterns along with socio-demographic characteristics. The weighted survey response rate was 50.7%. We calculated weighted proportions of individuals of Canadian residents exceeding the low-risk threshold of 2 standard drinks per week. Variances were calculated using balanced repeated replication. Uni-variable logistic regressions were used to evaluate associations between characteristics and exceeding the low-risk alcohol consumption thresholds. Holm-Bonferroni adjustments were used to correct for multiple testing. Results There were 10293 respondents to the 2019 CADS among whom 10201 had complete data about alcohol consumption within the past week. A weighted proportion of 33.4% (95% 32.0% - 34.9%) of Canadian residents had alcohol intake over the previous week that surpassed the updated low-risk threshold. Among males the proportion exceeding the low-risk threshold was 38.2% (35.9%-40.6%) while among females it was 28.8% (27.1%-30.6%). After adjustment for multiple testing there were significant associations between exceeding the low-risk threshold and sex age education level income category province cannabis use within the past 12 months and tobacco smoking status ( $p < 0.001$  for all). Higher incomes and levels of educational attainment were associated with an increased risk of exceeding the low-risk thresholds. There were no significant associations between urban/rural status or Indigenous identity and exceeding low-risk guidelines. Conclusions Males and individuals with higher incomes higher levels of educational attainment cannabis use in the last 12 months or current or past tobacco smoking were more likely to exceed Canada's new low-risk drinking threshold.

## Beyond the symptoms: A systematic review of acceptance and commitment therapy in psychosis.

Miguel Velasco-Santos; Beatriz Orgaz Álvarez; Carlos Delicado Gascón; Paula Ibáñez

Background: Acceptance and Commitment Therapy aims for patients to act according to their life values striving to prevent behavioral avoidance from interfering with this objective. It has demonstrated effectiveness in various disorders although the evidence regarding its application to psychosis remains inconclusive. Two meta-analyses show symptomatic reduction whereas the most recent one contradicts this finding. However the main purpose of this therapy is not symptom reduction but rather to encourage individuals to act in accordance with their personal values. Therefore parameters such as quality of life could offer a more comprehensive way to assess therapy outcomes which justifies this study. Methods: The systematic review was conducted following the PRISMA statement. Available randomized clinical trials of Acceptance and Commitment Therapy in psychosis were compared against any other intervention or treatment as usual. The primary objective was the measurement of parameters related to quality of life while secondary objectives included quantification of psychotic or anxiety-depressive symptomatology. Results: In February 2023 a total of 106 articles were identified in MEDLINE 229 articles in SCOPUS and 184 articles in Web of Science. Subsequently 173 articles were removed due to duplication followed by an initial screening process that eliminated 286 articles with an additional 52 articles excluded during a secondary screening including 8 articles selected for qualitative analysis. Among the selected studies 5 demonstrated improvement in one or more parameters related to quality of life while inconsistencies were noted with other related parameters in 3 of them. Furthermore 2 studies reported a decrease in negative symptomatology and 2 studies showed a reduction in distress associated with psychotic symptoms. Significant risk of bias was observed in three trials. Conclusions: Substantial heterogeneity exists

among the populations in each study the measurement instruments employed the control groups and the interventions performed all of which complicate drawing definitive conclusions. Therefore more clinical trials are required where functionality and quality of life are quantified as the main objectives as well as the identification of subgroups that would benefit the most from the intervention. There are no conflicts of interest to disclose in relation to this research study.

**Saturday May 04**

### **Caplyta/ Lumateperone : A standalone or adjuvant therapy for depressive episodes in Bipolar depression and MDD. A systematic review**

Moo Jin Oh Resident Physician PGY 3; Rashmi Subhedar

Introduction: Major depressive disorder affects millions of people every year and one third fail to respond to a single mode of treatment. Treatment resistant depression is the failure to respond to at least two antidepressant drugs when given in adequate dose and duration.

Lumateperone/Caplyta is an atypical antipsychotic which acts as a receptor antagonist of 5-HT<sub>2A</sub> receptor and antagonizes several dopamine receptors (D<sub>1</sub> D<sub>2</sub> and D<sub>4</sub>) with lower affinity. It has moderate serotonin transporter reuptake inhibition. This review studies the safety and efficacy of this drug for treatment of depressive disorders as monotherapy or adjuvant to other drugs. Methods: After searching clinicaltrials.gov and PubMed using the search terms (lumateperone) AND (major depressive disorder) a total of 19 studies were obtained. After removal of duplicates and searching for relevance of content 2 RCTs and 1 systematic review were included for full text screening. Two RCTs with patients suffering from bipolar I or II disorders with major depressive episodes were reviewed. One of the RCTs studied 42 mg of lumateperone as monotherapy and the other studied 28 mg/day and 42 mg/day as an adjuvant to Li or valproate for

6 weeks. MADRS (Montgomery Asberg Depression rating scale) was the primary outcome measure and Clinical Global Impressions Scale-Bipolar Version severity scale (CGI-BP-S) was the secondary outcome. Adverse effects were studied throughout the study. Results: One of the trial studying 42 mg caplyta daily as monotherapy showed significant improvement from baseline in MADRS score compared with placebo (least squares mean difference compared with placebo -4.6 points; effect size=-0.56) and CGI-BP-S total score (least squares mean difference compared with placebo -0.9; effect size=-0.46). The only treatment related side effects which were considerably more than the placebo group were somnolence and nausea. The extrapyramidal symptom side effects were similar to placebo group. Second study which studied 28mg/day or 42 mg/ day of lumateperone or matching placebo as an adjuvant to valproate or Lithium also showed a decrease in MADRS scores. The Least Squares Mean (Standard Error) in 28 mg 42 mg and placebo group were -16.2(0.79) -16.9(.81) and -14.5(.79) respectively. The Least Squares Mean (Standard Error) for CGI-BP-S for the 3 groups were -1.7(0.09) -1.8(0.10) -1.5(0.09) respectively. The frequency of somnolence dizziness and nausea was more in the drug group than placebo. The systematic review and metaanalysis by Yildiz et al showed lumateperone to be more efficacious than placebo in treating depressive symptoms. Conclusion: For adult patients with bipolar I or II depression Lumateperone shows promising results as a monotherapy as well as an adjuvant. Although there are some ongoing trials on the efficacy and safety of Lumateperone as an adjuvant therapy to other serotonergic antidepressant medications the results are still awaited.

**Saturday May 04**

### **Consent and competency in addictions treatment and opioid agonist therapy: A**

## review of published legal cases in Ontario Canada

Tanya Hauck MD PhD FRCPC; Rachel Goud;  
Michele Warner JD MSW; Vicky Stergiopoulos  
MHS

**Objectives** Capacity and competency are relevant to all medical treatment although they are primarily considered in the context of psychiatric treatment such as antipsychotics. Medications for opioid use disorder (MOUD) and especially opioid agonist therapy (OAT) such as buprenorphine and methadone are lifesaving and prevent overdose and death. There are many reasons why a patient may be incapable to consent to treatment with MOUD such as a concurrent psychotic disorder acquired brain injury or neurodevelopmental or neurodegenerative disorders. If a patient is incapable to consent to MOUD it is essential that an appropriate decision maker decides if they should or should not receive treatment. While the process of an incapacity finding varies by jurisdiction the objective of this study was to understand if and how the civil justice system in one large jurisdiction has considered incapacity with respect to MOUD. **Methods** Ontario (population 14.5 million) is a common law jurisdiction in which patients can appeal a finding of incapacity to a legislative tribunal the Consent and Capacity Board (CCB). The CCB annually publishes approximately 12.4% of decisions in the form of "Reasons for Decisions" (RD) which describe the case and the board's decision. A search was conducted of all available Ontario CCB RDs involving the key words: "methadone" "buprenorphine" "Suboxone" "Sublocade" "opioid agonist" "opioid replacement" and "naltrexone". We classified RDs by whether incapacity was considered at all (some RDs only concern involuntary admission) and if the determination included incapacity with respect to MOUDs and specifically OAT. This information is public domain and research ethics approval is not required. **Results** 10463 RDs are publicly available between the time reports became available on June 1 2003 and June 27 2023. A total of 71 RDs included the key words "methadone"

"buprenorphine" "Suboxone" "opioid agonist" or "opioid replacement" although most hearings did not primarily concern MOUD. In only one case did the CCB make a finding of incapacity with respect to OAT (methadone) and in five other cases they discussed or specifically considered capacity with respect to substance use treatment including a finding of incapacity with to naltrexone (MOUD). **Conclusions** Since only 12.4% of findings are published there may have been unpublished hearings which made a finding of incapacity with MOUD/OAT. However among the published RDs there are few considering or deciding treatment incapacity related to addictions treatment and this implies findings of incapacity to MOUD/OAT are alarmingly rare. This is concerning and suggests individuals who are incapable of consenting to MOUD/OAT may go without treatment placing them at extremely high risk of overdose and death. Addictions treatment particularly MOUD/OAT is life saving and capacity should be considered in all aspects of medical care including addictions treatment.

**Saturday May 04**

### **Early vs. Late onset schizophrenia truly distinct disorders or due to screening deficiencies? A case report and review of the literature.**

Sakirat Akadri M.D.; Zachary Brooks D.O.;  
Prabhsimran Batra MD Psychiatry PGY-3; Alexis  
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Schizophrenia is a mental disorder characterized by positive symptoms such as delusions hallucinations and disorganization alongside negative symptoms such as avolition and amotivation. Schizophrenia affects approximately 24 million individuals globally and ranks third among all mental disorders in disability-adjusted life years after only depressive and anxiety disorders. While the condition typically emerges in late adolescence or early adulthood it can also

manifest earlier known as early-onset schizophrenia (EOS) or later known as late-onset schizophrenia (LOS). Those diagnosed with LOS are more likely to be women exhibit milder positive symptoms and display less cognitive impairment as compared to EOS. These distinct clinical traits and the belief that LOS leads to a better prognosis caused some experts to debate whether LOS merits recognition as a condition separate from schizophrenia and EOS. However a review of existing literature highlights inconsistencies in clinical disparities among EOS schizophrenia and LOS raising the question: Is LOS truly a separate entity or another point on the continuum of neurodevelopmental conditions? Advancements in genomic research have demonstrated that the neurodevelopmental continuum likely encompasses a broader array of disorders beyond those currently categorized as neurodevelopmental disorders in the DSM. This hypothesis implies potential inclusion of other disorders like ADHD certain mood disorders and psychotic spectrum disorders into the continuum based on shared genetic mutations risk factors and clinical symptoms. Within the context of this continuum EOS schizophrenia and LOS likely exist within a shared spectrum rather than as distinct entities. While the higher level of cognitive reserve typically seen in LOS may seem protective prognostically it may also obscure prodromal symptoms resulting in delayed diagnosis. This delay is likely due to the limitations of current screening tools in identifying more subtle early indicators such as isolated delusions. We present a case study of a 40-year-old active-duty female service member with recent-onset psychosis and a historical diagnosis of delusional parasitosis. Her presentation raised concern for LOS though she likely had prior psychotic episodes which fell below screening thresholds. This case underscores the potential benefits of an improved screening tool designed with the premise that EOS schizophrenia and LOS are all on the neurodevelopmental spectrum. Such a tool might have facilitated the earlier recognition of a psychotic spectrum disorder in this patient thus granting earlier access to treatment and potentially mitigating the patient's psychiatric decompensation. We aim to use this case as a

framework to evaluate existing schizophrenia screening tools their efficacy in detecting LOS ongoing initiatives to improve these tools and evidence-based recommendations for their improvement.

**Saturday May 04**

### **Endocannabinoids in Physical Exercise and Their Role in Treatment of Substance Use Disorder**

Shannon Savino; Rhea Shishodia; Tyler Laws-Mahe BA

Background: Compulsive drug use involves activation of reward circuitry in the brain which involves dopamine (DA) endogenous opioids like  $\mu$ -endorphins ( $\mu$ -end) and endogenous cannabinoids such as anandamide (AEA) and 2-arachidonoylglycerol (2-AG). The endocannabinoid system (ECS) is also induced by physical exercise; it regulates reward mood and cognition.<sup>1</sup> Activation of the ECS may result in exercise-induced hypoalgesia (EIH) also known as “runner’s high” which describes the acute reduction in pain sensitivity and brief euphoria following exercise. Previously EIH was determined to be caused by  $\mu$ -end; however more recent studies argue that  $\mu$ -end are too large to cross the blood-brain-barrier. Instead they exert their analgesic effects on skeletal muscle in the periphery.<sup>2</sup> Since drugs of abuse (DOA) and physical exercise both induce a similar mechanism in the brain it would be beneficial to use the brain’s natural reward pathways in the treatment of Substance Use Disorder (SUD). Methods: PubMed articles were analyzed with the keywords “substance use disorder” “endocannabinoids” and “runner’s high.” We inquired about reward pathways in the brain that correlate to the mechanisms of DOA and exercise. Clinical trials and studies in rodents were excluded as well as research previous to 2009. Results: Although EIH is a natural mechanism of pain modulation alcohol nicotine and opiates have also been shown to increase AEA.<sup>3</sup> AEA and



2-AG modulate  $\gamma$ -aminobutyric acid glutamate and DA in key mesolimbic areas.<sup>4</sup> The main endocannabinoid receptor CBR1 is the most abundant G protein-coupled receptor in adult brains with dense expression in regions of reward addiction and cognitive function.<sup>5</sup> People with regular exercise have lower rates of SUD than those with less exercise and regular exercise in adolescence provides a preventive effect on alcohol and illicit drug use in adulthood.<sup>6</sup> Furthermore exercise caused a significant reduction in daily use and craving for cannabis in marijuana-dependent adults.<sup>7</sup> Most studies indicated that physical exercise can effectively increase abstinence rates ease withdrawal symptoms and reduce anxiety and depression. Physical exercise had greater reductions in depression symptoms in people with alcohol and illicit drug use than those with nicotine use. Abstinence rates were higher in illicit substance use compared to alcohol and nicotine use. Similar positive outcomes were found in three categories: exercise intensity types of exercise and follow-up periods.<sup>3</sup> Conclusion: Physical exercise can be an effective and persistent treatment for SUD based on its effects on mood cognition and pain modulation. There is also a mechanistic rationale for the development of CBR1 antagonists as anti-addiction medications. Further research regarding the ECS is needed to understand natural hedonic effects in the body and how it can be applied to clinical practice.

**Saturday May 04**

### **Examining the New Drug Xylazine Which is Quickly Infiltrating the Drug Scene**

Justin Morales M.D.; Katerina Christodoulides;  
Jose Vito M.D.

This poster aims to discuss the rising prevalence of a new drug adulterant Xylazine. Prior literature reviews and meta-analyses show increasing exposure for substance use disorders patients whose drug supply is unknowingly infiltrated by

this new drug. This poster combines all the known information about Xylazine to provide those treating addictions with the proper knowledge to diagnose and understand its effects on their patients. Drug supply infiltration has been increasing drastically since its initial use in Puerto Rico in the early 2000s and can now be found in up to 90% of drug samples in areas of the US. Xylazine use frequency will inevitably increase as prevalence continues to rise and it will become vital that providers grasp the intricacies of Xylazine use to help patients navigate their treatment. A literature search was conducted using the Medline/PubMed database. The search term used was "xylazine" to ensure all articles related to the drug were included. As many of the articles included in the initial search focused on its veterinarian use articles were then manually filtered to ensure a focus on human case reports and reviews published since the beginning of 2023. Excluded articles were duplicates and articles not focused on concomitant illicit drug use and adulteration. Out of the initial 80 papers 18 articles were deemed relevant for inclusion. Of those we found the following information. Xylazine's usage shows a western progression with prevalence focused in the Northeast where mortality rates have been greatest. The most common adulterated drug was opioids specifically fentanyl but also included others like cocaine benzodiazepines amphetamines and stimulants. Xylazine intoxication causes symptoms of CNS cardiac and respiratory depression and can be known to cause necrotic skin ulcers. Testing is done almost exclusively through spectrometry although there are drug test strips that are currently in production. Management is usually supportive though naloxone continues to show benefit due to xylazine frequently contaminating fentanyl; otherwise treatments are limited to animal studies and case reports. Despite being under-reported due to limited testing capabilities there are trends suggesting an increase in exposure and prevalence of the drug. At this time further studies are needed to determine the true trends and usage of xylazine to better understand its implications and the options for treatment. This poster has outlined the most up-to-date

information about xylazine including its historical context the mechanism of action the epidemiology present in both usage and mortality in the US its symptoms of intoxication and withdrawal and testing and treatment capabilities.

**Saturday May 04**

### **Friend or Foe? A Systematic Review of Obsessive-Compulsive Disorder and Symptomatology in Medical Students**

Savannah Fakhouri BS; Katherine Wilson BS; Claire Pinson BS; Shawn Sidhu M.D.

Background: Given the demanding nature of medical training many medical students strive for perfectionism and fear making mistakes. This may lead to the development of unhealthy safeguarding mechanisms. Herein we conduct the first systematic review synthesizing the existing literature on obsessive-compulsive disorder (OCD) and related symptoms in medical students. Methods: We conducted a systematic review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Our search strategy was developed with the institutional librarian and the PubMed Embase PsycInfo Google Scholar and Google databases were searched in August 2023 for all peer-reviewed articles published with no time limits related to the following search terms: “obsessive-compulsive” and “medical student.” Only original research studies investigating obsessive and compulsive conditions within the medical student population were included. Results: A total of 455 studies were screened 90 articles were assessed for full-text eligibility and 15 articles included in the final review originated from 11 different countries. Overall while heterogeneity exists in screening and diagnostic tools the prevalence of OCD symptoms ranged from 3.8% to 43% with half of the studies (5/10) assessing prevalence reporting at least one in three students (43% 36.2% 35.3% 34.7% 32.1%)

having OCD symptoms. Studies focused on a wide range of symptomatology related to obsession or compulsion including unpleasant thoughts selfitis washing neutralizing checking hoarding and compulsive buying each with a prevalence of 51.8% 35.5-45.04% 2.37-22% 2.31-15.9% 2.5-29.6% 2.17-28% and 11% respectively. Multiple studies reported that female medical students presented more commonly with OCD symptomatology as compared to their male classmates. Another repeating theme from the literature was that first-year medical students presented with higher levels of OCD symptomatology than students in later class years and that the onset of the COVID-19 pandemic had a significant correlation with increases in OCD symptomatology. Additionally depression anxiety and stress were consistently identified as factors that increased the risk for OCD in medical students. Conclusion: We report significant OCD symptom prevalence often at least 33% with a wide range of symptomatology among the medical student population. OCD disproportionately impacts female medical students those younger in training and external stressors such as the COVID-19 pandemic may further exacerbate OCD symptoms. Other factors such as depression and anxiety also put medical students at greater risk for OCD. Given the severity of OCD especially as it relates to future physicians these risk factors may raise awareness and aid in the timely identification prevention and management of OCD in this unique population.

**Saturday May 04**

### **Gender differences in Gambling Disorder: results from an Italian multicentric study**

Luca Larini; Nicolaja Girone; Mauro Percudani; Beatrice Benatti; Bernardo Dell'Osso

Objective Although gender-specific evidence on Gambling Disorder (GD) is still limited some studies reported specific differences mainly in psychopathological profiles gambling behavior patterns and pathogenesis. In order to further

examine the role of gender in GD we conducted a multicenter investigation in a sample of Italian outpatients. Methods One hundred-four outpatients with a diagnosis of GD were consecutively recruited at two clinics based in Milan. No significant differences in terms of age and gender distribution were found between centers being therefore comparable. Diagnoses were obtained through the administration of a clinical structured interview based on DSM-5 criteria. The severity of illness was assessed using the Canadian Problem Gambling Index and the Gambling Attitudes and Beliefs (GABS). Socio-demographic and clinical variables were collected for the whole sample and subsequently analyzed for the effect of gender. Statistical analyses were performed with Pearson's chi-squared test for categorical variables and Student's t-test for the continuous variables. Next a linear regression was used to test whether GABS severity could be predicted by gender Results Among females a significantly higher older age ( $52.23 \pm 10.95$  vs.  $40.96 \pm 15.76$ ;  $p=0.005$ ) and older age at illness onset emerged ( $43.5 \pm 11.92$  vs.  $29.22 \pm 14.26$ ;  $p<0.001$ ). Females showed a significantly higher rate of psychiatric comorbidities lifetime suicide ideation stressful events at GD onset and positive family history for GD. A predictive effect of male gender was found for Gambling Attitudes and Beliefs questionnaires by performing a linear regression model. Conclusions Our study seems to confirm the hypotheses that gender in GD may influence psychopathological profiles course and comorbidity. GD in female gender is frequently a comorbid condition with other specific clinical characteristics compared to males. These findings should be considered in therapeutic perspectives.

Saturday May 04

### **GLP-1 Agonists and Ondansetron in the Treatment of Alcohol Use Disorder: A Promising Breakthrough for Specific Subgroups? - A Literature Review**

Madeline Lodeiro M.D.; Riju Kafle; Jonathan Valiente M.S.; Karla Chamoun Rosario M.D.

Background: Recent developments have introduced 2 promising yet relatively understudied drugs for the treatment of alcohol use disorder (AUD): Glucagon-like peptide 1 (GLP-1) agonists and ondansetron. Earlier animal research has shown that GLP-1 receptor agonists such as exenatide liraglutide and dulaglutide can significantly reduce alcohol consumption and the rewarding effects of alcohol. Recent human trials have begun to shed light on how GLP-1 agonists compare to established medications. Originally developed as an antiemetic medication Ondansetron has also emerged as a candidate for AUD treatment. Methods: A non-systematic literature review was conducted using PubMed and Google Scholar since inception utilizing keywords like "GLP-1 agonist" "Exenatide" "Liraglutide" "Ondansetron" "Alcoholism" and "Alcohol use disorder." 76 abstracts were reviewed. Animal studies case reports and narrative reviews were excluded. Data extraction and qualitative synthesis were performed after screening 21 relevant full-text articles of English-language-only preclinical and clinical trials randomized controlled trials prospective open-label trials and a register study. Results: Recent research on GLP-1 receptor agonists reveals intriguing findings. Klausen et al. (2022) demonstrated potential for reducing alcohol intake particularly in obese patients with exenatide despite it not significantly reducing heavy drinking days. Wium-Andersen (2022) indicated a temporary preventive effect as GLP-1 users experienced fewer alcohol-related events initially. For data regarding ondansetron while some investigations hint at potential benefits particularly among individuals with specific genetic profiles or early-onset AUD others do not report significant positive effects. Seneviratne et al. (2022) reported that ondansetron did not show a significant benefit in the treatment of AUD irrespective of genotype. Notably ondansetron's effectiveness in reducing alcohol consumption and cravings varied depending on gender and genetic factors such as the 5-HTTLPR and DRD4 polymorphisms. Furthermore the drug's impact

differs between early-onset and late-onset AUD. Conclusion: GLP-1 agonists offer advantages in treating alcohol use disorder (AUD) due to their reduced abuse potential targeted mechanism of action potential for weight management dual benefits in co-occurring disorders neuroprotective effects and long-acting formulations. While GLP-1 agonists show promise in AUD treatment further comprehensive studies are needed to determine optimal dosing. Conversely the role of ondansetron in AUD treatment remains inconclusive with mixed findings. Ondansetron also shows specific benefits in genetic and AUD subtypes. However further research including larger clinical trials is needed to confirm the efficacy of these newer drugs in AUD treatment. Treatment choices can then be tailored to individual patient needs.

**Saturday May 04**

### **Google searches for alcohol and association with alcohol-coded outpatient encounters in a geographically co-located metropolitan area**

Allison Constant M.D.;M.S.; Honor Hsin M.D. Ph.D.

**Abstract** Background: Google search trends at a population level have previously been shown to correlate highly with epidemiologic phenomena including those related to mental health. Whether Google Search queries can predict trends in healthcare utilization for alcohol-coded encounters is less clear. This retrospective cohort study examines associations in alcohol-coded encounters from outpatient clinic with aggregate Google Search trends for alcohol within the same geographic area. Methods: Clinical data were gathered from electronic health records of patients over the age of 13 who had an alcohol-coded encounter at Kaiser Permanente Northern California outpatient clinics (family medicine obstetrics/gynecology psychiatry and pediatrics)

between 01/01/2017 and 3/31/2022 in catchment areas that best corresponded to the San Francisco-Oakland-San Jose metro area as defined by the Google Trends data. These data were examined in relation to Google search trends for “alcoholic beverage” in these catchment areas. Outpatient encounters with alcohol-coded diagnoses in the week of interest were normalized to the total number of outpatient encounters for that week. Time-matched correlation analyses between Google Trends search terms and alcohol-coded diagnoses at time lags of 0 up to 13 weeks were also performed. Results: There was a periodicity to Google search trends for alcoholic beverage with annual peaks in December/January and an atypical peak in March 2020 coinciding with initiation of shelter-in-place policies during the COVID pandemic. For the clinical data a total of 45822891 outpatient encounters were included in this study. There was a weak positive correlation between Google Search trends and alcohol-coded diagnoses from outpatient encounters at a lag of 2-7 weeks (range of Pearson coefficient 0.16-0.19 Spearman coefficient of 0.03-0.13). Conclusion: This study represents a first step toward better understanding of the potential utility of Google search trends as a possible epidemiologic marker for alcohol-coded healthcare needs. Additionally it provides insight into the impact of COVID shelter-in-place policies on alcohol-related searches and healthcare utilization.

**Saturday May 04**

### **Implementation and Evaluation of a Telepsychiatry Pilot Curriculum for Medical Students**

Khevna Joshi BA; Maya Van Gieson BA; Christopher Conroy BA; Jessica Goldhirsh M.D.

**Introduction:** The use of telemedicine has grown significantly over the past several years in response to the COVID-19 pandemic and accelerated social acceptance of telehealth as a valid care-delivery modality (Predmore et al. 2021). Expansion into telemedicine has been

particularly pronounced within the field of psychiatry (Shaver 2022). These changes in care delivery necessitate changes in medical student education if physicians are to meet the evolving needs of their patients. However some medical students may have only sporadic incidental clinical telemedicine experiences rather than structured and comprehensive training (Kong et al. 2020). Methods: A pilot telepsychiatry educational program was developed and implemented within the Geisinger Commonwealth School of Medicine. Third-year medical students as part of their psychiatry clerkship were educated in “websites manner” as well as the various advantages and disadvantages of telemedicine. They then completed a half-day outpatient rotation with a telepsychiatry attending. At the end of the entire psychiatry rotation students provided feedback on their experience via a combined quantitative and qualitative survey instrument that included both Likert scales and open-ended questions. Results: Within the total of 137 third-year medical students more than half (64%) of students selected that they “strongly agree” or “agree” that the outpatient telepsychiatry experience was a valuable addition to the clerkship while only 8% “strongly disagreed” or “disagreed” with this statement. Slightly above a quarter (27%) of students reported that the supervision with the telepsychiatrist was “significantly better” or “slightly better” than their experience with the in-person psychiatry supervision while only 15% thought that the telepsychiatry supervision was “significantly worse” or “slightly worse.” Over half (56%) of the comments stated this experience was valuable and/or enjoyable. 17% of respondents noted they would appreciate more time devoted to the telepsychiatry experience. 17% of respondents noted they received feedback and/or were highly participatory during their experience. However about 20% of the comments mentioned technological issues during the session. 15% of respondents indicated they would not recommend this experience to other students and/or described a low level of participation during their experience. Discussion: This implementation of a telepsychiatry pilot rotation for third-year medical students was met with

mostly positive feedback from participants. Incorporation of dedicated telepsychiatry training into medical school curricula can enhance learner experience increase faculty and clerkship capacity in underserved areas and provide foundational skills for physicians-in-training to adapt to an evolving healthcare landscape.

**Saturday May 04**

### **Internet Gaming Disorder among Jordanian University Students: A Cross-Sectional Study**

Mohammad Al-Sanouri; Suhayb Al-Salaymeh

**Background** Internet gaming disorder which is defined as “Persistent and recurrent use of the Internet to engage in games often with other players leading to clinically significant impairment or distress”. It is a newly evolving disorder that affects many life aspects and needs further research among different populations. IGD was included for the first time in 2013 in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders which suggested carrying out further research among different general populations . In 2018 Gaming Disorder (GD) has officially become a type of addiction as the World Health Organization released the 11th revision of the International Classification of Diseases (ICD-11) **Aims** The objective of this study is to investigate the prevalence of internet gaming disorder (IGD) and its association with sleep quality and academic performance among Jordanian university students aged 18-26. Our literature review reveals a lack of research on this topic concerning this specific population and culture. Therefore our study aims to contribute to the existing literature and to provide insights that can inform prevention assessment and treatment strategies for those affected. . **Methods** A cross-sectional study was used and by using convenience and snowball sampling; a total of 2473 participants (432 were excluded) completed



an electronic self-administered questionnaire that included the Internet Gaming Disorder Scale-SF (IGDS9-SF) and Pittsburgh Sleep Quality Index (PSQI). as our inclusion criteria required Jordanian university students to be between the ages of 18 and 26 to be enrolled as undergraduates at Jordanian universities and to be free of neurological or psychiatric conditions.

**Results** The prevalence of IGD in this study was 15.2% and was more prevalent among males compared to females ( $p < 0.001$ ) Poor sleep quality was reported by 64.6% of the sample and was more frequently observed in females. Age and academic achievements (GPA) weren't associated with having IGD. When binary logistic regression was used having IGD ( $OR = 1.882$ ) positively predicted poor sleep quality.

**Conclusion** Internet gaming disorder is common among Jordanian university students and associated with poor sleep quality our findings have significant implications for policymakers educators and healthcare providers in raising awareness about the IGD and its impact on sleep quality.

**Saturday May 04**

### **Is Formal Education a Risk for Mental Health and Substance Use Relapse?**

Kimya Rod M.D.; Pronoy Roy MD

This is the case of Ms. R a 70-year-old White woman who is single undomiciled living in a shelter in the Bronx no longer employed after a long career as an attorney. She has a history of a strained relationship with family and is estranged from her daughter. She has past psychiatric history of major depressive disorder anxiety and alcohol use disorder with multiple inpatient psychiatric hospitalizations and inpatient substance use rehabilitation treatment. She denies history of suicide attempts or self-injurious behavior but has endorsed periods of suicidal ideation since 2021. Her functioning declined in 2021 she required two mobile crisis team visits and was the subject of multiple adult protective

services reports activated by her landlord at the time for concerns about her personal hygiene and alcohol use. She has presented to multiple emergency departments throughout New York for suicidal ideation. She presented to the ED at a large urban hospital for anxiety and suicidal ideation. Psychiatry was consulted to evaluate her suicidal risk. During the interview she remained anxious and was endorsing depressive symptoms such as hopelessness decreased energy and impaired concentration and sleep. She reported her mood was "not good" however had good insight to her current psychiatric condition stating "I have an alcohol problem". Due to her risk factors for suicide and need for treatment she was admitted to the hospital. Medications were started sertraline for depression and mirtazapine for anxiety. Literature suggests for patients with suicidal ideation higher education levels are associated with an increased risk of suicidality. However for patients with substance use disorder higher education levels are associated with a decreased risk of relapse. The patient's chronic alcohol use led her to have increased periods of instability resulting in depressive episodes and suicidal ideation. Loneliness and social isolation was a major risk factor for her worsening mental health and relapse. Due to her alcohol use disorder the patient has lost her housing her social and family connections her job as an attorney and has been relying on the emergency department as her main source of care and housing. She has not been able to maintain continuity of care in an outpatient setting. This poster explores the possible connection between higher education levels and the risk of relapse on substance use. There is still more research that needs to be done to understand the relationship between education and substance use relapse and to identify contributing factors. Potential protective factors that could be investigated include strength of social relationships family involvement in treatment plans and involvement of a multidisciplinary team for continuity of care. These factors can help develop personalized relapse prevention plans that are individualized for each patient. Which in turn can reduce the likelihood of substance use relapse.

Saturday May 04

## **Ketamine Induced Cystitis: A Review of Previous Literature with Presentation of a Novel Case**

Omar Bajwa M.D.; Rushikesh Vyas M.D.; Gloria Reese

**Background:** Ketamine a psychedelic compound is recognized for its dissociative anesthetic and hallucinogenic properties. The use of Ketamine is becoming more prominent leading to potential physical complications and need for more understanding of an important potential side effect: ketamine induced cystitis (KIC).

**Objective:** A prominent and potentially harmful symptom associated with illicit ketamine use is cystitis. There is limited research and this study aims to present a novel case to help further the field's understanding of KIC. **Case**

**Presentation:** We present a case of a 28-year-old Caucasian male with a five-year history of daily ketamine use. The patient began to develop physical symptoms of urinary incontinence and bladder pain that were relieved with concomitant use of a small amount of alcohol. The patient presented to the hospital seeking detox from Ketamine. Little is known on the best management for ketamine withdrawal and ketamine induced psychosis. This study hopes to highlight the need for further investigation into KIC. **Methods/Results:** Multiple studies were reviewed to assess for similarities between the case that has been presented associated with ketamine and bladder complications. One study found that while 84% of chronic ketamine abusers demonstrated urinary tract symptoms only 48% sought treatment. In reviewing previous literature studies have suggested that ketamine users report urinary symptoms significantly related to Cystitis include urinary pain ureter stenosis and kidney failure all of which significantly impact patients' quality of life however very little is known about the management. As illicit ketamine use continues to become more popular a better understanding of the etiology and management of

these complications is necessary.

**Discussion:** This report contributes to the existing literature by underscoring the significance of understanding and addressing KIC. As illicit ketamine use becomes more common the potential for addiction demands vigilant management to avert enduring health complications including KIC. While interventions for KIC exist further investigation is imperative to optimize treatment strategies and enhance patient outcomes.

Saturday May 04

## **Maternal substances used during labor and neonatal outcome.**

Jammaree Na Bangxang

**Background:** Substance use during pregnancy has become a challenging clinical issue. Substance use affects the brain causing an addictive lifestyle. In pregnant women could lead to more harm to neonatal life. **Objective:** This study

investigates the neonatal outcome of substance use and associated factors. **Methods:** A cross-sectional study was designed. Data were collected from pregnant women who used substance during labor and refer to rehabilitative consultation between 2017-2020. Neonatal data were collected from perinatal care. Chi-square test and Fisher exact test were performed to analyze associated factors. A p-value less than 0.05 is considered significant. **Result:** 162 participants were included in this study. Mean age was 27.37±6.46 years. Mean age at first substance use was 21.93±6.52 years. No antenatal care was found 45.7%. Methamphetamine was the most used during the first use (67.9%) and latest used (72.2%). Average birth weight was 2734.97±617.51 gram. Gestational age at birth was 36.75±2.83 week. Average head circumference was 32.81±1.39 centimeters. Average femur length was 47.77±2.17 centimeters. Apgar score > 7 at 1 minute and 5 minute was found 94.4% and 97.2%. Neonatal complications were preterm labor

(34.6%) low birth weight (25.3%) small for gestational age (19.8%) premature rupture of membranes (4.9%) and stillbirth (3.7%). No antenatal care (p=0.048) no antenatal care and birth before admission (p=0.023) a cesarean delivery (p=0.024) and gestational age more than 37 weeks (p<0.001) were associated with neonatal outcome in maternal with substance used during labor. Using amphetamine as the first substance related to neonatal complication (p=0.028). Conclusion: Preterm labor low birth weight and small gestational age are the most found as neonatal complications in maternal substance used during labor. No antenatal care was related with neonatal complications in this group. Therefore an integrated system for the assessment of substances used in a pregnant woman and the system to reach out women who used substance and pregnant access to antenatal care should be established. Evaluation and rehabilitation are the interventions that should be done as soon as possible as primary secondary intervention.

**Saturday May 04**

### **Methamphetamine use and Parkinsonism: A narrative review and two case reports.**

Pooja Chaudhary M.D.;M.P.H.; Olaniyi Olayinka MD; Erika Salarda M.D.; Syamjith Jayadevan

Background: Methamphetamine (METH) is a highly addictive psychostimulant. With an estimated 1.2 million current users it poses a serious public health problem in the United States<sup>1</sup>. Multiple pre-clinical and clinical studies have shown the neurotoxic effects of METH<sup>2</sup>. However clinical data on the potential link between METH use and PD (Parkinson's disease) or parkinsonism remains limited. This review supplemented by two case studies from a large in-patient psychiatric facility aims to address this gap. Methods: We conducted a narrative review of literature on METH and PD and parkinsonism utilizing standard databases including PubMed and Google Scholar.

MeSH terms were employed to refine our search and studies were selected based on careful consideration of their titles and abstracts. Additionally we present two case studies to complement our findings. Results: METH use has been found to cause damage to dopaminergic neurons causing an elevated (up to a threefold) risk of PD and parkinsonism among METH users<sup>3-6</sup>. Additionally several other molecular mechanisms such as increased alpha-synuclein tau phosphorylation and dysfunction of ubiquitin proteasome system have been proposed to explain the observed neurodegeneration in METH users<sup>7</sup>. Case Report 1: A 52-year-old female with a history of chronic METH use disorder hypertension and PD was admitted to an inpatient psychiatric facility due to worsening depression psychosis and suicidal ideations exacerbated by psychosocial stressors. Examination was notable for PD features including shuffling gait and tremors. Initially aripiprazole was prescribed but discontinued due to reported substance-induced psychosis. The patient was started on fluoxetine for depression mirtazapine for sleep along with her home medication carbidopa-levodopa (prescribed after chronic use of METH). Symptoms improved on Fluoxetine 60 mg and Mirtazapine 30 mg oral daily and CBT. The patient was discharged to a long-term rehabilitation facility. Case Report 2: A 51-year-old male with a history of schizophrenia depression and methamphetamine use disorder as well as multiple medical comorbidities was admitted to an in-patient psychiatric facility for paranoid delusions command hallucinations and suicide attempt. The patient reported chronic intravenous use of METH and cocaine. Examination revealed a slow narrow based and shuffling gait which was attributed to chronic METH use. Aripiprazole 5 mg was used for psychosis and mood stabilization and amantadine 100 mg oral twice a day was started. During the hospitalization both psychosis and mood improved. The patient was provided with substance use education and counseling before being discharged home. Discussion: The use of METH may contribute to the development of PD and parkinsonism. Although these conditions are not fully reversible vigilant clinicians can utilize this information to provide

appropriate patient counseling and initiate early treatment for METH users.

**Saturday May 04**

### **Moderating effect of food addiction on eating pathology severity.**

Camille Bourque; Maxime Legendre; Alycia Jobin; Félicie Gingras; Catherine Bégin; Juliette Beaupre

Background: Food addiction (FA) is characterized by a feeling of loss of control over food and typical substance use disorder symptoms like cravings consumption more than planned and inability to cut down or stop. Although FA is not recognized in the DSM-5 many studies have supported the relevance of this construct as it allows to target more severe patients. For instance FA has been proposed to represent the more severe form of compulsiveness on a continuum of eating behaviors (Bonder & Davis 2022) to impact treatment responses (Munguía et al. 2022) and to represent a distinct phenotype within overweight and obesity marked by greater emotion dysregulation impulsivity and cravings (Schulte & Gearhardt 2021). In the same vein the aim of this study was to examine the moderating effect of FA on the patient severity while taking into account the presence of an eating disorder. Methods: Patients (N=193) were recruited from the Centre d'Expertise Poids Image et Alimentation and then categorized according to the presence of an eating disorder: binge eating disorder (BED; n=72) eating disorder not otherwise specified (EDNOS; n=58) and no eating disorder (noED; n=63). Patients had to be at least 18 years old and have a body mass index greater than or equal to 25 kg/m<sup>2</sup>. Patients completed a diagnosis interview and a battery of questionnaires including the Yale Food Addiction Scale 2.0 (YFAS) the Three Factors Eating Questionnaire (TFEQ) the Cumulative Childhood Trauma Questionnaire (CCTQ) the Cognitive Emotion Regulation Questionnaire (CERQ) the Temperament and Character Inventory (TCI-125) and the Impulsive Behavior Scale (UPPS-P). T-tests were used to compare participants with and

without FA within each of the three groups: BED EDNOS and noED. Results: Within the BED group patients with FA had greater disinhibition resort to more non-adaptive emotion regulation strategies had higher harm avoidance and impulsiveness and lower self-directedness ( $p < 0.05$ ). Within the EDNOS group patients with FA had greater disinhibition and susceptibility to hunger resort to more non-adaptive emotion regulation strategies and had lower cooperation ( $p < 0.05$ ). Within the noED group patients with FA had greater disinhibition and susceptibility to hunger resort to more non-adaptive emotion regulation strategies reported more childhood trauma and had lower self-directedness ( $p < 0.05$ ). Conclusion: Patients with FA systematically reported more disinhibition and more non-adaptive emotion regulation strategies no matter their eating disorder. Other variables like childhood trauma and personality traits (self-directedness harm avoidance cooperation and impulsiveness) allowed to differentiate patients with FA than those without FA only within certain eating disorder group. Globally this study highlights the relevance of assessing FA in conjuncture with eating disorder to better capture the level of severity of each patient.

**Saturday May 04**

### **Motivations for Methamphetamine use in Relation to Mental-Emotional Health**

Araam Abboud

Background: The rising incidence of methamphetamine-related overdoses and treatment admissions in the United States underscores a mounting public health challenge coupled with gaps in comprehending treatment needs for people who use methamphetamine (PWUM). While existing research explores motives behind methamphetamine (meth) use such as euphoria and functionality understanding how PWUM link usage motives and mental-emotional states remains incomplete. This study aims to

characterize motivations for meth use in relation to mental-emotional health amidst a population of PWUM. Methods: Mixed-method (structured and qualitative) interviews were conducted with 91 PWUM in the Dayton Ohio metropolitan area. Participants who were over the age of 18 and who reported using meth at least two times in the 30 days prior to the interview were eligible. Digital recordings were transcribed and the resultant qualitative data was first coded through NVivo for discussions surrounding mental-emotional health. Select codes were analyzed line by line to identify patterns then thematically analyzed using iterative categorization. Results: Among the 91 participants (mean age: 42.4 years; 52.7% female; 95.6% Non-Hispanic White) 67% cited mental-emotional motives for initiating/continuing meth use while 13.2% discontinued use due to adverse mental-emotional effects. Key motivations comprised: (1) self-regulation of non-depressive mental disorders primarily attention-deficit/hyperactivity disorder (ADHD/ADD) and anxiety; (2) 'alleviation of depressive states' to boost mood and combat effects of chronic depression or trauma; and (3) 'numbing' or emotional detachment. Across these themes self-dosing indicative of dose awareness for desired effects was prominent. Barriers contributing to continued meth use encompassed medication and healthcare access and stigma within addiction recovery. Conclusions: Our findings demonstrate that among PWUM individuals do not choose meth to help mitigate specific pre-existing mental health conditions based on meth's pharmacotherapeutic effects contra the 'self-medication' hypothesis. Rather the study emphasizes the complex bidirectional relationship between meth use and mental health lending support to the 'drug set and setting' hypothesis. For instance many PWUM report using meth to 'numb' feelings a trait typically associated with depressive substances like alcohol and opioids. Our data suggests that the motives of initiating and continuing meth as well as how an individual responds to meth is multifaceted; spanning factors involving personality mental-emotional health physical and social environment and socioeconomics. To enhance prevention and recovery efforts focus should extend to

comprehensive treatment approaches addressing barriers like accessibility and stigma and tackling co-occurring substance abuse and mental disorders. This study was supported by NIDA R-021.

**Saturday May 04**

## **Neuroinflammation and Neurotoxicity in Methamphetamine Use**

Shannon Savino; Ikroop Miglani

Background: Methamphetamine (mAMP) is a highly addictive psychostimulant that produces a rapid euphoria caused by release of dopamine (DA) norepinephrine and serotonin which makes it one of the most widely abused substances worldwide.<sup>1</sup> Unfortunately there is compelling evidence that the chronic use of mAMP causes neuronal damage through oxidative stress and apoptosis.<sup>2</sup> Lasting deficits experienced by chronic mAMP users include lapses in executive function episodic memory and information processing. This can lead to impairments of working memory memory recall response inhibition and risky decision making.<sup>3</sup> Some of these cognitive deficits persist after prolonged periods of abstinence indicating that there are direct neurotoxic and inflammatory effects of the drug.<sup>4</sup> In this review we aim to analyze neuronal pathways that result in long term brain changes from chronic mAMP use. Methods: PubMed articles included the keywords "methamphetamine abuse" "neuroinflammation" and "neurotoxicity." Open access articles on the acute and chronic effects of mAMP were analyzed. We inquired about oxidative stress inflammatory and apoptotic pathways that lead to cognitive deficits in mAMP users. Results: Chronic mAMP consumption induces an elevation of extracellular DA levels due to the disruption of vesicle monoamine transporter-2 and plasma membrane DA transporters. The excitatory activation of N-methyl-D-aspartate receptor and metabolic glutamate receptor by glutamate (Glu)



subsequently results in heightened intracellular Ca<sup>2+</sup> concentrations which promote increased production of nitric oxide synthase.<sup>3</sup> Therefore increased concentrations of DA and Glu in the substantia nigra are associated with increased neurodegeneration by oxidative stress. Furthermore the process involves the regulation of transcription factors DNA damage and the activation of pro-apoptotic pathways all of which are implicated in the neurodegenerative effects associated with mAMP use.<sup>3</sup> Persistent mAMP usage is linked to neurologic and psychiatric symptoms and has been found to have detrimental adverse consequences on fetuses exposed to the drug in utero.<sup>1</sup> Studies suggest that prefrontal cortical degeneration resulting from mAMP use may be mitigated through abstinence and the incorporation of cortical enhancers.<sup>4</sup> Conclusion: Persistent mAMP consumption disrupts neurotransmitter regulation thereby elevating oxidative stress levels and triggering the activation of pro-apoptotic pathways. These effects are closely linked to enduring long-term neurologic and psychiatric alterations in the brain arising from nigrostriatal neurodegeneration. This research holds significant importance in shedding light on the longitudinal consequences of chronic mAMP use. This investigation becomes particularly pertinent as interest in exploring the potential therapeutic applications of amphetamines in medicine and research continues to grow.

Saturday May 04

### **Oral Thiamine Supplementation in Alcohol Use Disorder a Scoping Review**

Sean Sedore D.O.; Susan Nelsen

Background Thiamine (vitamin B1) is an essential vitamin that has been synthesized and utilized to treat thiamine deficiency for almost a century. Despite being an available treatment for many years oral supplementation guidelines have not been standardized for patients with alcohol use disorder. Little information exists regarding both

the importance of and how to supplement orally although this is often the only option for thiamine replacement on inpatient psychiatric units. A review of the literature was conducted on the use of thiamine supplementation for alcohol use disorder with a goal of identifying if and how to properly supplement prior to the development of permanent injury namely Korsakoff Syndrome. Methods A scoping review was conducted of the literature regarding supplementation of thiamine in alcohol use disorder from 2013 to 2023 by searching PubMed Embase Web of Science and Google Scholar using the following search terms: thiamine OR thiamin OR vitamin B1 AND alcohol OR alcohol use disorder OR alcohol withdrawal AND oral. Publications with full articles available were included and these articles needed to discuss oral thiamine replacement. Exclusion criteria included articles discussing thiamine supplementation via only intravenous or intramuscular routes. Results Alcohol use disorder decreases thiamine levels via multiple mechanisms and review of the literature indicates the importance of supplementing with oral thiamine which applies to inpatient psychiatric wards that prohibit intravenous access. The recommended dietary allowance of thiamine for healthy adults is 1.2mg for males and 1.1mg for females. Thiamine has a bioavailability of 3.7-5.3%. Based on a review of the literature we recommend supplementing patients admitted to psychiatric wards that lack intravenous access with oral thiamine 100mg daily and discharging with a 30-day supply of thiamine 100mg daily. Conclusion Thiamine deficiency can result in significant medical complications and conditions that are potentially irreversible to include Korsakoff Syndrome. A review of the literature supports oral supplementation for patients with alcohol use disorder. In psychiatry this can be applied to psychiatric inpatients who are admitted with an active diagnosis of alcohol use disorder and lack intravenous access due to ward restrictions. While there is no established standard we propose oral supplementation of 100mg daily followed by discharge with a 30-day supply. Given thiamine is well-tolerated affordable and easily supplemented the benefits of

preventing thiamine deficiency outweigh the irreversible consequences if left untreated.

**Saturday May 04**

### **Patients can read our notes: Reducing stigmatizing language in addiction psychiatry documentation**

Bellaniry Acosta Arias M.D.; Jack Wright; Kishan Shah M.D.; Omead Mirgoli; Iftekhar Mahmud

**Introduction:** With the introduction of the Cures Act in April 2021 all healthcare providers are required under federal law to provide patients with immediate access to their health data upon request including mental health providers' clinical notes. This is a significant step forward in patient empowerment and transparency. Still it raises concerns about the potential for unintentionally contributing to a cycle of stigma perpetuating biases and impacting patients' access to treatment and overall mental health. The coexistence of mental illness and substance use disorder (SUD) can magnify the vulnerability of individuals dealing with these challenges. Stigmatization of individuals with SUDs poses substantial barriers to their well-being and recovery. This poster focus on different strategies to reduce stigmatizing language in psychiatric addiction documentation as we explore the role of healthcare providers in promoting recovery-oriented language and attitudes. **Methods:** A literature review was conducted to identify articles published in the past ten years that explored patients' perceptions of psychiatric documentation. The following databases were searched: PubMed and Google Scholar. The search terms "open notes" and "clinical notes" were used and the results were filtered to include articles addressing documentation transparency in different clinical settings. Given the inherent vulnerability of the population under study the available research is limited. However we identified several significant challenges

concerning the language used in addiction psychiatry documentation and potential solutions to address it. **Discussion:** Our findings suggest that it is important to understand SUD's natural course and the path to recovery. Producing documentation promoting recovery-oriented language and attitudes and identifying potential strengths during relapses could empower patients. In our review of the literature we found recommendations to replace the term "Medication-Assisted Treatment (MAT)" with "Medications for Opioid Use Disorder (MOUD)" to reinforce the idea that medication is its treatment form. Other organizations have also suggested changes to avoid labels and stereotypes (e.g. clean urine). Recommendations for using person-centered language exercising caution when quoting a patient and creating a collaborative treatment plan with the patient can help avoid potential pitfalls. We discuss the most relevant changes that need to be addressed to improve our documentation. **Conclusion:** In conclusion this literature review highlights the need for clinician education regarding the documentation of SUDs with an inclusive and compassionate language can foster therapeutic alliance reduce stigma and enhance the quality of care for individuals with addiction disorders. We identified areas in need of further research to advance patient-centered care. "

**Saturday May 04**

### **Personality Assessment Inventory Aggression Scale and its Relationship to Psychological Health and Well-Being and Impulsivity**

Sujith Maracheril M.D.; Sonia Kumar D.O.; Michael Angela Omongos; Daniel Napack; Joanna Stanczak

**Introduction:** We investigated the construct validity of the PAI Aggression scale with a sample of inpatient chemical dependency patients. We

wanted to see how the aggression scale would relate to measures of impulsivity and psychological health as these constructs have been linked in the clinical literature. Methods: 275 patients being seen at a suburban medical center's inpatient 28-day chemical rehab consented to complete some assessment measures. The average age of participants was 34.09 years of age (SD=11.6). 75% were Caucasian 11.65 were African American 8.8% were Hispanic/Latino 0.6% were Asian and 3.7% responded as "other." The primary substances they were being treated for were: 34.2% opiates 32% alcohol 1.1% benzodiazepines 4.4% marijuana 20.3% multiple substances. As part of a larger assessment packet patients completed the Personality Assessment Inventory (PAI Morey 2007) Barrett Impulsivity Scale-11 (BIS-11 Patten et al. 1995) and the Schwartz Outcome Scale-10 (SOS-10; Blais et al. 1999). Results: The PAI Aggression scale positively correlated to the BIS-11 scales of attentional ( $r=.28 p<.001$ ) motor ( $r=.23 p=.001$ ) and nonplanning ( $r=.22 p=.001$ ) and psychological health and well-being ( $r= -.15 p=.03$ ). Discussion: Our results further extend the validity of the PAI Aggression scale as it is related in predictable ways to constructs such as impulsivity and psychological health and well-being. The use of such measures is helpful for treatment planning when treating chemical dependency.

**Saturday May 04**

### **Post discharge support for patients with substance use and concurrent disorders. Program description and factors associated with emergency department**

Narges Beyraghi; Helena Kim; Ari Cuperfain; Yasaman Ghazavi; Pamela Kaduri

Background: We describe a multidisciplinary outpatient service (Intensive Recovery Discharge Team IRDT) developed during the COVID-19 pandemic to support and ensure continuity of care for patients with substance use and

concurrent mental health disorders after discharge from inpatient services. Identifying patients with substance use disorders (SUDs) at a higher risk of readmission after discharge at the time of referral to the IRDT which can allow for the proactive allocation of additional resources for closer follow-up can be beneficial. In this context we performed an analysis of the electronic health records data from 716 patients enrolled in IRDT from February 2021 to 2023. We aimed to identify risk factors associated with presenting to the ED during the two weeks of IRDT follow-up. Methods: Our patient sample was from the Centre for Addiction and Mental Health Toronto Canada. Sociodemographic information service utilization data and ED presentations were extracted from the chart review. Decision trees were created using the ROC 5.07 program with five-fold cross-validation. Results: On average patients had five appointments scheduled during the 2-week follow-up period. Approximately one-quarter of IRDT appointments were no-shows. Patient retention to the final week of follow-up was high although less than half of the patients attended their discharge appointment. 10.7% of the patients presented to the ED while followed by IRDT. Patients who were enrolled in IRDT more than once did not have opioid use disorder (OUD) and identified as male had a higher likelihood of ED presentations. Among patients with all three risk factors the average rate of ED presentations reached 20.1% double the average rate. Conclusion: Our decision tree could aid in the early identification and proactive management of patients prone to ED presentations ultimately enhancing the care and support provided to individuals with SUDs.

**Saturday May 04**

### **Psilocybin - Are we there yet?**

Avisha Amarnani; Melissa Free M.D.; Irem Yapar M.D.; Ritika Baweja M.D.

Psilocybin is a type of serotonergic and dopaminergic hallucinogen that has gained recognition over the years. While its mechanism of action has certain variabilities it has been shown that psilocybin works as an agonist of the 5-hydroxytryptamine (HT)2A receptor but this agonism does not fully account for its effects. Microdosing psychedelics has been increasingly used by the public with a perception of improved well-being but the impact of microdosing has yet to be fully established. Current reports indicate that psilocybin with psychotherapy may have antidepressant effects for those with major depressive disorder (MDD) but unknowns remain including well established risks at varying doses and the potential for misuse and drug-drug interactions. This case series describes two potential risks including serotonin syndrome and suicidality with psilocybin use. Case 1: A 35 y/o female with a history of major depressive disorder chronic post-traumatic stress disorder and generalized anxiety disorder reported new onset excessive diaphoresis. Her medication regimen included venlafaxine ER 375 mg daily bupropion XL 450 mg daily and lorazepam 1 mg bid and psilocybin use at an unknown dose four times weekly. Trazodone 100 mg nightly was added for insomnia at which time she had diaphoresis flushing clonus nausea and increased anxiety. The patient had previously tolerated venlafaxine ER 300 mg daily bupropion XL 450 mg daily and trazodone 200 mg nightly without side effects both with and without psilocybin use. The patient was admitted to the hospital for serotonin syndrome and treated with supportive care. All medications were discontinued outside of lorazepam followed by resolution of her symptoms. Case 2: A 37 y/o male without history of mental health disorders or psychotropic use other than prescribed cannabis use for 2 years presented to the emergency room after attempting suicide via hanging. The patient was seen by psychiatry after being intubated in the ICU for 7 days. He denied any current or prior history of suicidal ideation and had no recollection of the suicide attempt via hanging. While he identified feeling overwhelmed with work stress over the last 2 years he was surprised to learn that he had attempted suicide. He had no recollection of the events during the 3-week

period leading up to the suicide attempt which coincided with the time in which he was microdosing 0.2 g of psilocybin daily. Currently there are not well-established benefits or side effects to the use of psilocybin especially in an unmonitored setting and in combination with other pharmacotherapies. These cases demonstrate the potential for psilocybin to contribute to serotonin syndrome in the setting of other serotonergic agents and the potential for inducing rather than reducing suicidality in an unmonitored setting.

**Saturday May 04**

### **Psilocybin Treatment for Smoking Cessation: A Literary Review**

Sibtain Kazmi; Fauzia Arain M.D.; Aitzaz Munir

Smoking tobacco causes around 7 million deaths per year globally and about 480000 deaths in the US annually. By 2030 it is estimated that about 8 million deaths will be caused by smoking worldwide. Psilocybin is a psychedelic that is gaining popularity as an alternative treatment for mood anxiety and addictive disorders to name a few. Historical research also shows its potential in quitting smoking. Our review examined the existing evidence showing psilocybin's effectiveness as a treatment for smoking cessation. Currently there are three FDA-approved treatments for smoking cessation including nicotine replacement treatments (NRT) such as transdermal patch [NicoDerm®] lozenges gum [Nicorette®] norepinephrine dopamine reuptake inhibitors bupropion (Zyban®) and the nAChR agonist drug varenicline. However these methods' effectiveness have not shown to last long-term to maintain abstinence. Psilocybin offers a novel mechanism to achieve smoking cessation. We used PubMed and Google Scholar for a literature search with the search criteria including papers determining the association between psilocybin use and smoking cessation. The search was limited to clinical trials using the English language.

Case reports case series reviews and meta-analyses were excluded. The search yielded four studies of which two were prospective trials two were retrospective studies and one open-label study. All reviewed studies reported smokers abstaining from smoking longer after psilocybin administration compared to current FDA-approved treatments. Although the most prominent findings are based on an open-pilot survey psilocybin administration successfully resulted in 6-month smoking cessation in 80% of participants. In contrast varenicline was reported to have cessation rates as low as 27% at 6-month follow-up. The reviewed studies show that psilocybin may offer an effective alternative to currently approved treatments for smoking cessation. Favorable safety profiles lower abuse potential sustained abstinence and lower costs equate to an increased number of people resorting to psychedelics to treat various psychiatric disorders not adequately managed by current treatments. However large randomized controlled trials are warranted to confirm open-label study findings.

**Saturday May 04**

### **Reviewing Replacement Therapy for Stimulant Use Disorders**

Mirza Khan D.O.; Aaron Iuppa MD

The use of methamphetamine has grown multifold over the past decade with devastating impact on individuals and communities. However there are still no established evidence-based pharmacologic treatments for methamphetamine or stimulant use disorders. Agonist replacement therapy has proven to dramatically reduce morbidity and mortality from opioid and tobacco use disorders. Consequently interest in the potential of agonist replacement therapy to improve outcomes for methamphetamine use disorder is growing. There are a few studies that have reviewed the effectiveness of social interventional and pharmacological interventions for stimulant use disorder. However there is a

shortage of studies particularly looking at the outcomes of prescribed psychostimulants for replacement therapy for methamphetamine use disorder. We reviewed studies investigating the use of prescription psychostimulants as replacement therapy. We searched for research articles on PubMed and ClinicalKey databases using keywords and phrases including; amphetamine methamphetamine pharmacotherapy methylphenidate amphetamine use disorder. The search resulted in research articles dating between 2014-2020 with variable findings. To summarize the variance some studies show possible efficacy of agonist therapy in stimulant use disorder some show no difference yet most were inconclusive. In regard to the studies showing efficacy; one shows low-strength evidence that methylphenidate may reduce the use of methamphetamine one shows a possible level of reduction in use when methylphenidate is used alongside behavioral support and another shows a significant beneficial effect from prescription psychostimulants in abstinence in individuals but mainly in cocaine use. In this poster we intend to review the current literature regarding prescribed psychostimulants for replacement therapy for methamphetamine use disorder. We will use the review of the literature to elucidate the possible benefits early tests have shown. Studies show stimulant medication can be administered safely in patients with stimulant use disorders however their effectiveness is still controversial. We hope to promote at least an appreciation regarding the need for further research in this area.

**Saturday May 04**

### **Self-Guided vs. Therapist-Delivered CBT for AUD: A Systematic Review**

Fernanda Gushken; Gabriel Costa; Anderson de Paula Souza; Daniel Heringer; Thiago Fidalgo

Introduction: Alcohol use disorder (AUD) stands as a major global health concern yet less than 7%



of individuals undergo treatment. While cognitive behavioral therapy (CBT) has shown effectiveness in treating AUD traditional therapist-delivered methods have inherent limitations. Internet and computerized versions of CBT (described in this study as self-guided CBT) have emerged as innovative alternatives but their clinical effectiveness remains uncertain. Objective: To perform a systematic review comparing self-guided internet/computer CBT with therapist-delivered CBT for AUD treatment. Methods: A systematic literature review adhering to PRISMA guidelines was conducted through PubMed EMBASE PsycINFO and Web of Science until August 1 2023. Search terms included: cognitive behavioral therapy alcoholism internet and computer. Two independent reviewers screened studies extracted data and evaluated bias using the Cochrane tool. Random-effects meta-analyses synthesized standard mean differences (SMDs) and I<sup>2</sup> assessed heterogeneity. The evaluation of self-guided CBT included its use as a standalone or adjunct intervention for AUD encompassing adults meeting DSM-5 or ICD-10 AUD criteria. Self-guided CBT was defined as an electronic and asynchronous approach. The primary outcome was the number of abstinence days during follow-up. Results: Out of 497 screened articles thirteen trials were critically assessed and three were statistically compared in the systematic review. Variation in interventions among studies limited direct comparisons between these trials yet the literature review of the thirteen articles suggested that self-guided CBT decreased alcohol consumption and risky drinking. Moreover it exhibited feasibility and acceptability. A systematic comparison of three articles with similar populations indicated that self-guided CBT enhanced negative alcohol-related outcomes and abstinence rates over a 3-month follow-up. In these three eligible RCTs involving 633 participants self-guided CBT participants achieved 143 abstinence days compared to 166 in face-to-face CBT. The pooled SMD demonstrated no significant difference (SMD -0.18 95% CI -1.09 to 0.74 I<sup>2</sup>=54%). Conclusion: Our review shows no clear evidence that self-guided CBT is inferior to standard face-to-face CBT in AUD treatment. These findings provide

preliminary support for internet and computerized versions of self-guided CBT as an effective and accessible treatment strategy for AUD. Future research should prioritize personalized AUD treatment accounting for cultural geographical and personal preferences to enhance patient adherence and engagement with health services.

Saturday May 04

## Shifting the Paradigm: Moving Away from Police Response to Mental Health Crises

Nicholas Lozano MPH MBS

The de-institutionalization of mental health was not met with adequate resources to treat patients with acute mental health crises in an outpatient setting. People with untreated mental health illness are 16 times more likely to be killed by police force. Police lack proper training to recognize the immediate needs of a person with an acute mental health crisis and are not always equipped to treat overdoses. Police response to mental health crisis can lead to unnecessary hospitalizations emergency department visits or extraordinary harm to the person in crisis. Police protections prevent accountability for subjecting a person in crisis to unnecessary harm. This presentation reports on alternative paradigms to police in responding to acute mental health crises including acute intoxication and overdose. Methods: This is a literature review with keywords “mobile crisis teams” “severe mental illness” “substance overdose” and “police.” Two paradigms of community response teams Behavioral Health Emergency Assistance Response Division (B-HEARD) in New York City New York and Crisis Assistance Helping Out on the Streets (CAHOOTS) in Eugene Oregon were reported as successful examples of non-police response to behavioral crises. In 2022 B-HEARD responded to 11000 calls and 53% of the calls required hospital follow 24% of the calls were managed onsite 12% of the calls required intervention of another community organization

and 11% of the calls ended up with the person in need refusing medical care. This is compared to police response during the same time in which 87% of the calls required hospital follow up and 13% of the calls ended up with the person in need refusing medical care. In 2021 CAHOOTS was the only response team to 14212 calls for which it only required law enforcement back up for 301 calls (2.18%). This presentation adds to existing literature by outlining ways in which we can support people with severe mental illness in the community without exposing them to unnecessary harm from a police presence. There was no funding for this research project.

**Saturday May 04**

### **Stigma reduction by incorporating recovered patients in the management of substance dependence in rural North India- A qualitative study.**

Harneet Kaur; Hershdeep Singh

Background: Substance use disorder in India is a major public health concern that has become common in Indian females. More than often the treatment is avoided due to social stigma or the management is left after the acute phase of treatment due to lack of resources and manpower. Here we present the rehabilitation of the female patients incorporating already treated patients in the recovery stage thus implementing the sponsorship concept of the therapeutic communities in the western world. Methods: 20 females from rural areas of North India were recruited assessed and diagnosed with alcohol/opioid/tobacco dependence in accordance with ICD 11 criteria. Patients were managed conservatively in the acute stage. 10 females were recruited in the recovery stage (sponsors) from the already treated patients in the department of Psychiatry Guru Teg Bahadur hospital Ludhiana. Both the groups were introduced and matched as per patient's socioeconomic backgrounds. The sponsors were psychoeducated and advised to guide and

support the acute patients in the crisis and emergency cravings for the substance. Group meetings were held once in 2 weeks to assess the abstinence and the motivation of the acutely treated patients. Results: It was observed on qualitative data that patients remained abstinent and were highly satisfied with the sponsors supporting them in the crisis telephonic calls and in person meetings. Thematic assessment of feedback sessions had following results: a) Appreciation of support b) Comfort of the reduction of stigma c) improved quality of life d) motivational enhancement e) feeling of empowerment.

**Saturday May 04**

### **Stoking Fire: A Case Comparison of the Interplay between Psychosis and Traumatic Stress**

Megan Walsh BS; Morgan Schmidt

High rates of comorbidity between post-traumatic stress disorder and psychosis have been documented in the literature. While it is well-established that traumatic stress may contribute to the development of psychotic symptoms there also exists evidence of the reverse phenomenon – a psychotic episode may act as a traumatic event which can precipitate post-traumatic stress symptoms. Here we present two cases to explore the bidirectional relationship between trauma and psychosis: a case involving PTSD with secondary psychotic features and a second involving posttraumatic stress symptoms related to a psychotic episode. The first patient is a 22-year-old African American male active-duty Marine with first episode psychosis who developed psychosis-related posttraumatic stress symptoms after remission of his psychotic disorder. The patient initially presented with auditory hallucinations and delusions of persecution. He was stabilized on risperidone 5mg daily and discharged to our first episode psychosis

outpatient treatment program with a diagnosis of schizophreniform disorder. Over the course of several months his symptoms of psychosis remained in full remission. However he continued to complain of persistent anxiety insomnia hypervigilance and rumination on his psychotic break with associated nightmares and flashbacks related to the trauma of his psychotic episode suggesting a PTSD-like phenomenon in response to his psychosis. By comparison we present the case of a 34-year-old Indonesian female active-duty Navy servicemember with recurrent hospitalizations for persecutory delusions and hallucinations in the presence of known PTSD. PTSD diagnosis preceded psychotic symptoms with symptoms including hypervigilance restlessness paranoia intrusive memories nightmares and avoidance stemming from multiple traumatic events. Her psychotic symptoms are understood in the context of her trauma history with a primary psychotic disorder ruled out given intact cognitive processing and reality testing. At the time of presentation to our adult outpatient clinic she had trialed a number of psychiatric medications and was currently stable on a regimen of sertraline 200mg and olanzapine 10mg. It is important for clinicians to be aware of how the relationship between psychosis and PTSD may influence a patient's clinical course and treatment planning. The two diagnoses can be conceptualized as an interactive model in which comorbid symptoms may exacerbate severity and risk of relapse impede engagement with treatment and increase the risk for substance use. In this poster we will discuss the overlap in symptoms between PTSD and psychosis and their nuanced presentations factors associated with development of trauma-related psychotic symptoms as well as of post-psychotic traumatic stress symptoms and the importance of recognizing and treating these symptoms.

**Saturday May 04**

## **Swollen Hands and Fluorinated Urine: Chronic Inhalant Abuse**

Emily Tibbitts D.O.; Savannah Woodward M.D.;  
Roger Quach

A 27-year-old female active-duty service member with a past psychiatric history of PTSD and Borderline Personality Disorder was brought to the ED by EMS after she was found unresponsive in her car surrounded by numerous cans of computer duster. She reported inhaling several cans daily for the past five months. She reported several months of worsening anxiety and depressive symptoms as well as two months of worsening bilateral hand pain and swelling with ongoing work up with rheumatology. Collateral information revealed she had been intermittently missing work and had received numerous large shipments of Dust Off over the past several months. She was established with an outpatient psychiatrist; however she had been denying inhalant abuse up until she began to have difficulties at work. Significant labs revealed urine fluoride was found to be abnormally elevated to 50 (normal 0.2-3.2). Inhalants are becoming increasingly popular in subsets of the population due to several intrinsic and extrinsic characteristics. Experts have described inhalant use as "the Silent Epidemic" due to its relative lack of attention given by both physicians and the public. Inhalants are easily accessible legal and inexpensive. Although inhalant use is more commonly associated with the adolescent population additional subsets are at risk particularly the US military as abuse of this substance can be difficult to identify (i.e. it is not screened for on a standard urine drug test). One inhalant in particular 11 difluoroethane (11-DFE) is found in household computer duster cans and is becoming especially popular. When 11-DFE is metabolized into a fluorinated compound it is deposited into surrounding tissues and bone. This excess fluoride stimulates a periosteal reaction resulting in bone formation throughout the entire body as was present in this patient. In this poster we will discuss the challenges of detecting inhalant abuse and the medical complications associated with chronic use as illustrated by the

case review with a focus on lab and physical exam findings which may be indicative of abuse of these substances.

**Saturday May 04**

### **The comorbidity between eating disorders and alcohol misuse: Biological and psychological perspectives illustrated by a case report**

Eduardo Andres Calagua Bedoya M.D.; Kevin Chen MD ScM; Patrick Ho M.D.

Ms. D is a 57 year-old female with a medical history of osteoporosis headaches gastroesophageal reflux disease irritable bowel syndrome and a psychiatric history of major depressive disorder anorexia nervosa (AN) anxiety and alcohol use disorder (AUD). She was referred from neurology for an outpatient psychiatric consultation given her complex history. Ms. D describes disordered eating behaviors including food avoidance and restriction and compensatory behaviors such as self-induced vomiting use of laxatives diuretics and enemas and extreme exercise. Ms. D reports that her eating problems stem from early childhood experiences revolving around control and sibling rivalry. Her current BMI is 15. She continues to weigh herself daily and believes she is overweight. She also endorses several neurovegetative symptoms of depression and comorbid anxiety as well as history of abuse but no trauma-related symptoms. She reports impulsive behaviors such as buying multiple things online that she does not use and stealing items from stores. Obsessional features were also present. Ms. D's alcohol use began in college but became problematic in her 40s. She currently drinks daily in an effort to stimulate her appetite. Cognition was intact during the evaluation. Complete blood count comprehensive metabolic panel thyroid function tests vitamin levels and estradiol parameters were all within normal range but lipase was increased. A recent brain MRI with and without contrast showed evidence of an old ischemic event in the frontal area but no acute

anomalies and cortical volume was appropriate for her age. Ms. D was recommended to start a second generation antipsychotic to address her insomnia poor appetite impulsivity and depression. She declined medications for her AUD and referral to an eating disorders program. In this poster we discuss associations existing between AN and AUD emphasizing the biological and psychological aspects of both conditions. Statistically individuals with eating disorders and comorbid AUD have a higher mortality risk when compared to patients without AUD. From a biological perspective AUD and eating disorders might share a genetic overlap and it has also been hypothesized that AN and AUD share abnormalities in the brain reward system. Wernicke-Korsakoff syndrome (WKS) has been classically associated with AUD but other conditions including AN can also present with WKS. Two major warning signs for nonalcoholic WKS are weight loss and vomiting. This is challenging for AN patients as such symptoms may be part of the disordered eating diathesis. Psychologically traits like impulsivity rigidity novelty-seeking behaviors desire for control and obsessional thinking are seen in AUD and AN. Both alcohol misuse and food restriction can be conceptualized as attempts to self-medicate in order to decrease intrapsychic conflicts. Exploring psychodynamic and behavioral aspects in AN and AUD is key for treatment purposes.

**Saturday May 04**

### **The Impact of Exposure to Patients with Substance Use Disorders on Stigma Among Medical Students in the Middle East and North Africa (MENA)**

Abdallah Tom M.D.; Giselle Appel; Aliyaa Haji; Ziyad Mahfoud

Background: Substance Use Disorders (SUDs) continue to be a global public health concern with multiple barriers to effectively tackle often

underdiagnosed and undertreated with limited access to care<sup>1</sup>. Barriers include structural geopolitical racial and providers' competency. Physicians report feeling unequipped to manage patients with SUDs attributed to gaps in training and exposure in medical school curricula. Stigma towards patients with SUDs and moral injury resulting from the management of challenging cases further contribute to inequitable ineffective care. Data on medical student perception of patients with SUDs is lacking in the Middle East and North African region (MENA). Global and regional differences in prevalence and perception may exist toward this condition due to sociocultural religious and legal regulatory differences<sup>2</sup> which may impact the quality of care delivered. Methods: The study used a cross-sectional design consisting of a one time point survey of medical students across the MENA. Eligible participants 18 years and older were recruited via email and social media posts. The Qualtrics survey included questions on demographics exposure to SUDs in medical school and the Medical Condition Regard Scale. Demographics were summarized using frequency distributions and chi-squared tests were used to evaluate the relationship between demographic variables and stigma toward patients with SUDs. Univariate and multivariate logistic regressions were used to explore associations. A 2-sided p-value  $\leq 0.05$  was considered statistically significant. Results: Of the 60 participants that completed the survey 60% were of ages 18 to 21 71.1% identified as female 80% live in Qatar and 50% are in their preclinical years. About 75% reported having less than 4 lectures addressing SUDs in their curriculum and 51% did not have any addressing stigma resulting in 91.8% reporting that their exposure to SUDs during their medical education is insufficient. The MCRS was scored such as higher values indicate more stigmatizing attitude with a possible range from 11 to 66. 48 of 60 answered the MCRS. Their score ranged between 11 and 45 with an average score of  $27.8 \pm 6.9$  and  $Q1=24.0$  and  $Q3=32.0$ . Discussion: This study adds to the limited SUDs literature in the region and provides insight into the gaps in medical curricula and stigma among medical students. The data highlights the importance of

medical curriculum reform to address the needs of individuals with SUDs. The lack of exposure in medical curricula and global underreporting are likely due to stigma towards individuals with SUD resulting in healthcare inequities and worse outcomes<sup>3</sup>. Limitations include a small sample size which limits generalizability of the findings unequal distribution of demographics and possible misunderstanding of what SUDs are by participants. Next steps include expanding to medical students globally in order to achieve a larger sample size.

Saturday May 04

### **The Poison or the Cure?: The Therapeutic Value of Video Games in ADHD**

Najjha Alam; Ikroop Miglani

Background: For many "playtime" is an essential aspect of childhood. With the advent of online gaming playtime for children has evolved into virtual forms of play.<sup>1</sup> More than 90% of children play video games with children 8-17 years old spending an average of 2 hours playing video games daily.<sup>1</sup> For many children gaming is a normal and healthy pastime. However this differs from pathological gaming (PG) when it disrupts daily life leads to obsession and causes problems in relationships and responsibilities. Referred to as Internet Gaming Disorder (IGD) addiction to gaming is described in the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition as a condition that requires more investigation initiating extensive debate and expanding research.<sup>23</sup> Prior discourse stated PG behaviors were a risk factor for the development of Attention Deficit Hyperactivity Disorder (ADHD).<sup>4</sup> Of the 12 possible risk factors for IGD among youth ADHD sits among the most debated.<sup>5</sup> While some studies suggest that children and youth (C-Y) with ADHD are at higher risk for developing PG others propose that ADHD might precede PG indicating that PG could be a maladaptive coping mechanism for those with



ADHD.<sup>67</sup> Newer studies propose that this unique aspect of gaming can train children with ADHD into developing long term gratification coping skills.<sup>189</sup> The purpose of this review is to explore the therapeutic value of video games in helping children with ADHD learn delayed gratification coping skills. **Methods:** We reviewed studies on Google Scholar and Pubmed that investigated the efficacy of gaming treatment in ADHD in children. Search terms included “video game therapy” and “ADHD.” After selecting for the inclusion criteria of studies that were published between 2018-2023 open access and included our population of interest (C-Y) we focused on the four articles remaining. **Results:** Of the studies included in our review 2 are randomized control trials (RTC) and 2 are literature reviews.<sup>78910</sup> A systematic review of 128 studies concluded that “serious video gaming” show promise as an effective cognitive rehabilitation tool for patients with ADHD.<sup>89</sup> With a  $p < 0.01$  both RTCs concluded that virtual gaming including those in virtual and augmented reality used in digital cognitive rehabilitation improved executive functioning in C-Y with ADHD.<sup>710</sup> An RTC of 28 C-Y with ADHD (8-12 yo) found that computer-simulated motion-based exercises enhanced working memory.<sup>7</sup> Another RTC of 24 C-Y with ADHD (7-12 yo) found that the experimental group placed in computer game therapy had greater improvements in working memory than the play therapy control group.<sup>10</sup> **Conclusion:** Computer games as cognitive therapy effectively managed ADHD in children outperforming play therapy in enhancing working memory. This highlights the potential of cognitive computer game training in ADHD treatment though more research is required to determine its optimal use.

Saturday May 04

## Uses and Benefits of Psychedelics in Psychiatric Clinical Practice: A Literature Review

Moo Jin Oh Resident Physician PGY 3; Syam Khan; Daniel Ulloa

**Introduction:** Psychedelic substances have been shown a renewed interest when treating psychiatric illnesses including addiction depression anxiety and Post Traumatic Stress Disorder. These drugs are being studied to assess the psychopharmacological properties and therapeutic efficacy to serve as adjunctive treatment to the current medical approaches. Psychedelics are defined as a class of natural and synthetic compounds that include psilocybin MDMA (34-methylenedioxymethamphetamine) ibogaine and DMT (dimethyltryptamine). These compounds were categorized as schedule I controlled substances meaning that they did not have any accepted medical use and possessed a high potential for abuse halting further research (2). **Methods:** A collection of databases PubMed and Google Scholars was used to synthesize information for this literature review. Two articles were found using the PubMed database. An additional two articles were found using Google Scholars. Keywords utilized were psilocybin psychedelics clinical setting MDMA LSD depression anxiety and DMT. **Results:** Recent interest in the serotonergic properties of these compounds has increased with psychedelics coupled with psychotherapy showing preliminary evidence of effective treatment for various psychiatric conditions. There is belief that these compounds act on the local brain network hubs to exert therapeutic effects by resetting the brain network after the acute effects of the compound have resolved. (3) Two models of psychotherapy are used currently: psycholytic therapy and psychedelic therapy. Psycholytic therapy emerged from Europe in the 1950s which utilized psychoanalytically informed talk-therapy while using low-to-moderate doses of LSD (30-200 micrograms) over the course of several sessions to facilitate a discharge of emotionally charged psychic tension. Psychedelic therapy developed in the United States which utilized high doses of psychedelic compounds such as greater than 250 micrograms of LSD to create an “overwhelming and transcendent experience” to then process in integrative therapy after the drug facilitated session. Currently it is unknown which psychotherapy approach is more successful than the other due to lack of further studies. (4).

Educational Objective: The purpose of this study is to investigate and review literature on the usage of psychedelics in clinical practice.

**Saturday May 04**

### **Utilizing electronic medical record (EMR) integrated proforma to enhance prescription of smoking cessation interventions in hospitalised patients**

Jude Nkwelle M.D.; Huailin Zhang; Abhinav Singh Verma; Pareena Singh

**Background** Tobacco smoking (TS) remains a neglected issue within general psychiatry despite high rates of associated morbidity and mortality<sup>1</sup>. While there has been a coordinated community effort to reduce TS within the general population mental health facilities have been reluctant to adopt such measures and rarely target smoking prevention or treatment<sup>3</sup>. An inpatient psychiatry admission presents a unique opportunity for initiation of nicotine pharmacotherapy as most facilities are smoke free however uptake has been inconsistent. Previous studies indicate the necessity of systematic targeted interventions during hospitalization for effective smoking cessation (SC)<sup>2</sup>. **Methods** An EMR integrated link for all inpatient psychiatric history and physicals and discharge summaries was implemented on February 23rd 2023 that promoted providers to document smoking status during admission and discharge. In addition for smokers cessation pharmacotherapy including bupropion varenicline nicotine patches and nicotine gum were incorporated into the admission and discharge order sets. The number of prescriptions for each of the interventions as well as the total number of patients receiving nicotine replacement therapy (NRT) were collected for the period of 2/23/22 – 2/23/23 (baseline) and 2/23/23 – 7/21/23 (post intervention). Total rate of patients receiving NRT before and after the EMR implementation were

compared using two-proportion z-test. **Results** There was a significant increase in patients receiving NRT during inpatient psychiatric admission after implementation of EMR integrated link (35% between 2/23/22 and 2/23/23 compared to 41% between 2/23/23 – 7/21/23  $p < .05$ ) Notably prescriptions for nicotine gum nearly doubled increasing from 104 to 208 within the stipulated duration of study. Similar trends were observed across other SC products except for varenicline which was not prescribed before or after implementation. **Conclusion** The introduction of a dedicated proforma within the EMR system significantly boosts the proactive management of smoking habits among patients. The marked rise in the prescription of situation aids underscores the potential for systematic interventions in augmenting prescription of SC during hospital stay. Although one in three people with mental illness smoke tobacco<sup>1</sup> SC is often neglected in psychiatric practice<sup>5</sup>. Psychiatrists have a duty of care to identify the smoking status of their patients and to provide evidence-based support to quit<sup>5</sup>. Despite current guidelines mental health professionals rarely address nicotine use among their patients particularly during inpatient stay<sup>5</sup>. Nevertheless programs such as this that assist with prescription of SC during an inpatient stay have been shown to be both efficacious and cost-effective<sup>4</sup>. Prescription of SC should be a key component of inpatient treatment and discharge planning because this setting provides a safe and timely opportunity to help patients quit.

**Saturday May 04**

### **Vaping Use Disorder Among Medical Trainees: A Secondary Analysis of the Global Vaping Study**

Fernanda Gushken; Ana Bresser Pereira Tokeshi; Fernando Bruno; Luiza Helena Degani-Costa; Thiago Fidalgo

Background: Despite the increasing evidence of harm caused by vaping e-cigarettes have gained popularity among young individuals. Male gender higher family income mood disorders tobacco smoking marijuana use and binge drinking have been found to be risk factors for e-cigarette use independent of age. However little is known about how these factors relate to e-cigarette use disorders. Aim: We aimed to investigate the potential association between e-cigarette use disorders and mental health conditions including anxiety depression and substance use disorder among medical trainees. Methods: The Global Vaping Study was a multinational survey conducted between October 2020 and November 2021 enrolling medical students residents and fellows in Brazil (BR) the United States (US) and India (IN). The web-based survey comprised 72 questions on sociodemographics and mental health vaping and hookah use and knowledge and attitudes towards these alternative tobacco products. For this secondary analysis we focused on responses from current e-cigarette users in the US and BR. The primary outcome variable was a positive screening for vaping use disorder as assessed by the Hooked on Vaping questionnaire. A mixed effects model was employed to explore the association between mental health disorders and substance use disorder with e-cigarette use disorder. Fixed effects included age income and gender while random effects were considered for country variations. Results: Out of 7526 respondents in BR and US there were 946 current e-cigarette users (BR=612 US=334). Among those 57.8% reported symptoms of e-cigarette use disorder. Notably depressive symptoms assessed by PHQ-2 ( $\beta=0.07$  CI=0.006-0.138) and monthly binge drinking ( $\beta=0.03$  CI=0.010-0.065) were associated with vaping use disorder while no association was seen with anxiety symptoms assessed by GAD-2 marijuana and tobacco smoking in the previous month. Higher family income ( $\beta=0.045$  CI=0.009-0.080) and male gender ( $\beta=0.09$  CI=0.043-0.155) were also significantly associated with vaping use disorder. Additionally country-specific random effects were found to be significant ( $p<0.01$ ). Conclusion: The prevalence of e-cigarette use and use related disorders among medical trainees is high and

frequently associated with mental health disorders. Identifying and treating depression and alcohol use disorder among medical trainees could be crucial not only to prevent untreated individuals from turning to vaping as a means of coping with mental health issues but also to achieve higher success rates for those willing to quit vaping.

Saturday May 04

### **A Phase 2 Multicenter Randomized Double-Blind Parallel Dose-Finding Trial of MM-120 (Lysergide D-Tartrate) for Treatment of Anxiety Symptoms**

Daniel Karlin; Paula Jacobsen

Background: Generalized Anxiety Disorder (GAD) is among the most common psychiatric disorders. Despite this there has been little progress in the development of effective and well-tolerated therapies. GAD is a chronic disorder characterized by excessive worry and persistent general apprehensiveness which can manifest in a wide range of psychiatric and somatic symptoms. Current treatments are often ineffective or have intolerable side effects. We evaluated the safety tolerability and efficacy of 4 doses of MM-120 (D-lysergic acid diethylamide D-tartrate) in patients with GAD. Methods: In this Phase 2b multicenter randomized double-blind placebo-controlled study adults aged 18 to 74 years with GAD and moderate to severe anxiety (Hamilton Anxiety Rating Scale [HAM-A] score  $\geq 20$ ) were enrolled. A total of 198 patients were randomized 1:1:1:1 to receive a single administration of MM-120 at a dose of 25 $\mu$ g (n=39) 50 $\mu$ g (n=40) 100 $\mu$ g (n=40) or 200 $\mu$ g (n=40) or placebo (n=39). The primary and key secondary objectives were to assess the dose-response relationship of MM-120 by evaluating the change in HAM-A total score from baseline to weeks 4 and 8 respectively. Secondary endpoints included improvements in functioning and quality of life; safety assessments were also performed. Results: Both 100 $\mu$ g and 200 $\mu$ g doses demonstrated clinically and statistically

significant efficacy. The 100µg dose achieved the highest level of clinical activity with a statistically significant reduction of 7.6 points in HAM-A total score compared to placebo at week 4 (-21.34 MM-120 vs -13.75 placebo; P=0.0004). Moreover clinical activity was evident as early as day 2 after treatment as measured by the Clinical Global Impressions–Severity (CGI-S) scale. At day 2 CGI-S scores improved by 1.8 points with MM-120 100µg vs 0.7 points with placebo (P=0.0001); this improvement persisted through week 4 (P<0.01). At week 4 77.5% of subjects treated with MM-120 100µg showed a clinical response with 75% improvement in HAM-A vs 30.77% with placebo. Further 50% of participants treated with 100µg achieved remission (HAM-A ≤7) vs 17.95% with placebo. There was also a significant reduction in the Montgomery-Asberg Depression Rating Scale total score with MM-120 100µg versus placebo (-5.73; P<0.05). Treatment-emergent adverse events (TEAEs) occurred in 97.5% of participants in the MM-120 100µg group vs 56.4% in placebo. Most events were mild to moderate occurred on dosing day and were consistent with the expected acute effects of MM-120. The most common TEAEs (≥10% incidence) in the MM-120 100µg group were illusion hallucination euphoric mood anxiety abnormal thinking headache nausea fatigue mydriasis increased blood pressure and hyperhidrosis. No deaths were reported in the study. Conclusion: These findings suggest a rapid robust and durable clinical response to MM-120 in patients with GAD. Mind Medicine Inc supported this study.

**Saturday May 04**

### **A study on awareness of suicide and suicide prevention among community youth**

Jiyoung Kim; Jongha Lee

Background: South Korea has the highest suicide rate among OECD countries; there is an

increasing trend in suicide attempts among middle and high school students. Various factors contribute to the risk of suicide among adolescents; the perception of suicide prevention has emerged as a significant one. This study aimed to investigate the association between emotional and behavioral difficulties among middle to high school students and their perceptions of suicide prevention as well as to explore differences in suicide perception according to age. Methods: A survey was conducted among community middle and high school students between 2020 and 2021; 530 participants were included. Emotional/behavioral difficulties were assessed using the SDQ-kr; the participants were asked to complete a questionnaire on the importance and possibility of suicide prevention. A correlation test and ANOVA were used to examine the relationships between variables; suicide awareness was compared according to age. Results: This analysis included 255 male (mean age=15.3) and 275 female (mean age=15.1) participants. The analysis revealed a positive correlation between strength and the possibility of suicide prevention. Conversely the total difficulty score and individual components showed a negative correlation with the possibility of suicide prevention; all these correlations were statistically significant (p<0.01). The study categorized participants into five groups based on the possibility of suicide prevention revealing significant differences in average scores for strengths and difficulties among these groups. Strengths were highest in the 'Absolutely possible' group (7.58 ± 1.96) and lowest in the 'Absolutely impossible' group (6.12 ± 2.03). Conversely difficulties including total scores and subcomponents were highest in the 'Absolutely impossible' group and lowest in the 'Possible' group. Additionally there were notable differences in scores related to the importance of suicide prevention with higher scores in strengths for those agreeing with the need for prevention and lower scores in difficulties (p<0.01). Regarding age-related perceptions of suicide adults aged 20-29 reported the lowest possibility of suicide prevention (p<0.01). Conclusion: Suicide perceptions influence suicide rates and these perceptions are associated with strengths and

difficulties. Targeted campaigns and education are needed to enhance suicide prevention awareness among vulnerable groups. Therefore active societal engagement through suicide prevention campaigns and related education is essential to improve these perceptions. Continuous attention and support are required to address this issue. This study was supported by a Korea University Ansan Hospital Grant (K2225711). The funders had no role in the design and conduct of the study or the decision to submit the article for publication.

**Saturday May 04**

### **Alterations in white matter structural connectivity among Pediatric patients with Tic disorder**

DONG HYUN CHA; Young Eun Mok; Moonsoo Lee; SuHyuk Chi; Jeong-Kyung Ko

Introduction: Tic disorder with onset in childhood/adolescence is hypothesized to involve disinhibition within the cortical-striatal-thalamic-cortical (CSTC) circuit including the limbic system. Prior diffusion tensor imaging (DTI) studies in tic disorder yielded inconsistent results. This study using tract-based spatial statistics (TBSS) and atlas-based region of interest (ROI) analysis investigates microstructural changes in pediatric patients with tic disorder without psychiatric medication history correlating with the Yale Global Tic Severity Scale (YGTSS).

Methods: Pediatric patients (n=21) and controls (n=27) from Korea University Guro Hospital underwent psychiatric interviews psychological tests and MRI (structural and diffusion imaging). Fractional anisotropy (FA) Axial diffusivity (AD) Radial diffusivity (RD) and Mean diffusivity (MD) were calculated from the DTI scan. The Most-Representative-Subject TBSS (RS-TBSS) applied to FA images identified microstructural changes. Atlas-based ROI analysis in the Statistical Package for the Social Sciences (SPSS) examined

correlations with clinical measures. Results: 1) TBSS showed no FA and AD differences between groups. RD and MD increased predominantly on the right side in patients. 2) ROI analysis using JHU-White-matter-labels atlas revealed differences in deep white matter diffusion indices associated with the CSTC circuit. 3) YGTSS analysis confirmed significant correlations with diffusion indices; tic severity correlated with lower FA higher AD and RD. Conclusions: Patients with tic disorder and no medication history showed no significant differences in FA and AD but exhibited increased RD and MD particularly on the right side. ROI analysis supported these findings. Limitations include a small sample size; larger studies may detect significant white matter integrity differences. Prospective studies could reveal post-treatment white matter changes aiding diagnosis and treatment outcome prediction in tic disorder.

**Saturday May 04**

### **An umbrella review of antipsychotic agents in anxiety disorders**

Amir Garakani M.D.; Frank Buono; Rafael Freire MD PhD; Mona Salehi

First-generation (FGAs) and second-generation antipsychotics (SGAs) have been used off-label for anxiety and while there have been systematic reviews and meta-analyses on the use of antipsychotics in anxiety disorders most of which focused on SGAs. The specific aims of this umbrella review are to: (1) Evaluate the evidence of efficacy of FGAs and SGAs in anxiety disorders as an adjunctive treatment to traditional antidepressant treatments and other non-antipsychotic medications; (2) Compare monotherapy with antipsychotics to first-line treatments for anxiety disorders in terms of effectiveness risks and side effects. The review protocol is registered on PROSPERO. (CRD42021237436). An initial search was undertaken to identify systematic reviews and meta-analyses from inception until 2020 with an



updated search completed August 2021 and January 2023. The searches were conducted in PubMed MEDLINE (Ovid) EMBASE (Ovid) APA PsycInfo (Ovid) CINAHL Complete (EBSCOhost) and the Cochrane Library through hand searches of references of included articles. Review quality was measured using the AMSTAR-2 (A Measurement Tool to Assess Systematic Reviews) scale. The original and updated searches yielded 1796 and 3744 articles respectively of which 45 were eligible. After final review 25 systematic reviews and meta-analyses were included in the analysis. Most of the systematic reviews and meta-analyses were deemed low-quality through AMSTAR-2 with only one review being deemed high-quality. In evaluating the monotherapies with antipsychotics compared to first-line treatments for anxiety disorder there was insufficient evidence due to experimental designs. There was limited evidence suggesting efficacy of antipsychotic agents in anxiety disorders other than quetiapine in generalized anxiety disorder (GAD) and monotherapy or augmentation with olanzapine in meta-analyses. This umbrella review indicates a lack of high-quality studies of antipsychotics in anxiety disorders outside of the use of quetiapine in GAD. Although potentially effective for anxiety FGAs and SGAs may have risks and side effects that outweigh their efficacy. Further long-term and larger-scale studies of antipsychotics in anxiety are needed.

Saturday May 04

### **ASSOCIATION BETWEEN AFFECTIVE TEMPERAMENT AND MORBID OBESITY: A CASE CONTROL STUDY**

Alexandre Mousfi; Sivan Mauer M.D.

Introduction: Affective temperaments are part of the spectrum of mood disorders and comprise the concepts of hyperthymia dysthymia and cyclothymia. Numerous studies have demonstrated a strong relationship between

obesity and mood disorders. The objective of the present study was to evaluate the frequency of temperaments in morbidly obese individuals and controls and to establish a possible association between affective temperaments and morbid obesity. Methods: The study evaluated 106 cases (morbidly obese) and 100 controls (non-obese). To assess affective temperaments the TEMPS-Rio de Janeiro scale was applied. Depressive symptoms were assessed using the Hamilton Depression Rating Scale anxiety symptoms using the Hamilton Anxiety Rating Scale and manic symptoms using the Young Mania Rating Scale. For univariate and multivariate analysis Logistic Regression models were adjusted. Results: The presence of at least one affective temperament was 74.5% in the morbidly obese group and 63% in the non-obese group. When comparing the two groups the statistical analysis of the age subgroup of individuals aged 50 years or over showed an odds ratio of 2.56 (1.07 - 6.09) for hyperthymic temperament. Conclusions: In the age group of 50 years or more cases of morbid obesity are significantly more likely (2.56 times) to occur in individuals with a hyperthymic temperament. Among the three types of temperaments evaluated only hyperthymia is a risk factor for morbid obesity.

Saturday May 04

### **Beyond Stillness: Excited Catatonia Unveiled in Children and Adolescents**

Chaden Nouredine M.D.; Natalie Burlant M.D.

Objective: Excited catatonia is a subtype of catatonia that is distinguished by agitation emotional lability poor sleep and altered mental status additionally to the more classical presentation of catatonia. This disorder often mimics the presentation of psychosis or mania making it difficult to treat at times. Although the topic of excited catatonia has received a recent increase in interest there is still a limited body of literature discussing this disorder among the

general population. This study aims to examine the existing literature on the presentation of excited catatonia in children and adolescents and to identify the most effective treatment modalities for excited catatonia in the child and adolescent population while contrasting them with those used in adults. **Methods:** Google Scholar and PubMed were explored using search terms including “excited catatonia” “adolescent” “child” “youth” and “young adult” in various permutations. Seven articles were included in this analysis. **Results:** Four of seven articles specifically addressed or mentioned excited catatonia in the child and adolescent patient population. The remaining studies mention other forms of catatonia or are not specific to the pediatric and young adult populations. The four articles were case reports. A report of two cases of Anti-N-methyl-D-aspartate receptor encephalitis associated with excited catatonia were initially treated with immunological therapy and high doses of lorazepam. However as the catatonia worsened and lorazepam showed limited improvement both cases were effectively treated with electroconvulsive therapy (ECT). A separate report highlights symptom resolutions with ECT for patients with autism spectrum disorder while a second one reports success with low-dose lorazepam for a 16-year-old with schizoaffective disorder. Another case shows how a rapid diagnosis and treatment with high-dose intravenous lorazepam can help prevent further sequelae. **Conclusion:** The current literature discussing excited catatonia among the pediatric and young adult population is minimal and mainly consists of case reports reflecting the need for additional research in this population. The current guidelines for treating excited catatonia in children and adolescents are extracted from adult guidelines; however the underlying disorders do differ.

**Saturday May 04**

## **Children and Parents’ ADHD Symptom Burden; The Dyadic Effect of Externalizing Behaviors on Inattention**

Rachel Sankin D.O.; Eden Crowsey; Kellcee Jacklin; Shirley Alleyne M.B.B.S.

**Background:** Attention Deficit Hyperactivity Disorder (ADHD) is the most common neurodevelopmental disorder of childhood characterized by disabling impairment in the ability to attend regulate activity levels and impulsivity. Untreated ADHD exacts an immeasurable emotional social and financial toll on the individual families and society and is associated with academic failure addictions antisocial behaviors and poor physical health. While genetic factors play a pivotal role in ADHD environmental influences particularly during the prenatal and postnatal periods contribute significantly to its manifestation. This study draws on data from the Adolescent Brain Cognitive Development (ABCD) study to explore the impact of externalizing behaviors including aggression exhibited by both parents and children on the expression of ADHD symptoms specifically inattention. **Methods:** A secondary analysis of data from 11876 parent-child dyads (23752) individuals within the ABCD study was conducted. Externalizing symptoms in parents and children as well as inattention were measured using the Adult Self Report 18-59 Syndrome Scale Score and the Child Behavioral Checklist 6-18 Profile Syndrome Scale respectively. Linear mixed models were employed to investigate the dyadic effects of parental and child aggression and rule-breaking behaviors on the severity of inattention. Descriptive statistics assessed correlations between parent and child responses. **Results:** The participants included children aged 10 (range 9-11) years and parents aged 40 (range 23-80) years. The study found that symptoms of inattention in the child increased alongside symptoms of aggression ( $b=.409$   $p<.001$ ) and rule-breaking ( $b=.213$   $P<0.001$ ). Additionally symptoms of children's inattention worsened with parental inattention ( $b=.174$   $p<.001$ ). Parental rule-breaking ( $p=.144$ ) parental aggression ( $p=.946$ ) nor parent and child age ( $p=.693$  and  $p=.375$ )

significantly influenced child inattention. Dyadic analyses revealed that symptoms of parents' inattention intensified with worsening inattention in their children ( $b=.175$   $p<0.001$ ) but improved when their child's rule-breaking increased ( $b=-0.55$   $p<0.001$ ). The child's age did not significantly impact symptoms of parent inattention ( $p=.532$ ) however parent inattention increased as parent age increased ( $b=0.24$   $p=.018$ ). Conclusion: This study underscores the complex interplay of genetic and environmental factors in the expression of ADHD highlighting the significance of the dyadic effect of externalizing behaviors in both parents and children as contributors to inattention in children and their parents. Understanding these dynamics can target interventions such as parent-skills training school involvement and behavioral management programs to mitigate the impact of ADHD on individuals and society.

**Saturday May 04**

### **Community-Engaged Development of a Community Health Worker Intervention to Promote Equitable Engagement in ADHD Care**

Garseng Wong M.D.; Jennifer Sikov BA MA; Kryzta Pena; krystal loubeau; Andrea Spencer

ADHD is a neurobiological condition affecting about 6-8% of children and adolescents and can contribute to lifelong consequences including educational and occupational underachievement substance use disorders and accidental injury or death. Effective treatments are available however there are socioeconomic inequities including difficulties with managing stigma and navigating care that impede engagement in ADHD care. Community Health Worker (CHW) interventions have been deployed in other pediatric medical conditions to improve treatment engagement and reduce inequities but have not yet been utilized in ADHD. We present a novel CHW intervention for

ADHD called START (Support for ADHD and Related Treatment) aimed at increasing engagement with ADHD care developed based on prior qualitative work understanding such experiences from families who face social vulnerabilities. Results describe the 5 module curriculum delivered by CHWs data from a pilot study to assess feasibility and acceptability and refinements to the intervention based on participant feedback. Quantitative and qualitative data were collected through pre- and post-intervention (up to 4 months after enrollment) questionnaires and exit interviews. Of the 16 families who completed the study 88% agreed or strongly agreed that the intervention was helpful and 100% of parents reported they were satisfied with the quality of the intervention and would recommend it to another parent of a child with ADHD. With regard to changes attributed to participation in START parents reported increased likelihood of considering medications (69%) meeting with a therapist (75%) seeking additional school services for their child's ADHD (88%) prioritizing caregiver self-care (88%). 94% of parents reported increased confidence in seeking treatment after the intervention. Actual treatment utilization reported by parents increased with medications (from 38% to 50%) therapy (from 33% to 69%) and school services (from 31% to 88%). Overall START was found to be feasible and acceptable based on the results of the pilot study; refinements including additional personalization strategies and creating a 6th module to increase support in resource navigation and care planning after the CHW intervention were made in preparation for a randomized controlled trial.

**Saturday May 04**

### **Comparison of No-Show Rates for Telehealth and In-person visits in an outpatient Behavioral Health Clinic**

Ibrahim Alsherief; Romi Shah; Sara Gabeyre M.D.; Evaristo Akerele M.D.

Objective: Most of the research conducted to date has focused on analyzing the impact of transitioning from in-person to telehealth visits on patient no-show rates. This study aimed to assess the impact of transitioning from remote-only to in-person clinic visits on the number of patient no-shows in the outpatient behavioral health department. The investigation focused on comparing the percentage of no-shows before the commencement of in-person visits and after the introduction of in-person appointments. Methods: We conducted a retrospective analysis of appointment data from the outpatient behavioral health clinic. Monthly data for 10 months were gathered to analyze the number of no-shows completed visits and overall scheduled patients during two distinct periods: the initial phase with only remote appointments and the subsequent phase incorporating in-person visits. The study examined the percentage of no-shows in each period to discern any changes in patient attendance patterns. Statistical analysis is currently underway to determine if there is a significant difference in the no-show rates between telehealth and in-person visits. The results of this analysis are pending and will be included in the final report. Results: Prior to the introduction of in-person visits the no-show rate stood at 10.25%. Following the opening of the clinic for in-person appointments the no-show rate increased to 15.4%. This shift was accompanied by a noticeable rise in the average number of no-shows per month indicative of a potential correlation between the change in appointment modality and patient attendance. Conclusion: The transition from remote-only to in-person clinic visits resulted in a significant increase in the number of patient no-shows. The observed shift from 10.25% to 15.4% in no-show rates highlights the importance of considering the impact of changes in appointment modalities on patient attendance. These findings emphasize the need for careful planning and patient engagement strategies when introducing or modifying in-person clinic visits ensuring optimal accessibility and patient adherence to scheduled appointments.

Saturday May 04

### **Differentiation between suicide attempt and suicidal ideation in patients with major depressive disorder using cortical functional network**

Sehoon Shim; Ji Sun Kim; Minwoo Hyun

Aim Studies exploring the neurophysiology of suicide are scarce and the neuropathology of related suicide is poorly understood. This study investigated source-level cortical functional networks using resting-state electroencephalography (EEG) in drug-naive patients with suicide attempt and suicide ideation. Methods EEG was recorded in 55 patients with suicide attempt and 54 patients with suicide ideation. Graph theory-based source-level weighted functional networks were assessed via strength clustering coefficient (CC) and path length (PL) in seven frequency bands. This study applied machine learning to differentiate the two groups using source-level network features. Results At the global level patients with suicide attempt showed lower strength and CC and higher PL in the high alpha band compared to those with suicide ideation. At the nodal level compared to suicide ideation patients with suicide attempt showed lower high alpha band nodal CCs in most of brain regions. The best classification performance for suicide attempt and suicide ideation showed an accuracy of 73.39% a sensitivity of 76.36% and a specificity of 70.37% based on high alpha band network features. Conclusions Our findings suggest that abnormal high alpha band functional network reflects the pathophysiological characteristics of suicide and might serve clinically as a neuromarker of suicide.

Saturday May 04

### **Effectiveness of virtual reality exposure therapy in panic disorder**

Seo-Eun Cho; Kyoung-Sae Na M.D.; EunJung Li

**Objectives:** Virtual reality exposure therapy (VRET) is used to treat phobias anxiety disorders and stress. The virtual reality treatment system can reproduce virtual scenes with the environment modified or removed and can familiarize patients with such environments. This study aims to verify the degree of improvement of the symptoms of panic disorder by conducting VRET that we have made considering the degree of gradual exposure to the panic disorder group and the control group.

**Methods:** A total of 60 subjects were included in this study including 43 patients with panic disorder and 17 control group. Subjects were systematically exposed to specific situations over five steps. We checked the heart rate body temperature EEG and symptoms before and after exposure using the following assessment instruments; Subjective Units of Discomfort (SUD) Anxiety Sensitivity Index (ASI) Panic Disorder Severity Scale. Repeated measures ANOVA was performed separately for presence SUDS (distress) scores and PDSS across time points.

**Results:** Among the subcategories of ASI the fear of anxiety symptoms showed statistical significance between sessions ( $F=3.883$   $p<0.05$ ) and in the interaction between group and time ( $F=4.585$   $p<0.01$ ). The change in the absolute variance ratio (%) of Gamma wave in the car driving situation in the patient group was statistically significant. Also the change in the absolute beta-wave IQR was statistically significant in the airplane taking situation and the change in the absolute Gamma-wave IQR was statistically significant ( $F=9.197$   $p<0.01$ ).

**Conclusions:** VRET is the process of gradually being exposed to fear stimuli deliberately confronting and experiencing a fear situation and learning that nothing dangerous will happen. Even if the patient experiences bodily sensations that are the subject of fear they can reduce their fear of bodily sensations by repeatedly confirming that they are safe and getting used to them.

Saturday May 04

### **Endogenous phenotype of diagnostic transition from major depressive disorder to bipolar disorder: a prospective cohort study**

Sehoon Shim; Ji Sun Kim; Minwoo Hyun

**Aim** This study aims to comparing bipolar disorder (BD) and major depressive disorder (MDD) to understand neuropathology of these disorders. This study investigated sensor-level electroencephalography(EEG) power and related source-level cortical activity using resting-state EEG in patients with MDD and BD. **Methods** A total of 68 patients with MDD were enrolled and recorded EEG. Among patients with MDD 17 patients with MDD converted to BD during the study periods. Clinical symptoms and EEG measures were compared between two groups. This study applied machine learning to differentiate the two groups using sensor and source-level features **Results** At the sensor level patients with BD showed higher power of AF3 channel in the theta beta band( $p=0.011$ ) and FC5 channel in the low alpha band( $p=0.014$ ) compared to MDD. At the source-level compared to MDD patients with BD showed higher activity in the right anterior cingulate( $p=0.011$ ) and left parahippocampal gyrus( $p=0.035$ ). The best classification performance for MDD and BD showed an accuracy of 80.88% a sensitivity of 76.47% and a specificity of 82.35% based on theta and low alpha band power and activity features. **Conclusions** Our findings might suggest different theta and low alpha band activity between patients with BD and MDD might serve clinically as a candidate neuromarker for differentiating two distinct mood disorders.

Saturday May 04

### **Exercise in adolescence prevents Cannabis use in adulthood: Findings from the National Longitudinal Study of Adolescent Health in the United States**



Whitney Cordoba MD MPH; Luis Mestre; Maria Parker

**Introduction** The prevalence of cannabis use has increased over the last decade among adolescents in the US compared to alcohol and tobacco use. Since aerobic exercise reduces the risk of chronic mental diseases and its decreases when transitioning from adolescence to adulthood we aimed to examine the association between aerobic exercise in adolescence and cannabis use in adulthood.?  
**Methods** Data from 1860 adolescents who participated in Waves I to V of the National Longitudinal Study of Adolescent Health (Add Health) was analyzed from 1995-2018. We included US-based individuals who were in grades 7-12 and observed them for 24 years. Weighted mixed-effects models estimated the association between aerobic exercise in Wave I (1995 baseline) and cannabis use through adulthood from Waves I to V (2018 adulthood) adjusting for sociodemographic characteristics and baseline substance use.  
**Results** Overall 1274/1860 (weighted 68.3%) individuals exercised at baseline. Adolescents were on average 15 years old 49% were female predominantly Non-Hispanic White (71%) and lived in a high-income household (38%). Almost 16% used cigarettes and 46% used alcohol. Aerobic exercise in adolescence was significantly associated with cannabis use in adulthood: the prevalence of cannabis use in adulthood among adolescents who were inactive was 1.78 times the prevalence of adolescents who were active (APR=1.78 95% CI= 1.74 1.82;  $p<0.01$ ).?  
**Conclusion** Aerobic Exercise in adolescence was negatively associated with cannabis use in adulthood. Future studies might randomize exercise and explore group versus individual effects of exercise in cannabis use. The findings from this study highlight the importance of promoting the adoption of healthy behaviors at a young age particularly aerobic exercise and of addressing its determinants in school settings to prevent cannabis use in adulthood. This study was not funded and the authors do not report any conflict of interests. **Keywords:** Cannabis Marijuana Use Exercise Sports Adolescents.

Saturday May 04

## Expression of Sirt1 Itgb3 and Chl1 is affected by ketamine treatment in depressive-like behavior model

Vesna Pesic Ph.D.

**Background:** The rapid-acting antidepressant ketamine is being extensively studied aiming to reveal the molecular pathway(s) of its' antidepressant effect and to enable the clinical application of rapid reduction of depressive symptoms. A single intravenous subanesthetic dose of ketamine can produce an antidepressant response in hours even in medication-resistant major depressive disorder (MDD). Furthermore it was validated that three-week long corticosterone treatment of rats induces depressive-like phenotype and is followed by reduced Itgb3/Chl1 ratio. ITGB3 protein up-regulates the serotonin reuptake transporter activity in mouse blood platelets and ITGB3 expression in peripheral blood mononuclear cells was reduced in non-medicated MDD patients. ITGB3 and ITGAV form heterodimer serving as vitronectin receptor expressed in the brain while CHL1 another brain-expressed cell adhesion protein was directly connected to SSRI in vitro sensitivity and Sirtuin 1 plays role in synaptic plasticity and has as well been linked to MDD. **Aim of the study:** Our study was aimed to explore potential molecular pathways which underlie ketamine's antidepressant effect by analysing expression of several genes of interest Itgb3 Itgav Chl1 and Sirt1 in the prefrontal cortices after a single dose of ketamine application in a model of depressive-like behaviour induced by prolonged corticosterone treatment.  
**Methods:** Male Wistar rats (N=30) were randomly divided into 4 groups 1) CORT group treated for 21 days with corticosterone 100mg/L dissolved in drinking water which was used to retain the integrity of the diurnal rhythmicity of this hormone present in normal animals; 2) Ketamine group treated once on the 21st day of experiment with 10 mg/kg i.p. ketamine; 3) CORT+Ketamine group; and 4) control group (water for 21 days and saline

i.p. on 21st day). One hour after acute ketamine or saline injection rats were sacrificed and brain tissue was extracted. Prefrontal cortices were separated and stored at -80°C until RT-PCR analysis. Results: A single dose of ketamine treatment in control (non-depressed) animals did not change the prefrontal cortex expression of neither *Itgb3* nor *Chl1*. However in depressed-like animals the expression of both *Itgb3* and *Chl1* was significantly increased (CORT+Ketamine vs. CORT group and Ketamine group  $p=0.036$  and  $p=0.029$  respectively). Additionally the prefrontal cortex expression of *Sirt1* was significantly increased in CORT+Ketamine compared to Ketamine group ( $p=0.019$ ). Conclusion: A single dose of ketamine significantly increased the prefrontal cortex expression of *Itgb3* *Chl1* and *Sirt1* in rats subjected to depressive-like behaviour model while this effect was not present in control non-depressed animals. Specific CNS roles of proteins coded by these genes and ketamine antidepressant effect on their brain expression should be further investigated.

Saturday May 04

### Genetic Variants Associated with Iloperidone Response in Acute and Mixed Mania Associated with Bipolar I Disorder

Haimeng Bai; Sandra Smieszek PhD; Rosarelis Torres PhD; Mihael Polymeropoulos MD

Bipolar I disorder is characterized by episodes of manic and hypomanic activity and it has one of the highest rates of serious impairment among mood disorders. Iloperidone is a second-generation antipsychotic approved by the FDA that has anti-manic effects. Here we report genetic associations on iloperidone efficacy for treatment of bipolar manic episodes from a phase 3 randomized placebo-controlled study. Whole genome sequencing was conducted with 30× read depth using whole blood samples obtained from the study subjects. The efficacy of iloperidone

was evaluated using the Young Mania Rating Scale (YMRS) -calculated as the change in YMRS measurement from baseline to the end of study (EOS). First we found the omega3 total levels are associated with decreased YMRS at baseline ( $b=-5.34\pm 1.91$   $p=0.006$ ) which is concordant with previous findings and indicates the validity of the data. In order to investigate the genetic factors that impacts the iloperidone efficacy we then conducted GWAS in the Iloperidone group ( $n=167$ ) using linear regression on YMRS change with adjustment of AGE SEX BMI and the first 2 PCs. Multiple variants were found to be associated with YMRS change at  $1e-5$  level. One of the top hits was *RELN* (*rs55837573*  $b=-4.61\pm 0.94$   $p=2.48e-6$ ). *RELN* encodes a secretory glycoprotein critical for brain development and synaptic plasticity. Lower Reelin protein levels were reported in bipolar disorder patient brains. *NAV2* (*rs1118464*  $b=-4.15\pm 0.89$   $p=6.98e-6$ ) is a neuron navigator gene and may play a role in cell growth and migration. *FAT3* (*rs76876307*  $b=15.44\pm 3.28$   $p=5.27e-6$ ) is an atypical cadherin that is predicted to be involved in cell-cell adhesion and act upstream of dendrite development and neuron migration. *SHROOM3* (*rs62300864*  $b=12.08\pm 2.43$   $p=1.64e-6$ ) may play a role in regulating cell shapes. These variants are not associated with YMRS at baseline which suggests potential drug mechanisms. We then defined the drug responders as subjects that having EOS YMRS decreased  $\geq 50\%$  compared to baseline. GWAS with logistic regression were conducted and the association of *RELN* (*rs55837573*) was robustly detected in this analysis. Over representation analysis in disease gene sets showed bipolar I disorder was the strongest result ( $p=1.12e-5$   $FDR=0.044$ ). This was driven by the contribution of variants within *BCL2* *EGR4* and *GADL1*. In summary we report genetic factors associated with the efficacy of iloperidone in treating bipolar manic episodes. This result suggests that the treatment with iloperidone potentially leads to improvement as captured by YMRS through acting on the identified gene pathways setting a foundation for further investigation.

Saturday May 04

### **Identifying Clinical Predictors for Brain FDG-PET Imaging in Patients with Catatonia: A Case-Control Study**

Laura Duque M.D.; Mohammad Ghafouri; Edith Liliana Patarroyo Rodriguez M.D.; Balwinder Singh M.D. M.S.

Background: Catatonia is a distinct neuropsychiatric syndrome characterized by motor affective and behavioral dysfunction. Research suggests that catatonia exhibits distinctive brain metabolic patterns in functional neuroimaging. There is however limited research investigating the connections between the clinical characteristics of catatonia and current clinical practices concerning ordering functional neuroimaging. Consequently we investigated the links between clinical factors in catatonia and ordering of 18F-fluorodeoxyglucose positron emission tomography (FDG-PET) in clinical settings. Methods: This study was approved by Mayo Clinic Institutional Review Board. We retrospectively identified adult patients hospitalized at Mayo Clinic in Rochester Minnesota between 2001 and 2021 who were diagnosed with catatonia and evaluated with FDG-PET and matched them with controls by age and gender who were diagnosed with catatonia but did not undergo FDG-PET. We conducted a retrospective case-control exploratory analysis using univariate followed by multivariate logistic regression. Individual results were considered statistically significant at  $p < 0.05$ . Results: A total of 9 of 364 hospitalized patients with a clinical diagnosis of catatonia were assessed with FDG-PET (mean age 57.7 years 44% female). Brain FDG-PET was ordered most frequently for altered mental status of unknown etiology ( $n=6$ ) and was most frequently ordered by the neurology service ( $n=6$ ). Catatonia patients who had a FDG-PET were matched with 38 controls from the same cohort of patients (mean age 58.9 years 58% female). In univariate analyses schizophrenia spectrum illness diagnosis was negatively associated with the ordering of a brain FDG-PET ( $p=0.024$ ). Multivariate logistic regression analysis that adjusted for age and gender revealed that

schizophrenia spectrum illness patients had a lower probability of having a brain FDG-PET performed than those without this illness ( $E0.054$   $p=0.017$  CI 0.002-0.422). Discussion: The reason for the reduced likelihood of ordering a brain FDG-PET for patients with schizophrenia spectrum illness is unclear. The heterogeneity in workup practices for catatonia may contribute to inconsistencies in the ordering of brain FDG-PET scans. Although bipolar spectrum illness is the most common psychiatric cause of catatonia other medical specialties outside of psychiatry may still erroneously associate catatonia with schizophrenia potentially leading to skewed ordering practices. Conclusion: The results of our case-control study suggest that schizophrenia spectrum illness negatively and independently predicts having a brain FDG-PET done in patients with catatonia. There is a need for further rigorous and well-powered studies to further understand the relationship between clinical characteristics and functional alterations in catatonia. These studies may provide insight into the possible benefits and indications for brain FDG-PET scans in this population.

Saturday May 04

### **Improving Behavioral Outcomes for Youth with Neurodevelopmental Disorders hospitalized on a Specialized Inpatient Unit.**

Martine Lamy M.D.;Ph.D.; Samuel Turecki; Kaylen McCullough; Elizabeth Blank

Objectives: In 2016 Cincinnati Children's Hospital Medical Center (CCHMC) introduced the Neurobehavioral Psychiatry Continuum of Care model a model focused on multidisciplinary outpatient care and inpatient crisis management for autistic patients and other NDDs. The model was introduced to support NDD patients and their families who often lack sufficient outpatient care resources. This issue places a considerable

burden onto families in the form of ER visit rates inpatient stays and injuries. There is increasing evidence that specialized psychiatric treatment programs can improve clinical outcomes for patients with profound autism and NDDs; previous analysis of CCHMC's neurobehavioral inpatient outcomes showed improvement in aspects of emotional regulation self-injury and aggressive behaviors up to one month after discharge. The objective of this presentation is to further examine the efficacy of crisis hospitalization on CCHMC's specialized neurobehavioral psychiatric unit for children aged 2-22. Methods: Patients admitted to CCHMC's inpatient neurobehavioral psychiatry unit were enrolled into the Outcomes study. Caregivers of each patient were administered standardized measures of their child's behavioral and emotional functioning at different time points depending on the care they received. Inpatient caregivers completed them at admission and one-month post-discharge. Measures included the Behavior Problems Inventory (BPI) Emotion Dysregulation Inventory (EDI) and the Modified Overt Aggression Scale (MOAS). Differences between the scores/sub-scores of these measures were assessed to determine if there were sustained improvements in behavior after discharge from the inpatient unit. Results: Caregivers of 99 children admitted to the neurobehavioral unit (average age 13.8 years N=76 male N=73 Caucasian N=17 African American) completed measures on admission and approximately one month following discharge. Significant improvements were seen one-month post-discharge in all evaluated subscales of the BPI including SIB frequency ( $p < 0.005$  M at admit = 7.8 M at follow-up = 6.3) SIB severity ( $p < 0.005$  M at admit = 11.5 M at follow-up < 8.5) Aggression frequency ( $p < 0.05$  M at admit = 14.0 M at follow-up = 11.5) and Aggression severity ( $p < 0.05$  M at admit = 15.4 M at follow-up = 12.3). Significant improvements were also seen one-month post-discharge in the EDI in both subscales reactivity ( $p < 0.005$  M theta at admit = 0.9 M theta at follow-up = 0.33) and dysphoria ( $p < 0.005$  M theta at admit = 0.80 M theta at follow-up = 0.03). Conclusions: Patients demonstrated sustained improvements in measures of aggression self-

injurious behavior and emotion dysregulation one month after discharge from the specialized neurobehavioral unit indicating that specialized inpatient hospitalization programs can improve outcomes for NDD youth. Further work to examine longer-term outcomes and evaluate factors related to improved behaviors should be done.

**Saturday May 04**

### **Information sharing between and within autistic and non-autistic people**

Catherine Crompton; Noah Sasson; UNIVERSITY OF EDINBURGH

Information sharing depends on social communication skills. Deficits in social communication skills are a core diagnostic criterion for Autism. It may therefore be expected that autistic people will be less successful at sharing information especially with one another. However recent research has found that autistic social communication difficulties may be context dependent rather than absolute and reduced when interacting with other autistic people. It may be the mismatch between autistic and non-autistic people social communication deficits that are commonly described that reduces information transfer accuracy. We have investigated this in two studies. In Study 1 ( $n = 72$ ) we used a diffusion chain methodology to examine information sharing between (i) autistic pairs (ii) non-autistic pairs and (iii) mixed autistic-with-non-autistic pairs. A researcher verbally recounted a story to initial participants which they shared with a second participant who shared it with a third participant and so on within a "diffusion chain" of eight participants. Regression analysis indicated a steeper decline in information transfer for mixed chains ( $b = -6.04$  standard error (SE) = 1.32  $p < 0.0001$ ) while autistic chains' information transfer did not differ to that of chains of non-autistic people ( $b = 0.13$  SE = 1.32  $p = 0.93$ ). These results indicate that autistic people can share information with one another as effectively

as non-autistic people. Information sharing is selectively poorer within mixed social contexts of autistic and non-autistic people. Study 2 is an international multi-site replication and extension study using the same methodology as Study 1 with a larger sample (n = 324). Data collection is complete. Analyses are pre-registered and underway (<https://osf.io/us9c7/>) and will be completed and included in this presentation. These analyses will allow us to examine whether this effect is replicated in a new and larger sample. We will explore additional factors that may impact information sharing for autistic and non-autistic people including whether informing participants of the diagnostic status of their communication partner affects information transfer and whether there are differences in the sharing of fictional and factual information. In conclusion our findings suggest that autistic information sharing abilities vary depending on the autism status of their interaction partner and that more information is accurately shared when autistic people are interacting with other autistic people. The results are a direct challenge to the diagnostic criterion that autistic people lack the social skills for successful interaction. Findings have an impact on our understanding of social communication in autism and have direct relevance for clinical practice.

**Saturday May 04**

### **Longitudinal changes in regional brain volumes in Type A alcohol-dependent patients: a 7-year MRI follow-up study.**

catherine martelli; catherine martelli

Background: Although there are numerous reports of neuropsychological and neuroimaging investigations in alcohol dependence longitudinal studies are scarce. This work investigated the evolution of magnetic resonance imaging in brain volumes over a long follow-up period (7 years) in Type A alcohol-dependent patients i.e. without psychiatric or somatic comorbidity and whose addiction had started late. In line with the

literature we hypothesized that long-term abstinence would lead to an at least partial recovery of the prefrontal cortex cingulate cortex and of white matter (WM) volume reductions. We investigated the long-term changes in grey matter (GM) and WM regional volumes by comparing longitudinally the followed-up subgroups of abstainers relapsers and controls. Methods: 26 patients and 24 healthy controls were assessed at baseline using structural MRI and voxel-based morphometry among which 17 patients and 6 controls were re-evaluated 7 years later. At follow-up three groups were compared: abstainers (n = 11 more than 2 years of abstinence) relapsers (n= 6 less than 2 years of abstinence) and controls (n= 6). Results: The longitudinal analysis of neuroimages in which relapsers were compared to abstainers demonstrated the recovery of initial GM volumes in the bilateral middle and inferior frontal cortex as well as the bilateral middle cingulate cortex whereas no recovery was found in sub-cortical regions. Moreover we found a WM recovery in the corpus callosum and in anterior and superior regions between the frontal cortex and the striatum. Discussion: The results of brain volumes analyses in abstainers confirm previous findings in the literature that examined shorter time-periods (generally up to 2 years). These results support the crucial role of abstinence in fronto-limbic GM and WM volumes recovery in alcohol-dependent type A patients.

**Saturday May 04**

### **Maintenance Ketamine Infusions Demonstrate Sustained Antidepressant Efficacy in Real-World Treatment-Resistant Unipolar and Bipolar Depression**

Sipan Haikazian; Roger McIntyre M.D.; JOSHUA ROSENBLAT

Background: Intravenous subanesthetic-dose ketamine has demonstrated rapid and robust antidepressant effects in patients with treatment-



resistant major depressive disorder (TRD) (McIntyre et al. 2021) and bipolar depression (TRBD) (Fancy et al. 2023). Most analyses have analyzed the effects of acute ketamine infusions administered in 2-3 weeks while limited research has analyzed the effectiveness of maintenance ketamine infusions following an acute course (Smith-Apeldoorn et al. 2022). Furthermore no such analysis has been conducted in a TRBD patient population (Smith-Apeldoorn et al. 2022). Herein we present real-world data demonstrating sustained antidepressant effects following maintenance ketamine infusions in patients with TRD and TRBD. **Methods:** In this retrospective study conducted in a private clinic located in Mississauga Ontario Canada 123 patients with TRD (n = 99) and TRBD (n = 24) received four subanesthetic doses of intravenous (IV) ketamine in a two-week period. Subsequently patients received multiple booster ketamine infusions at a variable dosing schedule and depressive suicidal and anxious symptoms were assessed before each infusion. Mixed model analyses were subsequently performed. **Results:** After four acute infusions significant changes in depressive symptoms were noted as measured by the Quick Inventory for Depression Symptomatology Self-Report-16 (QIDS-SR16) total score. The mean QIDS-SR16 total score decreased during the acute phase (p 0.99 for both) suggesting a sustained antidepressant effect. Significant improvements in self-reported suicidal and anxiety symptoms were also noted after acute infusions (p 0.90 for both symptoms in either population). Ketamine was well-tolerated by most patients with no long-term iatrogenic or addiction concerns being noted. **Conclusions:** Real-world effectiveness of maintenance ketamine infusions for TRD and TRBD was observed suggesting that ketamine can be an effective and safe pharmacotherapy for relapse prevention of mood symptoms.

Saturday May 04

## Metabolic syndrome in adults with autistic traits: associated psychological behavioural and biological factors in females and males

Eva Warreman

**Background:** While cardiovascular diseases are highly prevalent and an important cause of mortality in autistic adults knowledge on their increased cardiovascular risk is limited. Furthermore it is relevant to investigate cardiovascular risk in the general population in order to take those adults with autistic traits specifically females with a late or missed autism spectrum disorder (ASD) diagnosis into account by analysing them on the presence of autistic traits rather than only on the presence of an ASD diagnosis. Hence this study aimed to investigate the prevalence of MetS and which psychological behavioural and physical factors are associated with MetS in female and male adults with autistic traits. **Methods:** In total 17705 adults from the Dutch Lifelines Cohort were included and categorized using Autism Spectrum Quotient-10 sum-scores. The quartiles with highest (HQ-traits-group females: n=2635; males: n=1803) and lowest levels of autistic traits (LQ-traits-group females: n=2635; males: n=1803) were analysed. Using multivariable logistic regression the associations between MetS and (self-reported and interviewed) psychological behavioural and physically measured factors in these stratified groups were investigated. **Results:** Among females MetS was more common in the HQ-traits-group than in the LQ-traits-group (10.0% versus 7.5% p<0.01) while this was not the case among males (HQ-traits-group 13.8% versus LQ-traits-group 13.1% p=0.52). In both the female and male HQ-traits-group the presence of MetS was associated with poorer self-reported health less daily physical activity and altered leukocyte counts. **Conclusion:** In females with higher levels of autistic traits the prevalence of MetS is higher than in females with lower levels of autistic traits. Earlier and adequate cardiovascular preventive measures are indicated for adults with relatively more autistic traits. To decrease morbidity and mortality of adults with high levels

of autistic traits future research should focus on implementation of cardiovascular prevention for adults with autistic traits. This work the Lifelines initiative was supported by subsidy from the Dutch Ministry of Health Welfare and Sport the Dutch Ministry of Economic Affairs the University Medical Centre Groningen and the Provinces in the North of the Netherlands (Drenthe Friesland Groningen). Our study was supported by a grant from the Netherlands Organisation for Health Research and Development (NWO-ZonMw) (grant number 639003101). The IADB.nl and the PharmLines Initiative are funded by the University of Groningen Groningen Research Institute of Pharmacy.

Saturday May 04

### **Mortality from suicide and unnatural causes among individuals with bipolar disorder: a meta-analysis**

Beny Lafer M.D.; Taís Biazus

**OBJECTIVE** Bipolar disorder (BD) is associated with premature mortality. Compared to the general population BD subjects are at greater risk of dying by unnatural causes including suicide as the primary cause (other unnatural causes are mainly homicide and accidents). We performed a meta-analysis of present data regarding unnatural causes and suicide in BD. **METHODOLOGY** Following PRISMA guidelines a PROSPERO protocol was registered and studies were then retrieved from PubMed Embase Web of Science and PsycINFO. Independent researchers screened papers and extracted data using Covidence. Statistical analysis was conducted using Comprehensive Meta-Analysis V3. Main outcome was age and sex standardized mortality ratio (SMR) by suicide and unnatural causes. Heterogeneity (Q- test and I<sup>2</sup>) and publication bias (Egger`s test) were assessed in all analysis. **RESULTS** After screening 2334 papers 25 studies were included in suicide and 17 studies were included in unnatural causes analysis. BD population for suicide analysis was 180210

(47568 males and 71175 females) and for unnatural causes the population was 349744 (103783 males and 138050 females). A higher SMR was observed for suicide and unnatural causes in BD when compared to the general population. RR for suicide was 11.69 (95%CI 9.23-14.81 I<sup>2</sup> 94% k=25). When stratified by gender suicide SMR was higher in women (17.53 95%CI 10.76-28.54 I<sup>2</sup> 97% k=11) than in men (14.02 95%CI 11.16- 17.60 I<sup>2</sup> 87% k=11). The SMR total for unnatural causes was 729 (95%CI 6.42-8.28 I<sup>2</sup> 94% k=17). For males the RR for unnatural causes was 6.69 (95%CI 5.85- 7.66 I<sup>2</sup> 87% k=10) and for females the RR was 9.33 (95%CI 8.07-10.78 I<sup>2</sup> 86% k=11). Meta-regression showed no influence in results and both Egger`s test and forest plots revealed no publication bias. **CONCLUSION** As supported by the data collected in agreement with previous literature BD subjects presented elevated mortality from unnatural causes being suicide the most concerning as it is the leading cause of preventable death. Our findings lead to an understanding that an effort to prevent suicide is necessary mainly in the high-risk BD. Clinicians (individual level) and public health policies (populational level) should address risk factors for suicide.

Saturday May 04

### **Online CME is Successful in Prompting Performance Improvements Related to Differentiating and Diagnosing Bipolar Disorder**

Meghan Wilson

**Objective:** Because the symptoms of depression in bipolar disorder closely resemble those of major depressive disorder (MDD) bipolar depression is often delayed or misdiagnosed in clinical practice. This study was developed to assess the ability of an online continuing medical education (CME) program to encourage practice changes related to the screening and diagnosis of

bipolar disorder among psychiatrists primary care physicians (PCPs) and psychiatric advanced practice providers (APPs). Method: The CME activity was a 15 minute video case study with integrated patient:clinician vignettes and expert commentary. The impact of the education on performance outcomes was measured with an intent to change survey a validated surrogate measure for actual changes in clinical practice as a result of participation in CME activity. Learners were asked to identify intended changes and barriers immediately after program completion. Survey participants were contacted 8 weeks later to assess self-reported actual changes in practice. The activity launched 9/28/2022 and data were collected through 6/8/2023. Results: A total of 857 clinicians in the target audience provided immediate post-activity feedback on the intention to make practice changes and barriers that may prevent their implementation. The results of the immediate post-education survey included 546 psychiatrists (64%) 146 PCPs (17%) and 165 psychiatric APPs (19%). 89% indicated an average of 2.9 planned practice changes each. 62% of psychiatrists 71% of PCPs and 67% of psychiatric APPs reported that they plan to increase their level of suspicion for bipolar disorder based on evidence-based variables. 62% of psychiatrists 44% of PCPs and 59% of psychiatric APPs reported that they plan to conduct a thorough history with patients with depression to assess potential history of manic or hypomanic episodes. 37% of psychiatrists 43% of PCPs and 53% of psychiatric APPs reported that they plan to integrate validated tools into practice to screen for bipolar disorder. 29% of psychiatrists 34% of PCPs and 38% of psychiatric APPs reported that they plan to use shared decision making with patients to address any tolerability issues. The most commonly noted perceived barriers for implementing the changes across all clinician groups included that patients are often not aware of hypomanic episode characteristics and that it is difficult to discern bipolar II from unipolar depression. 65 learners completed the follow-up survey including 34 psychiatrists (52%) 11 PCPs (17%) and 20 psychiatric APPs (31%). 89% reported making an average of 3.8 changes in practice as a result of this activity. Conclusion:

This study provides evidence that online CME prompted clinicians to make changes in practice to better screen and diagnose bipolar disorder. Future education should continue to address the challenges in discerning bipolar depression from unipolar depression and the identified barriers to practice change.

**Saturday May 04**

### **Parcel-guided TMS: virtual and online neuronavigation**

Dennis Truong PhD

Transcranial magnetic stimulation (TMS) is an FDA-approved treatment for treatment-resistant major depression (TRD). However at present the approach is only partially effective. Over recent years there has been increasing realization that TMS for anhedonic-like symptoms of major depressive disorder (MDD) is most effective when targeted at the region of left dorsolateral prefrontal cortex (L-DLPFC) that is maximally anti-correlated with subgenual anterior cingulate cortex (sgACC) as determined using resting-state functional connectivity MRI (rsfcfMRI). Ideal approaches for identifying this location for individual subjects however still depend on processing pipelines that are not accessible to the TMS treatment community. In general 3D brain reconstructions can be analyzed using either traditional volumetric approaches or more recently developed surface-based approaches like those developed as part of the human connectome project (HCP). In volumetric approaches structural and functional approaches have both been implemented to identify volumetric regions of interest. In the surface-based HCP MMP1.0 approach structural and functional data are merged to identify functionally discrete brain parcels across individuals. Here we developed a software package (“TMAPS”) that will enable TMS researchers to obtain and use individualized L-DLPFC targets (surface- or volume-based with or without rsfcfMRI) for online

or offline “virtual” neuronavigation. To test and develop the software package we acquired structural and functional MRIs on healthy subjects. Individualized parcels corresponding to L-DLPFC were extracted using structural scans or both structural and functional. The resulting brain targets from volumetric surface and common heuristic approaches (5.5 cm rule Beam F3) were compared using online neuronavigation. Comparing surface-based parcellation to volumetric 5.5 cm rule and Beam F3 approaches initial results indicate average brain target differences of 5.79 18.15 11.39 mm respectively. This project will ultimately improve TMS targeting by enabling personalized MR-targeted TMS even within community treatment settings.<sup>2</sup>

**Saturday May 04**

### **Quality Matters: Neuroimaging Quality Score Associated with Brain Age in Psychiatric Patients & Healthy Controls**

Natasha Topolski; Andrea Boscutti M.D.; Jair Soares M.D. Ph.D.

**Aims** MRI scans are widely employed in psychiatric research to explore brain structure and function. However the prevalence of low-quality scans presents a significant challenge. While manual and automatic review techniques have emerged to assess quality most studies use binary decisions to retain or exclude scans potentially introducing sampling bias. Consequently a quality threshold is typically established resulting in a range of quality even within retained scans. This study investigates how scan quality affects a measure of biological aging called Brain Age.

**Methods** 827 subjects including 360 bipolar disorder subjects 104 major depression subjects 59 siblings and 304 healthy controls were included in this analysis. Standardized Freesurfer pipelines were used to extract neuroanatomical features from T1-weighted MRI scans that would ultimately be used to calculate BrainAge from a model developed by the ENIGMA consortium. While many automated quality control techniques

have been studied the gold standard remains visual inspection. Given this this study utilized a visual inspection technique modified from the ENIGMA method where scans were rated on a scale from 1 to 5 based on overall image quality and segmentation quality with 1 being the best quality and 5 being the worst quality. Interrater reliability using 2 raters was calculated from a 120 scan subset. Analyses utilizing multiple regression models were conducted to assess the impact of the scan quality score (QS) on Brain Age. The dependent variable was Predicted Age Difference (PAD) which is the difference between Brain Age computed using Freesurfer-based neuroanatomical variables and chronological age. Other covariates included study site scanner manufacturer sex and diagnosis. **Results** The majority of scans (95.4%) rated as good quality with scores between 1 & 2 and 4.6% of scans were given a score greater than 2 indicating moderate to poor quality. Interrater reliability was 0.92. There were no significant differences in QS between diagnoses ( $F=1.119$   $p>0.05$ ). There were significant differences between sexes ( $F=6.191$   $p<0.05$ ). In the multiple regression model predicting PAD QS remained a significant predictor ( $\beta=1.9$   $p<0.0001^{***}$  each). **Conclusion** Our study shows that poor quality scans are associated with a larger brain age gap possibly due to underestimation of brain areas being interpreted as age-associated cortical loss. Our results reinforce the need for conducting quality control and show that stratifying quality can be a useful tool to characterize neuroimaging data and obtain results accounting for potential variability ultimately improving validity and interpretability.

**Saturday May 04**

### **Quantifying the Burden of Undiagnosed Generalized Anxiety Disorder in the US General Adult Population**

Daniel Karlin MD MA; Susan Suponcic PhD;  
Corklin Steinhart; Martine Maculaitis PhD MA;  
Phong Duong PharmD

**Background:** To inform public health policy current data are needed to better understand the impact of undiagnosed generalized anxiety disorder (GAD) from the perspective of affected individuals. To address this gap the current study assessed variations in the economic and humanistic burden of GAD by diagnosis status among US adults. **Methods:** This cross-sectional retrospective analysis included data from the 2022 National Health and Wellness Survey (NHWS; N=75261) an annual online self-report survey of adults (aged ≥18); NHWS is representative of the age sex and race/ethnicity distribution in the US Census. NHWS respondents completed the 7-Item GAD Questionnaire (GAD-7) and reported on GAD diagnosis and treatment (Tx). Undiagnosed GAD was defined as: positive screen (GAD-7 score ≥10) + no diagnosis; diagnosed GAD was defined as: a) diagnosis + perceived anxiety or b) diagnosis + no perceived anxiety + positive screen or Tx use. Remitted patients (diagnosis + no positive screen or Tx use) were excluded from the study. Groups were compared on demographics health characteristics healthcare resource use (HCRU; past 6 months) work productivity and activity impairment (WPAI scores; range: 0-100%; higher scores reflect greater impairment) and health-related quality of life (HRQoL; RAND-36 Physical Mental and Global Health Composite [PHC MHC GHC] scores; range: 0-100; higher scores reflect better HRQoL; minimally important difference [MID] is 3 points). **Results:** Undiagnosed (n=15389 vs diagnosed n=5526) adults were on average younger (36.6 vs 43.1 years old) and were more often male (57.5% vs 21.4%) Hispanic (29.9% vs 14.0%) employed (80.0% vs 50.9%) current smoker (38.6% vs 21.8%) and alcohol drinker (75.0% vs 66.3%) and less often reported comorbidities including depression (15.0% vs 78.5%) and pain (9.6% vs 44.3%) (all p<0.001). In the past 6 months undiagnosed (vs diagnosed) adults had a greater mean number of hospitalizations (1.2 vs 0.3) and emergency room visits (1.3 vs 0.5) but fewer healthcare provider visits (3.0 vs 8.7) (all p<0.001). Undiagnosed

adults had activity impairment absenteeism presenteeism and overall work productivity impairment on WPAI that were 1.6 3.1 1.9 and 1.9 times higher respectively than diagnosed adults (all p<0.001). Undiagnosed (vs diagnosed) adults had lower scores on PHC (36.1 vs 39.6) and GHC (32.3 vs 33.5) but higher scores on MHC (32.8 vs 32.1); the MID of 3 points was exceeded for PHC score. **Conclusion:** Clinically meaningful impact on physical HRQoL greater HCRU and substantial activity impairment and work productivity loss were found among undiagnosed adults relative to diagnosed counterparts. Findings highlight the sizable multifaceted burden of undiagnosed GAD in the US general adult population. To verify the observed pattern of results confounder-adjusted analyses are underway. The study was supported by MindMed Inc.

**Saturday May 04**

### **Screening Adults in the US General Population to Detect Cases of Undiagnosed Generalized Anxiety Disorder**

Daniel Karlin MD MA; Susan Suponcic PhD; Kathy Annunziata MA; Corklin Steinhart; Phong Duong PharmD

**Background:** Recently the US Preventive Services Task Force (USPSTF) recommended screening adults for generalized anxiety disorder (GAD) in the primary care setting regardless of risk factors to avoid delays in diagnosis (Dx) and treatment (Tx). However estimates of undiagnosed GAD are outdated or based on small samples. Current population-level data are thus needed to inform clinical practice. This study quantified and characterized the US general adult population who screen positive and may have undiagnosed GAD. **Methods:** This cross-sectional retrospective study analyzed data from the 2022 National Health and Wellness Survey (NHWS) an annual online self-report survey of adults (aged ≥18); NHWS is representative of the age sex and



race/ethnicity distribution in the US Census. All respondents completed the 7-Item GAD Questionnaire (GAD-7; 2-week recall period) and reported on GAD Dx and Tx. Undiagnosed GAD was defined as: no Dx + positive screen (GAD-7 score  $\geq 10$ ). Moderate and severe GAD symptoms were defined as: GAD-7 scores of 10-14 and  $\geq 15$  respectively. Undiagnosed adults were compared with controls (no Dx + no positive screen; Dx + no positive screen + no Tx use as remitted patients) and diagnosed adults (Dx + perceived anxiety; Dx + no perceived anxiety + positive screen or Tx use) on demographic and health characteristics. Prevalence estimates were reported as percentages with 95% confidence intervals (CIs); weighting was used to project results to the overall US adult population. Results: Among 75261 NHWS respondents 23.3% (95% CI: 23.1-23.5%) had a positive screen (projects to ~59 million adults); of these 55.1% (95% CI: 54.7%-55.5%) and 44.9% (95% CI: 44.5%-45.3%) had moderate and severe GAD symptoms respectively. Of those who screened positive 83.1% (95% CI: 82.8%-83.4%) were undiagnosed (projects to ~49 million adults); 56.0% (95% CI: 55.5%-56.4%) and 44.0% (95% CI: 43.6%-44.5%) had moderate and severe GAD symptoms respectively. Undiagnosed adults (vs controls and diagnosed GAD) were younger (aged 37.5 years vs 51.8 and 42.1) and were more often male (53.9% vs 49.4% and 25.5%) current smoker (36.4% vs 15.0% and 22.9%) alcohol drinker (72.4% vs 64.1% and 65.1%) and employed (74.6% vs 55.4% and 49.8%) with income  $\leq$  \$75k (58.5% vs 45.7% and 25.6%) and were less likely to be White (50.8% vs. 64.5% and 69.3%) and obese/overweight (44.5% vs. 61.5% and 68.2%). Conclusion: Nearly a quarter of the US general adult population screened positive for GAD. A large majority 83.1% of those were undiagnosed (approximately 49 million adults) underscoring a substantial unmet need. Younger employed men were more often undiagnosed. Findings unequivocally support USPSTF recommendations to incorporate GAD screening into routine primary care to identify adults who require referral for Dx and Tx. The study was supported by MindMed Inc.

Saturday May 04

## The Accuracy of Immediate Judgments of Cognitive Performance and Global Self-assessments of Psychosocial Functioning

Manya Saaraswat; Philip Harvey Ph.D.; Jean Henry

**Abstract** Background Impaired awareness of illness is common across neuropsychiatric conditions including schizophrenia and bipolar disorder. These impairments extend to challenges in the ability to assess cognitive and functional abilities with these impairments shown to be independent predictors of everyday disability. This study examined associations between the accuracy of immediate judgments of cognitive performance and global self-assessments of psychosocial functioning. These self-assessments were compared to evaluations generated by observers. **Methods** An abbreviated 5-test cognitive assessment was administered to 122 individuals with schizophrenia and 113 with bipolar disorder who were also asked to generate self-assessments of their performance at the conclusion of each test. Self-reports and informant ratings on scales measuring abilities in the domains of cognition social cognition and everyday functioning were also collected. **Results** Both groups overestimated their momentary cognitive performance but in participants with bipolar disorder there was a significant correlation between cognitive test performance and immediate estimates of their task performance that shared 30% of the variance (vs. a nonsignificant 5 % in schizophrenia). In schizophrenia immediate judgements of cognitive test performance were only related to self-reported overall cognitive abilities not to observer ratings of cognitive abilities. In the participants with bipolar disorder immediate self-assessment of performance was correlated with both self-reports and observer ratings of cognitive abilities. **Conclusions** Although momentary overestimation of performance was present across bipolar disorder and schizophrenia participants with bipolar disorder generated

immediate judgments that correlated with both objective performance and with observer ratings of cognitive abilities in contrast to participants with schizophrenia. These data are consistent with previous findings that momentary overestimation of performance in bipolar is not an indicator of complete lack of awareness of performance. Participants with schizophrenia show a more fundamental challenge which is related to accurate internally consistent self assessments that appear to be weakly linked to objective performance data and related more strongly to self-generated information. These two different response styles suggest different intervention strategies may be required to promote accuracy in judgment of capabilities and prediction of the likelihood of success in future activities.

**Saturday May 04**

### **The relationship between emotional perspective taking and Interoception in Autism Spectrum Disorder(ASD) on brain : an fMRI study**

Hui Yeong Jeon

Background: Autism Spectrum Disorder (ASD) is associated with core pathophysiological deficits in social cognition and empathy. Factors influencing social cognition and empathy include emotional perspective taking and interoception. Moreover there exists a shared network between interoceptive ability and emotional perspective-taking with a deep interrelation to empathy. In this study we assessed the differences in emotional perspective taking interoceptive ability between patients and control groups. We also explored the variations in brain activation in these domains using fMRI and examined the relationship between these patterns of brain activation and the interoception of individuals with ASD. Methods: The study assessed empathy using the Interpersonal Reactivity Index (IRI) in a patient

group (n=17) and a control group (n=22). Interoceptive accuracy (IA) was evaluated through a heart beat tracking task. Additionally emotional perspective-taking tasks related to pain were conducted while acquiring fMRI data. These tasks involved viewing pictures depicting situations of physical pain and assessing how painful the situation would be if one were to experience it (self-pain) or how much pain others would feel if someone else was experiencing the situation (other-pain). The patient group also underwent evaluation for core autism symptoms using the Autism Diagnostic observation Schedule Second Edition(ADOS-2). Results: Interoceptive accuracy (IA) tended to be lower in the patient group but it did not reach statistical significance. In the patient group there was a positive correlation between IA and the Interpersonal Reactivity Index (IRI) whereas the control group showed a negative correlation. The patient group exhibited hyperactivation in the precuneus region during both self-pain and other-pain tasks compared to the control group. Additionally in the other-pain task the patient group showed additional hyperactivation in the left amygdala and right superior frontal gyrus. In the patient group activity in the left amygdala was positively correlated with IRI personal distress scale scores but negatively correlated with ADOS-2 total scores. Furthermore activity in the right superior frontal gyrus in the patient group showed a negative correlation with IA. Discussion: This study's findings demonstrated that the impact of interoception on perspective taking may differ in individuals with Autism Spectrum Disorder (ASD) compared to the general population. Moreover it confirmed that the brain activation patterns associated with perspective taking in ASD are distinct and closely related to empathic ability and interoception.

**Saturday May 04**

### **The role of the epigenetic reader PHF21B on hippocampal neurotransmission and**

## **synaptic plasticity-related genes and social memory**

Ma-Li Wong M.D.; Julio Licinio

Histone post-translational modifications are regulated by PHD finger proteins serving as crucial epigenetic readers involved in chromatin-associated gene regulation. Among these proteins PHF21B (Plant homeodomain finger protein 21B) located in the genomic locus for Phelan-McDermid syndrome on chromosome 22q13.31 acts as a histone reader expressed in brain regions like the frontal cortex and hippocampus yet its specific roles in the brain remain unclear. This study explores the impact of Phf21b knockdown on behavior hippocampal function and transcriptome changes in mice aiming to elucidate potential pharmacological targets for social memory treatment strategies. Phf21b mutant mice with exon 4 deletion were generated using CRISPR/Cas9 technology. Cognitive and emotional behavioral tests whole-cell patch clamp studies on long-term potentiation hippocampal transcriptome analysis and confirmation studies using qRT-PCR were conducted. Additional techniques included immunoblotting immunohistochemistry Golgi staining and histone peptide array experiments. Phf21b<sup>4/4</sup> mice expressing 60% less PHF21B than WT mice exhibited social memory deficits as indicated by alterations in the 5-trial social memory test (habituation trials were not decreased) and the 3-chamber social test (increased social novelty ( $P < 0.01$ )). These deficits were associated with a thinner cortex ( $P < 0.001$ ) reduced astrocytes ( $P < 0.0001$ ) and decreased neurogenesis (DCX+ cells  $P < 0.001$ ). Furthermore PHF21B deficiency led to decreased synaptic protein expression impaired glutamatergic neurotransmission and modulation of genes involved in neurotransmission. PHF21B was found to regulate transcription through interactions with H3K9ac H3K9Me2 CREB and H3K36Me3. The findings indicate that PHF21B plays a crucial role as an upstream regulator of genes involved in synaptic plasticity. Targeting PHF21B may hold therapeutic potential for neurobehavioral

disorders by modulating synaptic plasticity-related pathways.

**Saturday May 04**

## **Using Cultural Stress Theory to Understand and Explore Dating Violence in Hispanic Adolescents: Prevalence Risk Factors and Protective Factors**

Tanvira Islam M.B.B.S.; Marta V. Colon LCSW

Introduction: Rising dating violence is a social problem intersecting across cultures and ethnicities in the U.S. This multifactorial problem could have been exacerbated by the COVID pandemic (Krause et.al 2023) adverse social media (Oliveira et.al 2021) and unemployment woes. Dating violence can take place not only in-person encounters but also in virtual online ones (Cava et.al 2020; CDC.gov). According to the CDC 2019 Youth Risk Behavior Survey (YRBS) 1 in 12 adolescents experience dating violence. We aim to understand dating violence through the lens of cultural stress theory using the CDC Youth Behavior Risk Survey 2021 data. Methods: The CDC's 2021 YRBS national survey data of adolescents was analyzed using the statistical software package SPSS version 27 (IBM Corp Armonk NY). Of particular interest was Hispanic ethnicity "dating violence and sexual coercion" and "physical dating violence" responses. In addition to descriptive statistics correlation and regression analyses were conducted to identify associations between the variables. Results: Of the 2021 YRBS respondents (N=17233) 48.3% identified as females and 51.7% as males. Twenty-six percent of the respondents were 15 years old with ages between 14-17 years old (93.6%). 48.3% were female 51.7% reported as male. A total of 9.7% of adolescents reported experiencing sexual dating violence while 8.5% of those surveyed reported physical dating violence one or more times during the 12 months. "Physical coercion" was statistically significant.  $p < .001$ . "Dating coercion" also showed a Linear-by-Linear Association (.032) as being significant but

the Pearson Chi-Square (.125) was not statistically significant. "Dating violence" resulted in no significance in the Chi-Square (.551).

Conclusion: This exploration adds to the existing literature and showcases the prevalence risk and protective factors against dating violence in Hispanic/Latino adolescents ages 13-19 in the U.S. It helps clinicians understand the type of dating violence involved and the individual trauma experienced by youth. As there are many interventions possible to address such trauma better comprehension of the cause of the negative behavior allows treatment acuity instead of the 'one-size fits all' modality. Further understanding the risk factors can aid clinicians identify adolescents who need urgent preventive measures and knowledge of protective factors can facilitate implement additional resiliency /coping skills.

**Saturday May 04**

### **Validity and Reliability of Korean School Readiness Inventory for Children with Autism Spectrum Disorder**

Jiwon Kim; Jeewon Lee; Soyoung Lee; Shin Gyeom Kim; HyunChul Youn

**Abstract** Objective: Successful transition to school is of great importance to children with autism spectrum disorder (ASD). School readiness is a measure of a child's age-appropriate preparedness and competencies for successful transition to school. The purpose of this study was to develop a school readiness inventory for Korean children with ASD and demonstrate its content validity and reliability. Methods: The Korean School Readiness Inventory (K-SRI) was developed to assess current levels of some fundamental skills needed for attending school for children with ASD. The K-SRI was comprised of 4 subscales and 16 test items: Self-help skills Social and emotional development School behavior and Literacy and numeracy skills.

For content validity 9 experts rated the validity of the test items. Lawshe's Content Validity Ratio (CVR) was calculated. For reliability parents of 22 children with ASD entering school completed the K-SRI twice. Cronbach's alpha coefficient was calculated for internal consistency. The test-retest reliability was assessed using the intraclass correlation coefficient (ICC). Results: Most of the items from the K-SRI showed a CVR of 0.78 or above. Of the 16 test-items 2 items with low CVR values were deleted. The Cronbach's alpha coefficient of the K-Sri was 0.93 showing good internal consistency reliability. The test-retest reliability results showed ICC value of 0.93 ( $p=0.00$ ) which indicates good stability. Conclusion: A parent-rated 14-item school readiness inventory for Korean children with ASD was developed and preliminary evidence of its content validity and reliability were demonstrated in this study. The present study provides a basis for future studies that would further help evaluate and promote school readiness of the children with ASD. Assessment of the school readiness of the children with ASD will not only be helpful for training the children be suitable for inclusive education but it will also be helpful for investigating what the school the family and the community need to prepare for a proper education for children with ASD. Key words: autism spectrum disorder school readiness transition

**Saturday May 04**

### **Violence Reduction in Patients with Comorbid Substance Use Disorder and Severe Mental Illness.**

Sara Gabeyre M.D.; Muhammad Farooqi M.B.B.S.; Roger Maginley; Evaristo Akerele M.D.

**Background:** Violence in inpatient units is a challenge. A number of studies have with limited success tried to address this issue. In this study we assessed violence on a 30 bed inpatient unit

with primarily individuals suffering from severe mental illness and substance use disorders. We describe below a modality implemented on our inpatient unit. We assessed the impact of the introduction of a new protocol after multiple incidents of violence known as code gray on the frequency of violence and restraints on the unit. This study is significant for several reasons first there are not many studies looking at the use of this modality to reduce violence in an inpatient unit. Second this is one of the most challenging groups of patients for the management of violence. Methods: The Security Charge Officer was scheduled to visit the unit three times daily coinciding with BHU shift changes at 7:00 AM 3:00 PM and 11:00 PM. During these designated times the Security Charge Officer actively participated in the nursing shift report engaging in discussions concerning challenging patients significant events previous shift's code gray incidents and the overall unit atmosphere. The degree of security presence within the unit was determined based on the information gathered during each shift. The unit's acuity level graded on a scale from 1 to 4 dictated the frequency of security officer rounds: Level 1 required two security officers to round every 2 hours Level 2 mandated rounds every hour by two security officers Level 3 necessitated rounds every 30 minutes by two security officers and Level 4 involved posting two security officers on the unit continuously. For Level 3 and Level 4 the Charge Officer attended intershift reports. This protocol was implemented in 2022 and was compared to the preceding year in terms of its impact on violence reduction. Results: The analysis of code gray incidents showed a total of 948 cases in 2022 representing an 11% decrease compared to 2021 (1064 cases). Within the BHU there was a significant decrease of 29% in code gray incidents (212 cases in 2022 vs. 300 cases in 2021). Statistical analysis via ANOVA  $p=0.0065$ . Restraint use also decreased by 28% overall (104 cases in 2022 vs. 145 cases in 2021) and by 48% within the BHU (17 cases in 2022 vs. 33 cases in 2021). Statistical analysis via Barlet test  $p=0.0005$ . Conclusion: The implementation of a security presence protocol in the BHU resulted in a significant decrease in code gray incidents and the use of restraints. These findings suggest the

following: a) protocols to prevent violence are useful b) collaboration between nursing staff and security is helpful in identifying and proactively reducing violence c) restraints which can be very traumatic for both patients and staff are significantly reduced using this modality.

**Saturday May 04**

### **“I’m not just Moody!” – Bipolar disorder secondary to TBI with refractory disabling insomnia**

Gaurav Taneja M.D.; James Megna MDPhDDFAPA; Fairouz Ali M.B.B.S.; Darshini Shah MBBS; Palak Fichadia M.B.B.S.

Mood disorders especially bipolar disorder are common among individuals who have suffered a traumatic brain injury (TBI). They develop due to severe cognitive and emotional processing defects that may follow TBI. Sleep disturbances after TBI are exceedingly common and can lead to increased irritability as a result of underlying bipolar disorder. Due to the overlap between post-TBI disturbances and symptoms of bipolar disorder increased life stressors and limited awareness of post-TBI bipolar disorder there is increased difficulty in diagnosis and treatment. Here we present a case of a 41-year-old Caucasian Male who suffered a TBI at the age of 7 from a Motor vehicle accident (MVA) in which the left frontotemporal lobe was affected. He was admitted for extreme anger and irritability. He was struggling with refractory insomnia which was possibly a result of his bipolar disorder. He was previously treated with diazepam (high dose) duloxetine diphenhydramine melatonin mirtazapine hydroxyzine and olanzapine. His insomnia was poorly controlled which led to decreased functioning and worsening of his quality of life leading to irritability and anger outbursts. Alternative treatment options were difficult to formulate considering his history of lack of improvement to most of the medications. He experienced various side effects as well like anxiety delirium hallucinations nightmares etc.



which made choosing the right medication even more important. In our treatment approach we considered a trial of chlorpromazine. It was the preferred choice as besides acting as an antagonist on D2 receptors to ameliorate his hallucinations and stabilize his mood it also acts as an agonist on H1 receptors with additional anticholinergic properties causing the sedative effects seen on administration. With slow titration the patient showed increased hours of sleep. Eventually Chlorpromazine led to a drastic improvement in our patient's overall mood by decreasing anger outbursts and resolving his insomnia. He was able to sleep for longer hours and had decreased anger outbursts and increased mood stability. Through this poster we hope to highlight the difficulties faced in accurate diagnosis and subsequent management of his bipolar disorder and refractory insomnia considering the long-term effects of TBI on the developing brain.

Saturday May 04

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Eunju Kim M.D.; Tae Hyon Ha; Daniel Grimes; Jose Capiro

Smoking as a modifiable risk factor for suicide attempts in patients with bipolar disorder  
Abstract Background: Patients with bipolar disorder are known to have a high risk of suicidal behavior especially when they are in a depressive mixed state. We investigated clinical factors including smoking which can affect suicidal behavior in patients with bipolar disorder. Method: We recruited 101 patients with bipolar disorder at a mood disorder clinic of a university hospital from November 1 2004 to December 31 2014 and conducted a structured interview during the participant's major depressive episode (MDE) state. All participants were divided into two groups (suicide attempters n = 43 vs. non-attempters n = 58) and their demographic data and clinical variables were compared. Intra-MDE hypomanic

symptoms were analyzed as groups after being classified into two bundles (sunny versus dark) by factor analysis. Result: Among patients with bipolar disorder suicide attempters versus non-attempters had the following significant associations (odds ratio = OR): smoking 4.6 (p = 0.01) psychiatric comorbidity 3.03 (p = 0.02) and the sunny group of intra-MDE hypomanic symptoms (elevated mood inflated self-esteem and psychomotor activation) 0.51 (p = 0.01). Conclusion: The new finding of this study is that some intra-MDE hypomanic symptoms would be protective factors in suicide attempts in patients with bipolar disorder in a depressive mixed state. Also this study reaffirmed that smoking and psychiatric comorbidity could be vital risk factors for suicide attempts. Smoking prevention and cessation should be a part of suicide prevention programs. Keywords: smoking protective factor suicide attempt bipolar disorder intra-MDE hypomanic symptoms.

Saturday May 04

### **A Measure of Rigidity/Perfectionism in Relation to Temperament in Youth with Obsessive-Compulsive Disorder and/or Tourette syndrome/chronic tics**

Gurpreet Singh Walia; Yuji Choi MD MPH; Pratik Agarwal M.B.B.S.; Emily Pereira; Marco Grados MD MPH

Objective- Perfectionism is linked to low sociability in the adult literature however established measures of rigidity/perfectionism are scarce in youth. The current study aims to characterize the phenotype of pediatric OCD and TS using rigidity/perfectionism in relation to temperament. Methods- An IRB-approved clinic registry recruited youth with OCD and/or Tourette syndrome/chronic tics (TS/CT) ages 5-17 years in an urban academic center. A rigidity/perfectionism measure used the Leyton Obsessional Inventory-Child Version (LOI-CV).

Three LOI-CV items (need for organization need for order and need for objects being arranged “just so”) constituted the rigidity/perfectionism measure as previously published. A parent-report scale (Junior Temperament and Character Inventory; JTCl) measured temperament deriving novelty-seeking (exploratory behaviors) harm avoidance (propensity to anxiety/depression) reward dependence (expression of affect) and persistence (hard-working) traits. Kruskal-Wallis non-parametric tests calculated whether low medium and high rigidity/perfectionism levels have equal medians for temperament. The non-parametric Cusick test of trend estimated whether temperament varies as rigidity/perfectionism levels increase. Stratified sex (male female) and age groups (school age youth ages 5-11 years adolescents ages 12-17 years) sub-analyses were conducted. Results- The sample comprises 88 youth (57 % male 12.8 + 2.9 years) with diagnoses of OCD only (n=38) TS/CT only (n=19) and OCD+TS/CT (n = 31). No difference in medians for rigidity/perfectionism groups exist for novelty seeking (p=0.26) harm avoidance (p=0.17) or persistence (p=0.57) but reward dependence (chi2=6.92(2); p=0.03) is significant. Post-hoc group comparisons show lower reward dependence in the higher level of rigidity/perfectionism compared to the medium level (z=2.56; p=0.01). Stratification by age and sex resulted in no further significant differences. In the test of trend reward dependence decreases with increasing rigidity/perfectionism (z=-2.09; p=0.03). Interestingly with age stratification this is more evident in females (z=-2.12; p=0.03) but not in males and mostly in adolescents (z=-1.75; p=0.08) but not in school age youth. Although the test of trend is only marginal for harm avoidance (z =+1.62; p=0.10) and novelty seeking (z =-1.54; p =0.12) stratification by age shows a greater effect in adolescents for harm avoidance (z=1.85; p=0.06) novelty seeking (z=-1.74; p=0.08). Conclusions- Rigidity/perfectionism in youth with OCD and/or TS/CT determines lower reward dependence (expression of affect) primarily in adolescent females. A propensity for higher harm avoidance (neuroticism) and lower novelty seeking (exploration) is also present in relation to higher rigidity/perfectionism in adolescents.

Understanding rigidity/perfectionism in youth with OCD and TS may have utility in developing individualized treatments for these challenging conditions.

Saturday May 04

### **Acute Decompensation in Patients with Schizophrenia After Transitioning From an Oral Antipsychotic to Intramuscular Paliperidone Palmitate**

Nitin Malik; Kirklin Smith MD

Introduction: Long acting injectable (LAI) antipsychotics are appropriate options for patients with schizophrenia who struggle taking daily medication. Paliperidone palmitate is an example of an LAI which the manufacturer highlights does not require an oral overlap of medication when transitioning to this specific LAI. This poster highlights two patients that had an acute worsening of symptoms after transition to intramuscular paliperidone palmitate who initially had significant improvement on an oral antipsychotic. Case presentation: The first patient is an 18 year old male who presented to the psychiatric emergency department for breaking windows responding to internal stimuli and swinging a metal object at staff at his group home. The patient was admitted to the psychiatric ICU and started on oral risperidone in preparation to transition to an LAI. The patient was titrated to risperidone 3mg twice daily and was transferred to the general psychiatric unit. He had improved insight more affect range and was able to endorse a history of hearing voices telling him to harm others but was no longer hearing these voices. He was tolerating risperidone well with no side effects. On day 15 of receiving oral risperidone it was discontinued and the patient received IM paliperidone palmitate 234mg in his left deltoid muscle and 156mg in his right deltoid muscle 5 days later. On the night after receiving the second dose of paliperidone the patient assaulted a nurse and assaulted another patient requiring emergency intramuscular medications. He was

responding to internal stimuli and was transferred back to the psychiatric ICU. The second patient is a 32 year old male who presented to the psychiatric emergency department for throwing rocks through several windows at his refugee housing and extreme paranoia. He was admitted to the general psychiatric unit. He required court ordered administration of oral paliperidone and was titrated to 9mg daily. He had improved insight and his paranoia had subsided. On day 10 of receiving oral paliperidone it was discontinued and the patient received IM paliperidone palmitate 234mg in his left deltoid muscle and 156mg in his right deltoid muscle 4 days later. In the days between the two doses of medication the patient had significant re-emergence of his paranoia and had several episodes of agitation. Discussion: The manufacturer of paliperidone palmitate states that an oral overlap of antipsychotic medication is not necessary when initiating this LAI. It is medical lore among many psychopharmacologists that especially in an inpatient setting with high acuity patients an overlap of oral risperidone or oral paliperidone should be considered to prevent decompensation. These cases highlight that this strategy should be considered by inpatient psychiatrists when deciding how to transition patients to paliperidone palmitate.

**Saturday May 04**

## **Addressing Hypersexuality and Sexual Violence in Inpatients with Bipolar Disorder**

Tehilla Lipsky BA; Sabina Bera

Title: Addressing Hypersexuality and Sexual Violence in Inpatients with Bipolar Disorder  
Background: Hypersexuality is a common symptom of manic episodes. Hypersexuality in bipolar disorder may manifest in a range of behaviors spanning from sexual harassment to sexual violence. Staff on inpatient units are at increased risk of sexual harassment and violence

from symptomatic inpatients. Currently there are no widely accepted guidelines specifically tailored for bipolar inpatients at risk of sexual violence. Much of the current literature focuses on violence reduction in general violence reduction in neurocognitive disorders such as dementia on hypersexuality as part of a distinct disorder or forensic evaluations of patients with hypersexual behaviors. Two relevant studies highlighted lack of clear definitional criteria for sexually inappropriate behavior and the need for further study for identification and treatment. This study provides guidelines for assessing and managing hypersexuality related behaviors when working with inpatients with bipolar disorder. Methods: This study is qualitative and exploratory in nature. Using semi structured interviews we assessed experiences of staff in the Psychiatric Intensive Care Unit (PICU) at New York Presbyterian Hospital. The PICU was chosen as it is a unit created to address increasing rates of violence towards inpatient healthcare staff and patients and serves as a model for violence reduction. Staff were asked about management techniques to mitigate hypersexual behavior by inpatients. Results: The study yielded three themes. (1) Early recognition and prevention: identifying patients with a history of sexual violence and assessing early signs of inappropriate behavior on the unit. Preventative techniques include procuring a private room for the patient creating a low stimulus environment assigning appropriate staff facilitating virtual participation in therapies and approaching patients in pairs. (2) First line response: redirection learning and addressing needs specific to each patient and optimizing pharmacological management for treatment of bipolar disorder. (3) Continued staff support: staff should take frequent breaks have clear reporting guidelines facilitate communication between team members and ensure that staff feel supported and safe. Conclusion: Management of inpatient hypersexual behaviors among inpatients with bipolar disorder can be safely and effectively managed by staff given adequate training communication and support. However further investigation is needed to develop best practices that promote workplace safety and improve patient care. Future studies can also

focus on developing tools to predict hypersexuality related sexual violence in bipolar inpatients as well as to test a disease-specific algorithm that can be used to address inappropriate behaviors when they arise.

**Saturday May 04**

### **Adverse Effects of Psilocybin in Bipolar Disorder: A Literature Review**

Isaac Song M.D.; Najeeb Hussain

**Background:** Bipolar disorder is characterized by recurrent episodes of depression and mania with limited treatment options for some patients. Recent clinical trials have shown early evidence in the therapeutic potential of psilocybin a naturally occurring psychoactive compound found in “magic mushrooms” in the management of unipolar depression. Most clinical trials involving psilocybin or other psychedelics exclude patients with bipolar disorder due to safety concerns of inducing mania. This literature review aims to examine case studies to evaluate the relative risks of psilocybin use as a potential treatment for bipolar disorder. **Methods:** A search of PubMed and Google Scholar was conducted using key terms “psilocybin” “psychedelic” “magic mushrooms” “bipolar disorder” “bipolar depression” “case study” “case report”. The search returned 72 results which were screened for English language and study content focused on the adverse effects of psilocybin. A total of 5 case studies met inclusion criteria and were reviewed. **Results:** All 5 studies exhibited patients who developed an episode of both mania and psychosis after ingestion of psilocybin. Only 1 case study involved a patient with history or family history of bipolar disorder. In this case the patient took psilocybin once without any other substance use history which triggered a first episode of sustained mania. Three of the other studies described psilocybin ingestion resulting in mania that resolved on follow-up whereas one patient had continued depression. Two of these studies

had polysubstance use history prior to the episode. Adverse events were variable in length and ranged from 1 week to 10 weeks confounded by treatment and management. **Discussion:** As described one study detailed possible activation of a manic episode following psilocybin use in a patient who was later diagnosed with bipolar disorder. The four other studies detailed a single manic episode related to psilocybin use without a bipolar related diagnosis. Other considerations include concurrent use of other substances and psilocybin can be risk factors for adverse outcomes such as mania or psychosis. While these cases are important given that psilocybin use is common recreationally this may suggest that the relative risk of mania induction could possibly be low. Given the significant burden of bipolar depression and the positive antidepressant effect of psilocybin further research is warranted in individuals with bipolar disorder ingesting psilocybin to understand the true risk of adverse effects and other outcomes.

**Saturday May 04**

### **Anxious When Disconnected From Digital World: A Global Cross-sectional Study on Nomophobia Among Medical Students**

Abhishek Kashyap MBBS; Aakanksha Singh M.B.B.S.; Priyal Mehta MBBS; Usha Kumari; Faisal Nawaz MBBS

**Background:** As the world enters the early phases of the Fifth Industrial Revolution digital gadgets such as smartphones are being integrated into various industries including medical education and health care. Smartphones have become such a basic necessity for humans that they are unable to function without them. The anxiety associated with the fear of being phoneless is termed nomophobia (NMP). There is a lack of literature investigating the prevalence of NMP among medical students (MS). We aim to conduct a survey on the extent of this digital revolution among these future healthcare providers. **Methods:** A self-reported global cross-sectional

study was conducted among MS from April 1st to July 1st 2023. A web-based validated and modified NMP questionnaire (NMP-Q) was shared with MS using emails and social media applications. The data analysis was aimed at assessing nomophobia severity and extracting demographic insights. The study was IRB-exempt. Results: There were a total of 2540 responses from 41 countries. Females comprised 57.5% of our cohort with the peak age range being 18–25 years (82.5%). Asian respondents made up 69.1% of the sample followed by Hispanics (10.3%) Caucasians (4.6%) and Africans (7.8%). 53.3% of MS indicated >2 hours of smartphone use for work or studies while 51.5% reported using them for >4 hours of personal use. A vast majority (62.7%) were Android users as compared to 36.4% of iPhone operating system (iOS) users. The top 5 countries with the highest responses were Pakistan India Bangladesh Nepal and Guatemala with a frequency of responses of 656 (25.8%) 466 (18.3%) 170 (6.6%) 167 (6.5%) and 112 (4.4%) respectively. Lastly 12.6% 67.6% and 19.6% of MS met the criteria for mild moderate and severe NMP respectively. Conclusion: Our study shows that a vast majority of MS meet the criteria for moderate to severe nomophobia. This should initiate a debate about early recognition and management of nomophobia which may help enhance the mental well-being of MS in the digital era.

**Saturday May 04**

### **Association of psychosocial stressors and inflammatory profiles in cancer patients**

Nausheen Baig M.D. B.A.; Ashutosh Tripathi; Arthi Sridhar; syed jafri; Anilkumar PILLAI

Background: The role of inflammation has been implicated in numerous disease processes from pathogenesis to prognosis. While its role in the pathogenesis of various cancers has long been established more recent studies have investigated the association of inflammation and psychosocial

stressors. Mitochondrial DNA (mtDNA) is an established biomarker of inflammation as it is released from the cell under times of physiologic stress; however its response to psychosocial stress in cancer patients remains underexplored. This pilot study aimed to explore the association of psychosocial stressors and cancer via investigation of inflammatory biomarkers (such as mtDNA and other inflammatory cytokines). Materials/methods: The sample (N=29) consisted of 10 healthy controls (COB; no cancer history and denied history of psychosocial stressor) and 19 newly diagnosed cancer patients; among them were 10 controls (COA; denied a history of major psychosocial stressor) and 9 cases (CA; endorsed having a major psychosocial stressor). LEGENDplex Mouse Inflammation Panel was used to measure levels of various inflammatory cytokines in plasma samples. qRT-PCR was conducted to analyze mtDNA levels in plasma samples. Statistical analysis was performed on GraphPad Prism 9.0.0. Results: Our preliminary findings found significant increases in the levels of various proinflammatory cytokines including IFN $\alpha$  ( $p < 0.05$ ) and IL-33 ( $p < 0.05$ ) in CA group as compared to COA group. Also the levels of cell-free mtDNA were significantly higher ( $p < 0.05$ ) in CA subjects compared to COA subjects. Conclusion: Significant differences were observed in the inflammatory profiles between cancer patients with and without a history of psychological stress. As increased inflammation in cancer patients has been associated with increased progression and worse prognosis these results suggest that increased psychosocial stressors may lead to worse outcomes for cancer patients. Additional analyses investigating the roles of potential variables such as age gender medication status and substance use are currently under investigation.

**Saturday May 04**

### **Association of TNF- $\alpha$ levels and self-esteem assessed with the Contingencies of**



## Self-Worth Scale in adult high-functioning autism spectrum disorder

Takahira Yamauchi

**Background:** Self-esteem has been emphasized as a basis for maintaining mental health and for interpersonal relationships. Autism spectrum disorder (ASD) represents a heterogeneous cluster of etiologically and phenotypically complex neurodevelopmental disorders involving persistent problems in social communication and interaction along with restricted and repetitive patterns of behavior and interests. Therefore individuals with ASD who have difficulties in social adaptation may have low self-esteem. This study evaluated the association between plasma TNF- $\alpha$  level and self-esteem assessed with the Contingencies of Self-Worth Scale (CSWS).

**Methods:** 51 high-functioning individuals with ASD and 34 typically developed (TD) individuals were enrolled in this study (age: TD 28.0 $\pm$ 5.8; ASD 28.6 $\pm$ 7.7). Self-esteem was assessed with the Japanese version of the CSWS which was created by Uchida (2008). TNF- $\alpha$  level in plasma was measured by ELIZA kit (HSTA00E R&D Systems).

**Results:** Diagnosis and symptoms of ASD were assessed by ADOS-2. Among ASD group the score of social affect (SA) on ADOS-2 indicating social interaction impairment was significantly negatively correlated with plasma TNF- $\alpha$  level ( $r = -0.351$   $P = 0.011$ ) but the score of restricted and repetitive behaviors (RRB) was not correlated. In the multiple regression analysis of the seven items on the CSWS Appearance ( $\beta = -10.58$  95% CI -19.3 to -1.88  $P = 0.018$ ) Relationship harmony ( $\beta = -12.28$  95% CI -20.8 to -3.76  $P = 0.006$ ) and Other's approval ( $\beta = -15.06$  95% CI -23.8 to -6.28  $P = 0.001$ ) were negatively associated with TNF- $\alpha$  level in ASD group.

**Conclusion:** The results show that individuals with ASD associate their self-worth with the three items above and when faced with related life events those with ASD who have low TNF- $\alpha$  levels are likely to experience fluctuations in their self-worth in conjunction with these three items. Therefore it is necessary to pay attention to these three items. These individuals with ASD need to pay attention to these three items. This

study was supported by AMED-PRIME under Grant Number 21gm6310015h0002.

Saturday May 04

## Clinical benefit and utility of Aripiprazole once Monthly in routine Practice for Korean Bipolar patients

HYE RYUN YANG; Jiwan Moon; Sung Joon Cho; Kang Seob Oh; YOOSUK AN

**Introduction** Adherence to medication in individuals with bipolar disorder is a crucial factor predicting long-term treatment outcomes. However the discontinuation rate for Korean bipolar disorder patients over a 3-year period reaches nearly 50%. While the use of long-acting injectable (LAI) antipsychotic medications is on the rise to improve adherence and manage mood stabilizer side effects there is a lack of research regarding the functional improvement and therapeutic effects of LAIs in Korean bipolar disorder patients.

**Methods** This study is a non-interventional retrospective naturalistic observational analysis based on medical records. The starting point for assessing Aripiprazole Once Monthly (AOM) treatment is when it was initiated in routine clinical settings. Data is collected at 1-month 3-month 6-month 9-month and 12-month intervals using medical records. The primary evaluation variable is the change in the average GAF (Global Assessment of Functioning) score over 12 months while secondary evaluation variables include changes in scores for YMRS K-MADRS HAM-A dosages of mood stabilizers antidepressants antipsychotics benzodiazepines anticholinergic medications and the number of pills.

**Results** Analyzing 23 patients the findings reveal that the GAF score increased from 49.8 to 62 over the course of twelve months with a noticeable increase observed from 1 month of AOM treatment onward (57 points). YMRS exhibited a substantial decrease from 6.7 to 1.4 K-MADRS decreased from 15.5 to 10 and HAM-A dropped from 15.2 to 9.8. There was a significant reduction in and lithium equivalent dosages and

pill count for mood stabilizers. Although other medications including antipsychotics benzodiazepines z-drugs and anticholinergic medications also saw a decrease in dosages and pills the changes were not statistically significant. Among the 23 patients 6 reported side effects (4 cases of akathisia 3 of tremors 3 of weight gain and 1 of headache) but no severe adverse effects were reported. Conclusion This study demonstrates clinical enhancement in functional outcomes and significant improvement in mood symptoms through AOM treatment in bipolar disorder patients. Moreover the noteworthy decrease in dosage and pill count for mood stabilizers suggests a potential reduction in side effects for patients. This study holds significance as it is the inaugural evaluation of AOM's utility among Korean bipolar disorder patients. Keywords Bipolar disorder Long-acting injectable Aripiprazole once monthly

Saturday May 04

### **Determining the Optimal Size of an Emergency Psychiatric Services Unit at a Hospital Facing High Demand for Psychiatric and Addiction Services**

Tai West M.D.; Arunesh Mishra MD; Cameron Griffing

Background: Growing demand for emergency behavioral health (BH) services has outpaced the capacity of existing Emergency Psychiatric Services (EPS) units. In 2023 our urban community hospital faced unprecedented growth in the number of emergency department (ED) visits for psychiatric and addiction-related chief complaints. Our five-bed EPS unit was unable to accommodate this influx resulting in substantial overflow of BH patients into our main ED. Previous studies have established that ED boarding of BH patients increases length of stay (LOS) and is associated with psychiatric symptom exacerbation. Accordingly we designed this study

to estimate the extent to which we must expand our EPS unit to eliminate overflow. Methods: We performed a retrospective volume-based review of mental health and addiction-related visits to our facility from January 1 2023 through June 30 2023. Without recourse to chart review we estimated the volume of BH overflow to the main ED based on triage chief complaint and diagnosis at discharge. Based on the estimated number of overflow patients and their average LOS we ascertained the number of additional EPS beds needed to accommodate all BH patients within the EPS unit. Per hospital policy 1:1 observers are required for all BH patients held outside the EPS unit. This fact allowed us to approximate the financial savings attributable to an expanded EPS unit through reduced 1:1 observer costs. Finally we examined ED assault records and workplace violence event reports (“safety events”) during a representative three-month period to estimate potential safety-related benefits of an expanded EPS unit. Results: (1) An average of 175 psychiatric and addiction-related visits per month to our ED resulted in an overflow of 435 patients during the first six months of 2023 with an average LOS in the main ED of about 20 hours per patient. These 435 overflow patients stayed for 8700 hours resulting in an overflow of 60.4 BH patient-days per month. To accommodate this level of demand without overflow we calculated that we would need two to three additional EPS beds resulting in an expanded EPS unit size of seven to eight beds. (2) Based on an hourly rate of \$20.00 for a 1:1 observer we estimated personnel cost savings from expansion at \$29000 per month. (3) Regarding safety our main ED reported 3.8 times as many assaults and workplace violence events as our EPS unit suggesting that we could reduce the number of safety events in our facility by expanding the EPS unit. Conclusion: Adding two to three beds to our hospital’s EPS unit will improve the quality of patient care at a lower cost by preventing overflow of BH patients to our main ED. The specialized treatment in the EPS will ensure respect and dignity for our psychiatric patients prevent unintentional exposure of main ED patients to disruptive outbursts and reduce the burden on ED staff of working beyond the scope of their training.

**Saturday May 04**

## **Drug Testing Services in the United States: A Scoping Review**

Nicholas Apping M.D.; Tiffany Martin; Joseph Palamar

Opioid-related drug overdose deaths have been rapidly increasing in the United States with over 70000 deaths due to synthetic opioids other than methadone in 2021. In the United States drug testing services have been rapidly expanding in response to the rising opioid overdose crisis due to fentanyl and its analogs though the legality of these services are variable between states. Given the recent growth of these services we conducted a scoping review to better understand who is utilizing these services in the United States when these services are being accessed and the types of services available. We performed a literature search in April 2023 with the help of an NYU research librarian utilizing the Covidence management system to search six databases to identify scholarly work related to the use of drug testing in the United States. Two independent reviewers screened abstracts and full texts for final inclusion in the study. All discrepancies were further reviewed until consensus was reached. Literature was included if 1) they were primary data sources or gray literature reports 2) drug testing was utilized during the course of the study or if the work included people who self-identify as using drug testing services 3) the study population was in the US from 1990 to present 4) demographic data was included and 5) results were reported in English. In total 1125 published studies were screened and 19 studies from 2018-2023 were included in this review and represented every region of the country. Types of drug testing utilized included fentanyl test strips reagent tests and personal identification based on physical characteristics. Drug testing services were more likely to be utilized by younger participants by Caucasian participants (compared

to African Americans) and by people who've experienced homelessness. Variable rationales were provided regarding use of drug testing services both pre- and post-consumption. Barriers to usage included a shortage of available materials inconvenience of environmental circumstances large variability of services and the legality of their use. The results of the drug testing resulted in several reported changes in substance use behaviors. This study reviewed the current data on drug testing services in the United States including the current types of testing services available population characteristics of who is utilizing these services when these services are being used and how the use of drug testing services impacts substance use behaviors. This knowledge will help providers to better understand their patients and the services available to them in the community. The limited data reviewed here is heterogeneous and emphasizes the need for further research into this area to determine how these services can best be utilized and expanded to improve patient care.

**Saturday May 04**

## **Exploring the Co-Occurrence of Bipolar Disorder and Personality Disorders: Prevalence Suicidality and the Impact of Substance Abuse.**

Nnenna Okafor MD; Kenechukwu Anona; Oluwatobi Olaomi; Ebehireme Silvia Udegbe; Oluwafemi Ojo

Background: Bipolar disorder and personality disorders are significant mental health conditions with varying degrees of co-occurrence. Understanding the prevalence and implications of these co-occurrences is crucial for improving diagnostic accuracy treatment outcomes and patient care. Substance abuse is a prevalent issue among individuals with both disorders contributing to worsened disease outcomes increased suicide rates and reduced response to treatment interventions. This study addresses gaps in the existing literature by exploring the co-

occurrence of these conditions and their impact on clinical practice. **Methods:** This study analyzed adult hospitalizations for bipolar disorders from 2016 to 2020 using data from the Nationwide Inpatient Sample. It used ICD-10-CM/PCS codes sociodemographic characteristics and univariate and multivariate regression models to examine the association between substance abuse and suicidality. **Result:** A study of 993000 inpatient admissions for bipolar disorders revealed a predominantly White patient cohort with a slightly higher representation of females (54.5%) than males (45.5%). The mean age of the patients was 41 years and 89.4% had minimal comorbidity burden. 61.1% of the population hailed from lower-income households with annual earnings below \$56000. Most patients (93.2%) had insurance coverage and were admitted to urban teaching hospitals. The most prevalent diagnostic subtype was bipolar disorder with manic episodes with or without psychotic features (32.3%). Comorbid personality disorders were observed in 12.2% of the population with borderline personality disorder (8.2%) and antisocial personality disorder (2.6%). Substance abuse was prevalent in 44.8% of the study participants with cannabis abuse being the most commonly reported (23.8%). Substance abuse was more prevalent in individuals with both bipolar disorder and personality disorders (50%) than in those with bipolar disorder alone (44.1%). **Conclusion:** This study revealed a high prevalence of comorbid personality disorders particularly borderline personality disorder among individuals with bipolar disorder. It also revealed an increased risk of suicidal attempts and a significant link between substance abuse and these risks. This study emphasizes the need for comprehensive individualized care for bipolar disorder emphasizing early diagnosis addressing socioeconomic disparities and improving access to quality mental health care. It also advocates routine screening for coexisting personality disorders. Future research should explore the underlying mechanisms and evaluate intervention strategies to improve the long-term prognosis of patients with bipolar disorder.

Saturday May 04

### **Exploring the Relationship Between Maltreatment and Attention Deficit Hyperactivity Disorder: Evidence for an Ecophenotypic Trichotomy Model**

Poopak Hafezi M.D.; Elizabeth Bolger; Alaptagin Khan; Kyoko Ohashi; Martin Teicher

**Background:** We have proposed that maltreated and non-maltreated individuals with the same DSM diagnosis are neurobiologically and clinically distinct and we refer to the maltreated subtype as an ecophenotype. Maltreatment typically precedes symptom onset but for early Onset disorders such as ADHD there may be both preceding (MAL-ADHD) and ensuing (ADHD-MAL) variants. We hypothesize that there will be distinct differences between these variants and between non-maltreated individuals with ADHD (ADHD-noMAL). **Methods:** Healthy unmedicated 18-25-years-olds were recruited from the community with no restrictions regarding psychiatric history and assessed using the Maltreatment and Abuse Chronology of Exposure scale. Categorical diagnoses were determined using the SCID-IV-TR for Axis-I and Axis-II disorders. IQ was assessed using K-BITS-2. **Results:** N=88 (42M/46F) of the N=656 (260M/396F) participants met DSM-IV-TR lifetime criteria for ADHD and N=86 could be unambiguously assigned to one of the three subtypes. There were no differences in IQ between ADHD-noMAL and ADHD-MAL. However verbal non-verbal and combined IQ scores were 7.7 ( $p=.034$   $h2=.053$ ) 9.1 ( $p=.0008$   $h2=.127$ ) and 9.2 ( $p=.003$   $h2=.096$ ) points lower and ratings of hyperactivity were 62% lower ( $p=.032$ ) in the MAL-ADHD subtype. Odds of a comorbid depressive anxiety or personality disorder were 5.3-fold ( $p=0.01$ ) 3.4-fold ( $p=.05$ ) and 4.3-fold ( $p=.04$ ) greater in ADHD-MAL than in ADHD-noMAL. **Conclusions:** We present evidence for a complex time dependent interaction between maltreatment and ADHD symptomatology that may help explain heterogeneity within this disorder. The MAL-ADHD subtype had

neurocognitive impairments and low levels of hyperactivity similar to those reported in adoptees with severe early neglect.

**Saturday May 04**

### **HIV Prophylaxis from the Psychiatry Office**

Kimberly Fletcher D.O.

Prevention of HIV is of paramount importance for public health. There are over 1.2 million Americans affected by HIV and a disproportionate number of the 400000 new yearly cases are from marginalized communities (CDC). Pre-exposure prophylaxis (PrEP) of HIV using Truvada Descovy or injectable carbotegravir is FDA approved and up to 99% effective when taken as directed (Sudler). Despite its approval and efficacy prescriptions for PrEP are initiated in less than 80% of individuals who have indications for use (Sudler). Compliance with PrEP is also low particularly among those with serious mental illness (SMI) (Ikeda). Considering the well described correlation of HIV and SMI it is incumbent upon psychiatrists to make screening and prevention with PrEP a cornerstone of our care. This literature review aims to assess the current state and recommendations for prescribing PrEP in mental health care settings. A Pubmed database title and abstract search was conducted using the terms: HIV PrEP or Tenofovir and Psychiatry or Mental Health. We included available full text English articles published in the last 5 years. 105 articles returned; initial title review identified 30 articles relevant to the aims of this review including 2 RCTs 5 reviews 12 cross sectional and 11 observational studies. Further identification of articles with broad population inclusion and qualitative foci narrowed the selection to 8 publications. 5 articles had a focus on sexual minorities. These articles emphasized that the primary barriers to initiating and maintaining PrEP in this population are marginalization and stigma. Reiriz et al. identified a statistically significant relationship between better sexual and life

satisfaction in PrEP users and an inverse relation to depression and anxiety. Wood et al. helpfully described the importance of serial PrEP clinical conversations in treatment initiation and adherence. The other 3 articles focused on the broader impacts of PrEP within the SMI community. These had recurrent themes of the diffusion of responsibility among providers in screening and initiating PrEP. These practices were attributed to knowledge deficits and stigma in both patients and prescribers marginalization of minority communities most at risk (sex workers injections drug users or the homeless) and racial disparities. The conclusions of these articles ubiquitously called for psychiatrists to consider themselves front-line responders to the HIV epidemic. In conclusion our treatment population uniquely positions psychiatrists to intervene in the HIV epidemic. Provider edification of cultural nuances within marginalized communities and empirical knowledge of PrEP prescribing guidelines can reduce stigma and foster engagement in care. The benefits of PrEP can improve our patients' general life satisfaction and appropriate buy in from our psychiatric colleagues could dramatically advance HIV preventative care in our communities.

**Saturday May 04**

### **Impact of COVID-19 Quarantine on Psychiatric Hospital Readmissions: A Case-Control Study from a Tertiary Referral Medical Center in Colombia**

Eugenio Ferro; manuel pinzon; Carlos Torres Delgado

Background: Studies on readmissions in psychiatric populations have reported rates ranging from 4.5% to 34% within 30 days after hospital discharge. Multiple factors associated with readmission have been reported; however risk and protective factors have shown inconsistency across different studies. The effects of COVID-19 quarantine on psychiatric readmissions have not been studied in Colombia



to date. Objectives: The aim of this study was to determine the risk and protective factors for early readmission among inpatients between 2015 and 2020 with a focus on comparing the pandemic and pre-pandemic periods. Methods: Design: A case-control study was conducted. Cases matched to controls by age sex and diagnosis. Sample: Clinical records of patients who had readmission between January 2015 and December 2020. Cases: Patients who were readmitted within 30 days of their previous hospitalization. Pandemic cases: Cases readmitted between March and December 2020 during COVID-19 quarantine period in Colombia. Controls: Controls were selected from patients who did not require hospitalization for at least 24 months. Sample size: n=303 (152 cases and 151 controls 1:1 ratio). Results: The average age was 43 years (+/-23) with 64% female patients. Admission diagnoses included 48% with depressive disorders 20% with bipolar disorder and 9% with psychotic disorders and dementia. There were no significant differences in the average length of hospital stay prior to readmission between cases (14.4 days) and controls without readmissions (13.5 days) (p=0.23). Hospitalizations during the pandemic were longer with a median of 14 days compared to the pre-pandemic period which was 12 days (p=0.049). A significant decrease in the proportion of readmissions was observed during the COVID-19 pandemic (OR=0.39; 95% CI 0.20-0.75; p=0.0067). The primary risk factor for early readmission was a change in the treating physician during hospitalization (OR=15.6; 95% CI 4.7-52.2; p<0.0001) followed by outpatient prescription of typical antipsychotics (OR=8.04; 95% CI 3.06-21.13; p=0.000011) and atypical antipsychotics (OR=4.13; 95% CI 2.42-7.07; p<0.000001). There were significant differences in the number of medications received by patients during hospitalization with readmitted patients receiving a median of 3 or more medications compared to those who were not readmitted who received 2 or fewer (p<0.001). The main protective factor was post-discharge psychiatric early follow-up (OR=0.50; 95% CI 0.29-0.87; p<0.001). Conclusions: Changing the treating physician during hospitalization and outpatient

prescription of typical and atypical antipsychotics were identified as risk factors for early readmission. Patients who received multiple medications during hospitalization were at a higher risk of readmission. Post-discharge follow-up emerged as a protective factor against early readmission.

**Saturday May 04**

### **Investigating the relationship between self-reported anger and interpersonal problems with adolescent outpatients**

Olivia Plante; Whitney Viator M.D.; Paniz Johari

Introduction: Anger is an important construct to understand with people and especially with adolescents. Research has highlighted the link between relational/interpersonal patterns and anger or frustration. Our analysis looked to understand the relationship between self-reported anger and how someone views their interpersonal tendencies. Methods: 50 Adolescents and their parents consented to participate in an assessment study. The sample consisted of patients with an average age of 17.77 (SD=3.2) whose ethnicity primarily included 33.9% Caucasian 30% African American 22% Hispanic/Latino. Predominant diagnoses of the sample were mood disorder (55%) and ADHD (19.3%). All measures were completed at the time of the first appointment in the outpatient clinic. As part of the assessment packet adolescents completed the Inventory of Interpersonal Problems (IIP-32; Horowitz et al. 2000; Soldz et al. 1995) and the Beck Youth Inventories (BYI; Beck Beck & Jolly 2001). Results: The BYI anger scale was positively related to the IIP-32 scales of domineering/controlling (r=.56 p<.001) socially inhibited (r=.34 p=.02) overly accommodating (r=.43 p<.01) self-sacrificing (r=.75 p<.001) intrusive/needy (r=.49 p<.001). Discussion: Our results showed many interesting links between interpersonal problems and self-reported anger in

adolescents seeking outpatient psychiatric treatment. As expected we found anger related to being domineering and controlling but we also found that people who may have difficulty in advocating for their needs also report heightened anger. These findings have important clinical implications.

**Saturday May 04**

### **Ketogenic-Mimicking Diet as a Therapeutic Modality for Bipolar Disorder**

Travis Wigstrom

There is growing interest in the investigation of ketogenic diets as a potential therapy for bipolar disorder. The overlapping pharmacotherapies utilized for both bipolar disorder and seizures suggest that a mechanistic overlap may exist between these conditions with fasting and the ketogenic diet representing the most time-proven therapies for seizure control. Recently preliminary evidence has begun to emerge supporting a potential role for ketogenic diets in treating bipolar disorder. Notably some patients may struggle to initiate a strict diet in the midst of a mood episode or significant life stressors. The key question addressed by this pilot clinical trial is if benefits can be achieved with a less restrictive diet as this would allow such an intervention to be accessible for more patients. Recent development of so-called ketone esters that once ingested is converted to natural ketone bodies combined with low glycemic index dietary changes has the potential to mimic two foundational components of therapeutic ketosis: high levels of ketones and minimal spiking of glucose/insulin. This pilot clinical trial protocol thus aims to investigate the effect of a 'ketogenic-mimicking diet' (combining supplementation of ketone esters with a low glycemic index dietary intervention) on neural network stability mood and biomarker outcomes in the setting of bipolar disorder. Positive findings obtained via this pilot clinical trial protocol may support future target engagement studies of

ketogenic-mimicking diets or related ketogenic interventions. A lack of positive findings in contrast may justify a focus on more strict dietary interventions for future research.

**Saturday May 04**

### **Lithium-induced Diabetes Insipidus or Drinking-related Stereotypical Behaviors. A Case Report**

Irem Yapar M.D.

Introduction: Catatonia is a syndrome that has unique motor and behavioral manifestations. DSM-5-TR requires the presence of three out of 12 symptoms for diagnosis. Stereotypes are defined as repetitive abnormal frequent on-goal-directed movements. Recent reports described some complex presentations of stereotypes such as polydipsia which was resolved with the treatment of lorazepam. We report a case of a patient with bipolar disorder and recurrent catatonia who was stabilized on lithium and lithium was discontinued due to concern about polydipsia and polyuria being related to lithium-induced nephrogenic diabetes insipidus. These symptoms persisted despite lithium discontinuation and resolved with the treatment of catatonia with lorazepam. Case Summary: A 62-year-old female with a history of bipolar I disorder and recurrent catatonia presented to the hospital with worsening manic symptoms and catatonia in the context of medication non-compliance. She was maintained on lurasidone 80 mg daily and lorazepam 2 mg tid. She demonstrated mutism grimacing echolalia perseveration verbigeration and excitement. Lorazepam was increased to 4 mg tid and lurasidone was increased to 120 daily with some improvement in her symptoms but no complete resolution. A review of previous medication trials revealed that her symptoms of bipolar disorder and catatonia improved with lithium six years prior. She was maintained on lithium 450 mg twice daily and risperidone 4 mg daily and her corresponding lithium level was 0.7 mmol/dl. She had another exacerbation of mania with psychotic

features associated with catatonia during which she was reported to have excessive drinking and urination. No labs were drawn during that period. However lithium was discontinued due to concerns of polydipsia and polyurea. Polydipsia and polyurea recurred two months after lithium discontinuation in association with catatonia features and resolved with the treatment of catatonia. Hence she was restarted on lithium 450 mg daily; the corresponding level was 0.5 mmole/dl. Her catatonia and manic symptoms resolved. Ativan was tapered down successfully to 1 mg tid with no reports of excessive urination or drinking. Discussion: Recent reports described excessive drinking and urination in the context of catatonia stereotypical manifestations which improved with using lorazepam.

diabetes insipidus is an occasional side effect of lithium that can occur in 10-15% of patients receiving lithium leading to excessive production of urine and increased thirst. Our patient developed polydipsia and polyuria associated with catatonia and the symptoms occurred independently of lithium. Discontinuation of lithium resulted in the destabilization of bipolar disorder and catatonia. This case reflects the importance of recognizing the complex presentation of catatonia especially polydipsia as it can overlap with nephrogenic diabetes insipidus.

Saturday May 04

### **Metabolic and inflammatory biological mechanisms underlying accelerated aging in bipolar disorder**

Ning Zhao MD; Apurva Kumar; Gabriel Fries

Background: Bipolar Disorder (BD) has been associated with accelerated epigenetic aging and metabolic dysregulation although the potential link between these findings is unknown. We hypothesized that accelerated aging in BD is associated with a worse metabolic and

inflammatory profile. Methods: A novel epigenetic predictor of aging pace (DunedinPACE) as well as DNA methylation-based surrogates of multiple metabolic anthropometric and inflammatory markers were estimated in blood from non-psychiatric controls (n=39) and individuals with BD (n=86) matched for age sex and race. We also estimated a composite score of metabolic dysfunction using z-scored data. Finally the patient group was also subdivided into those with high (n=43) and low DunedinPACE (n=43) for downstream comparisons. Results: Individuals with BD showed higher DunedinPACE compared to controls when controlling for age sex genetic ancestry and smoking (p=0.046). Mediation analyses showed significant indirect effects for metabolic (ab=0.22 BC 95% CI=0.1077-0.3616) anthropometric (ab=0.03 BC 95% CI=0.0198-0.0562) and inflammatory markers (ab=0.06 95% CI=0.035-0.1013) on the relationship between the diagnosis and DunedinPACE. High DunedinPACE was associated with higher metabolic dysfunction scores in both patients and controls (p<0.001). In patients those with high DunedinPACE had higher levels of c-peptide IGFBP-4 HGF ADM TIMP-1 PAI-1 GDF-15 GDF-8 cystatin C B2M waist-to-hip ratio BMI body fat IL-6 TGF- $\beta$  and CRP as well as lower levels of insulin receptor leptin HDL cholesterol and GHR compared to those with low DunedinPACE (p<0.001 for all after Benjamini-Hochberg adjustment for false discovery rate). Conclusions: Worsening metabolic parameters are associated with accelerated pace of aging in BD suggesting them as important targets for prevention of aging acceleration and its consequences in patients.

Saturday May 04

### **Mindfulness Interventions for Adolescent Substance Use: A Systematic Review**

Tai West M.D.; Tai West M.D.; Daniel Weiner M.D.; Samreen Awan M.D.; Mohammad Rana

Background: Despite billions of dollars in federal and state funding for youth anti-drug programs substance use remains widely prevalent among U.S. teens. Adolescent drug and alcohol use negatively affects multiple domains including physical and mental health academic achievement and social functioning. Even casual substance use during adolescence is associated with subsequent development of a diagnosable substance use disorder (SUD). Mindfulness-based interventions have demonstrated efficacy in the management of a wide range of mental health conditions in adults including SUDs. Clinical trials investigating mindfulness approaches to substance use in younger populations have recently begun to appear and our literature review revealed no previous systematic review on this emerging area of research. Methods: Following PRISMA guidelines we performed title/abstract searches in Pubmed Cochrane Library EbscoHost and Google Scholar for papers published between database inception and July 4 2023. We used the following search strategy: (child\* or adolescen\* or youth or young\* or emerging adult\*" or juvenile\* or teen\* or student\*) AND (substance or alcohol\* or drug\* or narcotic\* or opiate\* or opioid\*) and (addict\* or dependen\* or misuse or use\*) AND (mindful\* or meditat\*). After eliminating duplicate results and reviewing all abstracts for relevance this strategy yielded seven randomized controlled trials (RCTs) and three non-randomized trials evaluating the impact of mindfulness-based therapies on adolescent substance use and related outcomes. For all RCTs we used the Cochrane RoB 2.0 tool to assess for risk of bias. Results: Of the ten studies two focused on alcohol users two on methamphetamine users and the rest on undifferentiated substance users. In general sample sizes were small (n=35-109) with the exception of one larger cluster RCT (n=404). The studies were characterized by significant heterogeneity in terms of both interventions and outcome variables. Results overall were promising suggesting that mindfulness-based interventions for teens may have a role in reducing substance use cravings and mood dysregulation and may enhance behavioral control and executive functioning. Of the six studies that directly measured substance use or cravings four found

statistically significant improvements in these variables associated with mindfulness interventions. Among the seven RCTs six presented a low risk of bias judgment and one presented some concerns for bias. Conclusions: Although initial results have been promising additional RCTs with greater sample sizes will be needed to more accurately define and quantify the impact of mindfulness-based interventions on adolescent substance use-related outcomes and to determine whether there is a dose-dependent relationship between time spent practicing mindfulness techniques and the magnitude of benefits. "

Saturday May 04

### **Paxlovid-induced methadone withdrawal after COVID-19 – A Case Report**

Sungsu Lee M.D.;Ph.D.; Eric Cheung M.D.

Introduction: Since its approval Paxlovid (Nirmatrelvir/ritonavir) has been utilized to treat mild-to-moderate COVID-19 routinely. However there have been concerns raised in the literature about potential drug-drug interactions. We suspect that interactions with Paxlovid and methadone is the cause of our patient's presentation. Case: We present the case of a 53-year-old man with a past psychiatric history of bipolar disorder and opioid use disorder on methadone maintenance who presented to the psychiatric emergency room with dizziness increased anxiety and suicidal ideation. Patient had been diagnosed with COVID-19 about 10 days prior to his presentation and was prescribed Paxlovid for moderate symptoms of COVID. Since then patient reported increased restlessness anxiety diaphoresis and pains which was very similar to his previous experience with opioid withdrawal. Patient denied any substance use over the past 6 years. His medications included escitalopram 10mg daily trazodone 100mg daily gabapentin 1200mg twice a day and methadone 85mg daily. On exam patient appeared uncomfortable and was diaphoretic with

increased psychomotor activity. Urine toxicology screen was negative for opioids. He endorsed significant interval improvement when he was given his methadone dose. Patient was then admitted for further treatment given his ongoing suicidal ideation. Discussion: Paxlovid consists of two antiviral medications nirmatrelvir and ritonavir. Nirmatrelvir inhibits the activity of the SARS-CoV-2 main protease (nsp5) and is the main active agent. Ritonavir is utilized as it is a known CYP3A4 inhibitor to increase the plasma level and activity of nirmatrelvir. Methadone is also believed to be metabolized by CYP3A4 and given the activity of ritonavir as a CYP3A4 inhibitor it is reasonable to expect its plasma concentrations to increase. However prior studies have shown that ritonavir paradoxically appears to increase both the renal clearance and hepatic metabolism of methadone two-fold. There are even cases of ritonavir being suspected in opioid withdrawal symptoms. The possibility of Paxlovid induced opioid withdrawal have been presented in pharmacy guidelines. This patient had been previously stable without recent changes in methadone dose urine toxicology screens negative for additional opioid use good engagement with an addiction clinic and no recent psychiatric emergency room presentations. Given the previous stability the presenting symptoms consistent with opioid withdrawal the potential for rapid induction of methadone metabolism we believe that this patient's symptoms were caused by Paxlovid-methadone interaction. Conclusion: This case is the first documented case of Paxlovid interaction causing methadone withdrawal. This case further demonstrates that there exists potential for significant drug-drug interactions with Paxlovid and careful consideration must be given prior to its use.

Saturday May 04

**Pediatric Bipolar Depression: Challenges in the diagnosis and treatment**

Corina Ponce; Leonardo Hess

**Introduccion** Pediatric bipolar (BP) spectrum disorder is a familial disorder that occurs in 1–3% of children and adolescents with increased rates of onset during the adolescent years. Much of the interest in pediatric BD has focused on the unique manifestation of mania in younger populations. Depression is often overlooked both as a topic and as a clinical reality in these children. While it is becoming clear that adults with BD spend the majority of their symptomatic time in depressive rather than manic episodes less is known about the pediatric experience of bipolar depression. Children and adolescents with BD clearly experience significant depressive symptoms as well as depressive episodes. However the phenomenon of depression is less studied in pediatric BD. It should also be noted that irritability is commonly a presenting symptom of depression rather than only mania in children. Irritability is a common symptom in children with BD even outside a clearly established manic episode. Therefore it is possible that a certain portion of irritability in children with BD stems from a more depressive etiology. Much as adults with BD are often misdiagnosed with unipolar depression children with BD should not have their symptoms of irritability misdiagnosed as mania if they are truly stemming from depression. Finally mixed episodes occur frequently in pediatric BD. **Objetivo** The present work focuses in the problem diagnosis and treatment pediatric bipolar depression. **Developing** Children and adolescents with BD clearly experience significant depressive symptoms as well as depressive episodes. Even when youth with BD are not in full depressive episodes it is becoming clear that they often experience subsyndromal depressive symptoms as well as mixed state. Proposed clinical clues of first episode bipolar depression include an acute onset psychosis prominent irritability and labile mood and poor or brief hypomanic reactions to antidepressants. Psychotherapy may prove to be an effective adjunctive or alternate treatment in depressed youth with or at risk for BD as it may be more targeted than medications without the potential for physical or behavioral adverse effects. Various



psychotherapeutic approaches including cognitive-behavioral therapy (CBT) dialectical-behavioral therapy (DBT) and family therapy are beginning to demonstrate efficacy in pediatric BD. Conclusions Depression in the context of BD in youth may be particularly responsive to psychotherapeutic interventions potentially more so than mania. Common themes of these interventions are psychoeducation behavioral and cognitive interventions including reducing stress and improving coping strategies and mood regulation techniques Pharmacologic management of bipolar depression is very difficult olanzapine-fluoxetine and lurasidone significantly reduced depressive symptoms in children and adolescents with Bipolar I depression v

Saturday May 04

### **Psychosis as the sole presenting symptom of cryptococcal meningitis in an AIDS patient without previous psychiatric history**

Megan Good

Introduction- Cryptococcal meningitis is a serious complication of HIV/AIDS that presents a life-threatening prognosis for affected patients. The illness has a gradual onset and most often presents with nonspecific symptoms such as fever headache confusion lethargy altered mental status and personality changes. However the presentation of cryptococcal meningitis with psychosis as the cardinal symptom is quite rare. Case Description – We present the case of a 44-year-old male with no known psychiatric or medical history admitted for a 1-month history of disinhibited behavior and perceptual disturbances. The patient was initially taken to the medical ED due to presumed intoxication after he was found nude on a public street acting erratically. The patient was subsequently discharged. Upon release from the medical ED the patient climbed onto the hospital's helicopter pad

and was arrested. He was taken back to the hospital by police and was accessed psychiatrically. All labs performed in the psychiatric emergency room (CBC CMP serum toxicology screen and urine drug screen) were unremarkable. Vitals were also unremarkable. He was then admitted to an acute psychiatric unit located in a local hospital. Upon admission the patient appeared emaciated-reportedly having lost 58 lbs in a short period. The patient was slow to respond with waxing and waning mental status. Some of his drowsiness and latent speech were attributed to dystonia secondary to haloperidol that was administered in the psychiatric emergency room. Benztropine 1 mg was administered intramuscularly without effect on his mental status. As part of a standard psychosis workup an HIV antibody test was ordered and resulted positive. This positive screening test was followed by a CD4 count of 80. The patient began spiking low-grade fevers and displaying other vital derangements such as tachycardia and hypertension. Medicine and infectious disease were consulted immediately but unfortunately did not follow up until the next morning. He was subsequently transferred to the medical ICU where cryptococcal meningitis was highly suspected. A lumbar puncture was notable for cryptococcus with opening pressure >30 increased WBC and increased protein. Positive culture confirmed the diagnosis of cryptococcal meningitis. The patient was also presumed to have findings on CT chest consistent with PCP pneumonia and right lower lobe pulmonary embolism. Acute psychosis completely resolved after CNS infection was treated. During the hospital course he did have moments of decreased lucidity and confusion with intermittent auditory and visual hallucinations. However these improved throughout hospitalization with intermittent treatment with low-dose olanzapine. Conclusion– Symptoms of cryptococcal meningitis can rarely mimic primary psychiatric disorders leading to delays in diagnosis and care for these critically ill patients.

Saturday May 04

## Semaglutide-Induced Suicidal Ideation in a Patient with Psychiatric Comorbidities: A Case Report

Raju Kakarlapudi M.D.; Shahan Syed M.D.; Mateen Abbasi; Zahra Jafary

**Background:** Patient is a 42-year-old female with a history of bipolar 1 disorder post-traumatic stress disorder morbid obesity and type 2 diabetes mellitus. The initiation of Ozempic was considered as a surrogate for bariatric surgery given the patient's contraindications arising from significant psychiatric comorbidities. Three weeks post-commencement the patient manifested abrupt behavioral alterations protracted nihilistic delusions and made attempts at self-strangulation. A gradual amelioration of behavior was observed upon discontinuation of Ozempic treatment. **Objective:** This case study attempts to scrutinize potential mechanisms underlying semaglutide-induced suicidal ideation. The primary aim is to augment awareness regarding the potential adverse effects associated with Ozempic utilization both among the general populace and within the psychiatric community. **Method:** A thorough examination of extant literature was conducted via Google Scholar. Patient data was acquired utilizing a diverse array of data collection methods which encompassed direct clinical interviews and meticulous behavioral monitoring. This facilitated the systematic documentation of observable trends and behavioral alterations in response to diverse pharmacological interventions. **Discussion:** Ozempic a glucagon-like peptide 1 (GLP-1) antagonist approved for Type 2 Diabetes binds and enhances GLP-1 receptors on pancreatic  $\beta$ -cells initiating the release of  $G\beta$  and  $G\gamma$  proteins thereby promoting heightened insulin sensitivity amplified neuroprotection and elevated lipolysis. Moreover they act on the brain stem lateral septum and hypothalamus modulating food intake and reward with GLP-1 receptor stimulation promoting dopaminergic neuron activity at the ventral tegmental area and increased expression of dopamine transporters on neuronal cell surfaces thereby reducing free

dopamine levels in synapses prompting reduced dopamine levels. Despite the proposed neuroprotective effects of Ozempic and akin medications since 2018 there have been approximately 60 documented cases of suicidal ideation and 7 suicide attempts. Many of these patients including our case reported significantly improved depression post-discontinuation suggesting that semaglutide therapy may induce a psychiatric adverse effect of depression in select patients. However the precise mechanism remains elusive. **Conclusion:** Numerous studies have illuminated the complications associated with GLP-1 medication in patients with psychological disorders. This underscores how these proteins may target affected proteins within respective psychological disorders potentially exacerbating the conditions. This necessitates further research to identify the specific proteins and enzymes implicated in exacerbating current psychological conditions and inducing such ideations.

Saturday May 04

## Silexan - Evaluating the Evidence for a Naturally-Sourced Anxiolytic

Ujval Pathak MD; Ziba Colah M.D.; Reza Safavi MD

**Background:** Increasing prevalence of anxiety disorders coupled with the limitations of current pharmacological treatments highlight the need for novel therapeutic agents with favorable risk-benefit profiles. Several options exist but many patients often fail to respond adequately or are unable to adhere to recommended treatment due to side effects. Patients with subsyndromal anxiety or a heightened aversion to pharmaceutical compounds have further limited options. Silexan prescribed primarily in Europe but available over the counter in the United States is a naturally-derived oral lavender oil preparation that has shown potential as a treatment for anxiety disorders. Its mechanism of action is hypothesized to be through improvement in

neuroplasticity via modulation of voltage-dependent calcium channels as well as antagonism of NMDA receptors and down-regulation of 5-HT<sub>1A</sub> receptors. This literature review summarizes evidence on the effectiveness tolerability and safety profile of silexan for treatment of anxiety. Methods: A search of PubMed and Google Scholar was conducted for clinical trials published in English using the search terms “silexan AND anxiety” and “lavender oil AND anxiety.” Relevant studies were reviewed and sources were limited to only those discussing solely oral formulations and anxiety in the absence of major medical comorbidities. Results: Across trials for patients with generalized anxiety disorder (GAD) subsyndromal anxiety and mixed anxiety-depression Silexan 80-160mg/day significantly reduced anxiety symptoms compared to placebo. Effect sizes were moderate ranging from 0.37-0.50 for Hamilton Anxiety Rating Scale (HAM-A) score reductions. Silexan had comparable efficacy to lorazepam and paroxetine in GAD trials and doses of 160mg/day were found to decrease HAM-A more than 20mg/day of Paxil over 10 weeks. Response rates ranged from 41-60% and remission rates from 27-46%. Comorbid depressive symptoms sleep and quality of life measures also saw improvement. Silexan was well-tolerated with mild gastrointestinal side effects comparable to placebo. It showed no withdrawal symptoms or drug interactions however tolerability concerns exist surrounding lavender oils in pre-pubertal boys due to sex-steroid signaling disruption. Conclusions: Several rigorous double-blind randomized controlled trials have demonstrated Silexan’s efficacy in reducing anxiety symptoms compared to placebo with moderate effect sizes comparable to established treatments like SSRIs and benzodiazepines and lower side effect profile or addiction potential. Additionally for patients hesitant to use traditional pharmacotherapy Silexan may be an attractive option given its origins as a natural herbal supplement. Larger head-to-head trials and a rigorous study of Silexan’s long-term effectiveness and optimal dosing are warranted but the current evidence shows promise for a low-risk alternative or adjunctive agent for adults with anxiety disorders.

**Saturday May 04**

### **Similar and unique immune proteomic profiles of major depressive disorder and primary dermatological disorders: a potential for novel treatments**

Mina Rizk M.D. M.Sc.; Helen He; Flurin Cathomas; Emma Guttman; James Murrrough M.D.

Background: Immune dysregulation has been linked to major depressive disorder (MDD) and may contribute to treatment resistance in a subgroup of depressed patients. Depressive symptoms are common in patients with inflammatory conditions such as atopic dermatitis and psoriasis. Treatments targeting specific inflammatory markers in these disorders are commonly associated with improvement of depression suggesting a shared underlying inflammatory process that is yet to be identified. Methods: Blood samples collected from 108 participants (18-70 years old; 44% female) were analyzed using the proteomic Olink assay of 363 proteins consisting of four panels of general cardiovascular and neural inflammatory markers. The study sample included 25 individuals with MDD and no history of inflammatory conditions 30 patients with atopic dermatitis 21 patients with psoriasis and 32 healthy controls (HCs). Differentially expressed proteins in blood between any comparison were defined by fold-change>1.5 and false discovery rate<0.05. Gene set variation analyses (GSVA) were performed on previously curated datasets of immune markers. Results: Compared with the other 3 groups MDD patients showed higher expression of markers related to vascular inflammation and atherosclerotic cardiovascular disease signaling (e.g. PECAM1 SELP/P-selectin VWF SIRT2 STAMBP) as well as pro-apoptotic pathways (e.g. CD274 CASP3 CASP8) (all ps<0.001). Compared with HCs MDD and atopic dermatitis patients had higher T-helper 2 (Th2) immunomodulators such as CCL13 (p<0.001) whereas MDD and psoriasis patients

had higher Th17 markers such as CXCL1 and KYNU ( $p < 0.001$   $p < 0.01$  respectively). GSV pathway analyses also showed protein enrichment of T-cell signaling pathways (e.g. Th2). Conclusion: Although MDD is associated with an immune dysregulation profile that is distinct from atopic dermatitis and psoriasis there is a striking similarity in their adaptive immune proteomics (i.e. Th2 and Th17 markers). Effective treatments targeting Th2 and Th17 markers could be promising in patients with MDD who demonstrate dysregulation of these immune pathways.

**Saturday May 04**

### **The Global 3-P [Provider's Phone-lessness Phobia Study**

Aakanksha Singh M.B.B.S.; Priyal Mehta MBBS; Sawsan Tawfeeq MD; Salim Surani MD MPH FCCM; Rahul Kashyap

**Background:** Smartphones have made communication easier and augmented our reliance on them. But they may also induce behavioral changes and produce feelings of discomfort anxiety or nervousness caused by being out of contact with a mobile phone; this is known as Nomophobia or "No Mobile Phone Phobia". We aim to conduct a global cross-sectional study on Nomophobia. **Method:** A web-based survey was conducted among global healthcare professionals (HCPs) from April 1st to July 1st 2023. We modified the Nomophobia Questionnaire (NMP-Q) which consisted of the original 14 questions (Qs) and graded the nomophobia level as absent mild moderate and severe. Additionally two new sections of a total of eight Qs were added to explore common daily routines associated with smartphone use and to inquire about the amount of time spent on mobile devices for personal and work-related purposes. Thus this survey had a total of 33 Qs (25 Qs divided into 6 sub-sections and 8 demographic Qs). This study utilized a pyramidal team structure while using a hub-and-spoke model for recruiting country leads. Using snowball sampling the

survey was shared on various digital platforms such as WhatsApp™ Twitter™ Telegram™ and Facebook™. To break language barriers it was translated and validated into Arabic French and Spanish. The study was IRB-exempt. **Results:** A total of 12253 responses were collected from 105 countries. The highest number of respondents were from India (N = 1732) followed by Pakistan (N = 1203) the USA (N = 1115) Kenya (N = 1006) and Slovakia (N = 563). There were 59% female and 40% male HCPs. A total of 38% were in the 26–35 age group while 30.6% and 17.5% were in the 18–25 and 36–45 age groups respectively. 36% of the cohort were South Asian 14% were Latin Americans 13.2% were Black Africans and 11% were White Caucasians. Among HCPs specialties were well represented consisting of internists (1879) surgeons (833) nurses (549) dentists (445) radiologists (355) psychiatrists and psychologists (226). The majority (26.8%) of HCPs had 2-5 years 18.9% had 6-10 years and 16.2% had 11-20 years of clinical experience. A total of 55.6% of respondents were Android users while 43.2% preferred Apple iOS. In self-reporting NMP-Q total of 64.2% met the criteria for moderate 22.6% for severe nomophobia and 15.6% for mild. When compared to males female HCPs didn't have higher odds for moderate-severe nomophobia OR 1.05 (95% CI 0.95- 1.16). When compared to 6 hours of phone use for either activity. **Conclusion:** This global survey-based study sheds light on the burden of nomophobia among HCPs and highlights smartphones' significant role in their personal and professional lives.

**Saturday May 04**

### **The Japanese Anime Komi Can't Communicate": A Learning Tool for Identifying Social Anxiety Disorder and How to Treat It"**

Tasmima Tazin M.D.

Background: The prevalence of social anxiety disorder (SAD) in young people worldwide is 36%. However it is an often forgotten or misrepresented psychiatric disorder when it comes to media representation of both its characteristics and its treatment. The Japanese anime *Komi Can't Communicate* depicts a high school girl Komi who has struggled since childhood with talking to her peers. While there isn't a standardized therapist to patient relationship Komi's character development is furthered by supportive characters that push her along to overcome her social anxiety disorder. This analysis conceptualizes how the anime *Komi Can't Communicate* can be used as a learning modality to identify social anxiety disorder and implement exposure therapy using the subjective units of distress scale (SUDS). Methods: The Japanese anime *Komi Can't Communicate* with its 24 episodes was watched by the author. Scenes appropriate to identifying social anxiety disorder based on DSM-5 criteria were noted. Examples of avoidance behaviors and post-event rumination were also noted. Lastly scenes showing an increase in subjective units of distress for the main character in relation to social situations were identified and rated on the SUDS. Exact timestamps for scenes were gathered as reference for educators. Results: The main character Komi satisfies DSM-5 criteria for SAD as she fears social interaction when the threat of judgment from others really doesn't exist and it has affected her ability to function in society. Throughout the show Komi can be seen engaging in avoidance behaviors in almost every episode. Consequently that hinders her progress towards her goal of making friends. Komi is often seen engaging in post-event rumination at the end of her school day where she is lying in bed exhausted from her interactions and unable to sleep because she evaluates her attempted social interactions as failures. Use of SUDS in *Komi Can't Communicate* can be exemplified by tracking Komi's ability to use her voice to communicate. Her SUDS score can be graded at 90 when she tries speaking face-to-face in the beginning because she not only has physiological signs such as shaking but she breaks down crying unable to function. With adjustment of her exposure task to

talking over the phone she feels a SUDS score of 50. With practice she motivates herself to increase her exposure by talking face-to-face and sees that she only feels a SUDS score of 50 as she has no physical symptoms and can fully say what she wants to even though she is uncomfortable. Conclusion: Specific scenes in *Komi Can't Communicate* can be used as a learning tool for identifying SAD understanding how avoidance behaviors and post-event rumination provide a positive feedback loop onto the belief of a disproportionate social threat and learning how to properly use SUDS scores to set up exposure tasks and grade a patient's SUDS score throughout therapy to record progress.

Saturday May 04

### **The Other Side of the Coin in Opioid Addiction: A Systematic Review of the Kappa Opioid Receptor**

Salih Cayir; Simon Zhornitsky; Alireza Barzegary; David Matuskey; Gustavo Angarita MHS

Background: Opioid use disorder (OUD) is associated with many deaths from overdoses each year. The dysphoria that OUD individuals experience during withdrawal explains why many individuals relapse to drug use to feel "normal." This is particularly relevant as OUD has been hypothesized to result from a weakened reward system in which more opiates are required to stimulate dopamine release due to desensitization at  $\mu$  and  $\kappa$  opiate receptors. At the same time there is a strengthening of "anti-reward" systems partially mediated by the dynorphin/kappa ( $\kappa$ ) opioid receptor (KOR) system which is associated with dysphoria or anhedonia during abstinence from opioids. Methods: A systematic scoping review was conducted following PRISMA guidelines through PubMed EBSCO Scopus and Web of Science based on published protocol (Open Science Framework <https://osf.io/jub94/>). We included preclinical and



clinical studies that measured dynorphin/prodynorphin levels or KOR expression in the context of opioid administration or opioid withdrawal. We also included studies using dynorphin and/or KOR drug administration in the context of opioid administration or opioid withdrawal. Only in vivo studies published in the English language were included. Results: One-hundred studies were included in the final analysis. Thirty examined dynorphin levels thirteen studies examined KOR expression twenty-five examined KOR agonist administration twenty examined KOR antagonist administration and twelve examined dynorphin administration on opioid use and addiction. Dynorphin and KOR levels showed mixed findings depending on the time of use (e.g. opiate administration or withdrawal) region of interest (e.g. periphery CSF or brain) animal model and/or the quantification method. KOR agonists consistently decreased addiction-related behaviors such as self-administration conditioned place preference and locomotion; however results were mixed for attenuation of withdrawal symptoms. KOR antagonists also showed mixed findings depending on the agent chronicity of treatment (acute vs. chronic) and/or type of withdrawal symptom. On the other hand dynorphin treatment consistently reduced opioid-induced withdrawal signs. Conclusion: Changes to the dynorphin and KOR expression can reflect various stages of the opioid addiction cycle. Also the administration of dynorphins and KOR agonists can improve OUD-related withdrawal symptoms and behavior outcomes respectively under certain conditions. Heterogeneous findings in KOR antagonist administration may relate to administered opioids KOR agents and methodological differences (or different dosages of the same agents). Future studies could address seemingly mixed results by using a single agent and/or opioid with a less heterogeneous study design or approach to examine the KOR system more quantitatively. This could involve techniques such as using positron emission tomography (PET) imaging with available KOR radioligands.

Saturday May 04

### **Elevated Cerebrospinal Fluid Total Tau Level Reflects Worse Cognitive Performance in Patients with Frontotemporal Dementia**

Salih Cayir; Faranak Ebrahimian Sadabad; Adam Mecca; Arman Fesharaki Zadeh; David Matuskey

Background: Frontotemporal lobar disease (FTLD) encompasses a range of clinically and pathologically heterogeneous neurodegenerative conditions characterized by varying language and behavior impairments in the early stages of the disease process. Cerebrospinal fluid (CSF) analyses of total tau (t-tau) p-tau amyloid  $\beta$  1-42 ( $A\beta$ 42) and the p-tau/ $A\beta$ 42 ratio are highly sensitive and specific biomarkers of AD pathogenesis that guide diagnostic and treatment decisions in clinical practice. However there is no consensus regarding the utility of CSF  $A\beta$  and tau assays in patients with FTLD. In this study we examined the CSF t-tau p-tau and  $A\beta$ 42 levels in a group of patients with FTLD and AD and assessed the association with cognition using the Montreal Cognitive Assessment (MoCA) Method: We conducted a retrospective cohort study with study participants selected from the electronic records of patients seen at Yale New Haven Hospital's Memory Clinic CT USA. We included 61 patients 28 with FTLD (mean age=65.3 71% male) and 33 with AD (mean age=66.7 39% male). Diagnoses were made by expert clinicians experienced in the care of patients with neurodegenerative diseases. We computed Pearson's r to evaluate the associations between CSF tau concentrations and MoCA scores. Results: We observed significantly higher mean values of t-tau p-tau and p-tau/ $A\beta$ 42 ratio in patients with AD (775.7 $\pm$ 437.2 pg/l 95.9 $\pm$ 59.07 pg/l 0.20 $\pm$ 0.14 respectively) compared to patients with FTLD (331 $\pm$ 153.1 pg/l 46.08 $\pm$ 22.1 pg/l 0.06 $\pm$ 0.03 respectively) ( $p < 0.0001$ ). CSF  $A\beta$ 42 concentrations were significantly higher in patients with FTLD (888 $\pm$ 435.7 pg/l) compared to patients with AD (540.6 $\pm$ 243.7 pg/l) ( $p = 0.0004$ ). In this sample patients with FTLD (19.03 $\pm$ 6.3) had significantly higher MoCA scores than patients with AD (15.7 $\pm$ 6.7) ( $p = 0.042$ ). T-tau had significant negative correlations with total MoCA

scores in patients with FTLD (t-tau-MoCA:  $r = -0.42$   $p = 0.002$ ; p-tau-MoCA:  $r = -0.25$   $p = 0.186$ ). Both t-tau and p-tau had significant negative correlations with total MoCA scores in patients with AD (t-tau-MoCA:  $r = -0.52$   $p = 0.001$ ; p-tau-MoCA:  $r = -0.54$   $p = 0.0009$ ). Also within the FTLD group t-tau levels and executive domain performance were significantly correlated (t-tau-MoCA-EIS:  $r = -0.40$   $p = 0.03$ ; p-tau-MoCA-EIS:  $r = -0.32$   $p = 0.095$ ) but no significant associations were observed between tau levels and memory index score. Conclusion: T-tau and p-tau levels were inversely correlated with global cognitive scores in FTLD and AD patients but the relative strength of associations with regard to tau species and cognitive domains was unique for each syndrome. These findings provide valuable insights into the relationship between clinical cognitive performance and tau-related pathology in FTLD and may inform the design of future research focused on cognition and biomarkers in FTLD.

Saturday May 04

## The Role of Antipsychotics Exposure on Calcium Signaling and Microtubular Dynamics on Dopaminergic Neurons

Rommy Cedeno; Ryan Dosumu-Johnson

Background: Neuronal form and function rely on microtubules critical cytoskeletal components that convert between stable and dynamic forms. Dynamic instability characterized by the rapid growth and shrinkage of the dynamic pool has recently been found to play key roles in synaptic plasticity affecting both presynaptic and postsynaptic sites. Numerous studies implicate microtubules and microtubule-associated proteins in psychiatric diseases including schizophrenia attention deficit hyperactivity disorder depression bipolar disorder and autism spectrum disorder. Particularly recent human studies have suggested that a loss of microtubule dynamicity could be contributing to the

disruptions in plasticity observed in schizophrenia and major depressive disorder. Despite these findings there is little investigation into whether dynamic microtubules might be affected in psychiatric diseases and their treatment. Here we introduce tools for viral and image analysis to explore microtubule dynamics in living neurons and synapses. We investigate how dopaminergic neuron activity influences microtubule dynamics and assess the effects of antipsychotics (clozapine and haloperidol) on these dynamics. Methods: To label only the dynamic pool of microtubules while observing cytoskeletal architecture or monitoring neuronal activity we generated two adeno-associated virus (AAV) constructs that express a fluorescently-tagged microtubule cap protein EB3 to provide real-time tracking of growing microtubule tips: 1) a construct that utilized a bicistronic element to provide visualization of cellular architecture and dynamic microtubule activity used in primary cortical neuron cultures from neonatal mice; 2) a construct that utilized a DIO (Double-Floxed Inverted Open reading frame) element to allow for cell-type specific expression in midbrain cultures derived from mixed-sex pooled DAT-ires-cre;Ai38 neonatal mice to provide dynamic microtubule tracking and simultaneous calcium imaging in dopaminergic neuron axons and dendrites. The neuronal cultures were infected and imaged after 7 days. We measured baseline dynamic microtubule activity and then responses after bath application of clinically relevant concentrations of haloperidol (0.1  $\mu\text{M}$ ) clozapine (1  $\mu\text{M}$ ) or vehicle control (0.1% DMSO). Neuronal processes were imaged at 10-minute intervals after for up to one hour and analyzed using custom ImageJ scripts ( $n = 3$  cultures per treatment group). Statistical analysis used one-way ANOVA Two-way ANOVA with repeated measures and a student's t-test (GraphPad Prism 9 San Diego USA). Results: We have validated this viral strategy for imaging dynamic microtubules in a cell-type specific manner. The results provide the initial characterization of dynamic microtubules in dopaminergic neurons including their regulation by calcium signaling. Our preliminary evidence indicates that pharmacologically relevant levels of clozapine

rapidly and powerfully increase microtubule dynamic instability in dopaminergic axons via enhanced depolymerization and decreased velocity. These changes are expected to alter the trafficking of synaptic vesicles mitochondria and other organelle trafficking that control axon form and synaptic activity. Conclusions: We introduce a novel neuron-type-specific viral approach and a computational pathway for investigating microtubule dynamics at neurites and synapses. Preliminary findings highlight the effect of clozapine on dynamic microtubules which may underlie its regulation of synaptic activity. These findings may reveal a novel role for clozapine in the treatment of schizophrenia potentially contributing to its superior efficacy clinically especially in cases of treatment-refractory schizophrenia and negative symptoms. Future work will adapt this approach to probe microtubule dynamics in models of schizophrenia autism spectrum disorder and early life stress.

Saturday May 04

### **The role of COVID-19 and rural/urban status on youth psychiatric presentation in Alberta: Trends in child and adolescent mental health**

Jacquelyn Paquet MD PhD(c)

Introduction: The onset of the COVID 19 pandemic led to urgently initiated lockdown interventions in March 2020 with widespread impacts on psychiatric and physical illness across the age spectrum [1-3]. Increasing social inequities among vulnerable populations particularly children and adolescents was further exacerbated by the pandemic and its consequences [4.5]. This study explored trends in presentation of mental illness among children and adolescents in Alberta by rural/urban location. Methods: We accessed all medical encounters for Albertans aged 0-17 utilizing ICD 9 and 10 billing codes for psychiatric disorders from 2017 to 2021

including emergency (N=42176) outpatient (N=322840) inpatient (N=15047) settings. Billing codes were divided into categories of anxiety mood eating substance use and self-harm. Data included biological sex age and geographic location. Two age groupings 6-11 and 12-17 were analyzed. With respect to rural/urban status – rural was classified as 1) large rural area 2) small rural area 3) Northern; and urban was classified as 1) metropolitan 2) metropolitan suburb 3) urban 4) urban suburb. We completed pre (2017 to 2019) and COVID (2020 to 2021) comparisons. Univariate and regression analysis was performed. Results: After March 2020 elevated presentation of anxiety and mood disorders was the most common across all healthcare and geographic settings among youth aged 12 to 17. There were higher presentations for females across all settings for anxiety mood and eating disorders ( $p = 0.00$ ). Presentation of anxiety disorders was more common in outpatient settings in urban regions (metropolitan ( $p = 0.01$ ) metropolitan suburb ( $p = 0.00$ ) and urban ( $p = 0.03$ )). In rural settings psychiatric presentations at emergency departments ( $p = 0.07$ ) were somewhat more common than outpatient or inpatient settings. Female eating disorders increased in outpatient ( $p = 0.05$ ) and emergency contexts ( $p = 0.00$ ) without geographic differences. For substance use disorders rural cohorts were more commonly seen in outpatient (large rural  $p = 0.06$ ; small rural  $p = 0.03$ ; Northern  $p = 0.04$ ) and in the emergency settings (large rural  $p = 0.03$ ; small rural  $p = 0.00$ ; Northern  $p = 0.00$ ). Self-harm admissions decreased during COVID-19 with increased emergency department visits. Conclusion: An increase in psychiatric consultations in all settings was found. Anxiety disorders had the most notable increases especially among females during COVID with increased outpatient and inpatient presentations. Different trends for rural compared to urban cohorts pre-COVID and during COVID including increased substance related presentations in all three settings for rural cohorts and increased anxiety outpatient consultations and admissions for mood. This data highlights the need to investigate the differences with geography in care access strategies to address the geographical

differences and consider how the trend will compare post-COVID.

**Saturday May 04**

### **Treatment Refractory Mania Requiring Sedation and Mechanical Ventilation – A Case Report**

Sungsu Lee M.D.;Ph.D.; Henry Philofsky M.D.; Segundo Robert-Ibarra M.D.

**Introduction:** We present a case involving a 30-year-old woman with a complex psychiatric history including bipolar disorder and marijuana use disorder that police brought to the with concerns for mania leading to involuntary hospitalization. This presentation aims to highlight the challenges faced in managing treatment-refractory mania and the considerations involved in providing appropriate care for such patients.

**Case Description:** In the psychiatric emergency room the patient displayed symptoms consistent with mania including irritability grandiosity hyperactivity and destructive behavior. This patient's chart contained a large volume of evidence for a major depressive disorder but only brief mentions of bipolar disorder without a convincing phenomenological description. However her existing medication regimen featured venlafaxine which had been recently increased. Given the acuity of the patient's initial presentation she was admitted for inpatient treatment. We started this patient on valproic acid olanzapine and PRN lorazepam. Over the course of nine days the patient's condition worsened resulting in staff injuries due to aggressive behavior. The differential was broadened to include agitated catatonia and secondary causes of mania. However large doses of benzodiazepines proved ineffective. To ensure safety restrictive measures like seclusion and restraints were employed near-continuously.

**Treatment Approach:** We recognized the complexity of the case and requested opinions from experts specializing in altered mental states. We decided to use this collaborative approach to

ensure a comprehensive evaluation of the patient's condition leveraging the combined psychiatric and medical experience. We eventually consulted the medical ICU team who recognized the unusual nature of the case and agreed to accept the patient for a workup of medical causes of mania. In the ICU the patient was sedated using dexmedetomidine and propofol. Concurrently her mood stabilizer was transitioned to lithium and antipsychotic to chlorpromazine. Extensive medical evaluations including lumbar puncture and MRI yielded inconclusive results. Subsequent tapering of sedation led to gradual improvements upon her return to the inpatient psychiatry unit. **Literature Review and Conclusion:** Literature highlights cases of mania necessitating sedation and ICU care. However consensus on the efficacy of sedation in treating mania remains elusive. This case underscores ethical dilemmas arising from staff injuries during patient care and the appropriateness of restrictive measures. The optimal timing of ICU transfer and the potential benefits of sedation warrant further investigation. The complexity of treating severe mania is evident in this case and it serves as a reminder of the critical need for collaborative research and systematic protocols involving both psychiatric and medical expertise.

**Saturday May 04**

### **Unveiling the Unseen: Exploring Cerebral Visual Impairment as an Overlooked Differential Diagnosis in Autism Spectrum Disorder By Medical Students**

Japmehar Sandhu MBBS

**Background:** Cerebral Visual Impairment (CVI) is a condition that can often share clinical features with Autism Spectrum Disorder (ASD). This study aimed to assess the knowledge of CVI as a potential differential diagnosis for ASD among final-year medical students and interns in two

medical colleges in Punjab India. This study is important so that the importance of correctly diagnosis both the conditions is asserted amongst individuals who would soon be at the forefront of primary healthcare upon completion of their degree. Such a study and similar efforts can also ensure timely referral to psychiatrists and ophthalmologists or neurologists for management. Methodology: On the occasion of CVI Awareness Month a cross-sectional survey was conducted among medical students and interns from two medical colleges in Punjab India. One government and one private institute each. Participants were asked to complete a questionnaire designed to assess their knowledge of CVI as a differential diagnosis for ASD. The questionnaire was followed up with a seminar on the clinical presentation of CVI and ASD their aetiologies and the appropriate diagnostic approaches. Results: A total of 310 participants completed the questionnaire. The majority of respondents demonstrated limited awareness of CVI as a potential differential diagnosis for ASD. Only 15% of participants correctly identified the key clinical features that differentiate CVI from ASD. Additionally 10% were aware of the appropriate diagnostic methods for evaluating CVI. Conclusion: This study highlights a significant gap in the knowledge of final-year medical students and interns in Punjab India regarding CVI as a differential diagnosis for ASD. Efforts to improve medical education and awareness about CVI in the context of ASD are essential to ensure early and accurate diagnosis which can have a profound impact on the management and outcomes of children with these conditions. Further educational interventions and training are warranted to address this knowledge deficit among future healthcare professionals. This is particularly important so accurate diagnosis can take place at the level of primary healthcare.

**Saturday May 04**

## **Using Machine Learning to Predict Progression of Huntington's Disease in the Enroll Huntington's Disease (Enroll-HD) Periodic Dataset 6 (PDS6)**

Shaan Kamal M.D.; Shakaib Khan; Luis Velez M.D.

The Enroll Huntington's Disease (Enroll-HD) dataset is an international dataset collected from an ongoing observational study of Huntington's disease (HD) families across Europe North America Australia Asia and South America. With the latest dataset release the periodic dataset 6 (PDS6) including 25550 subjects is the most extensive observational study thus far for HD. The dataset includes CAG repeat lengths CAP scores UHDRS scores including total functional capacity scores and functional assessment scores symbol digit modality test scores and various psychiatric and neurological screening tools (i.e. Columbia Suicide Severity Rating scale verbal fluency test etc.) along with demographics information about the subjects including age sex educational level and geographic region. Within the dataset 12991 participants were already showing clinical signs of HD at initial enrollment and 6551 participants had positive genotyping for HD but were not yet showing symptoms of HD 995 of which then were presenting clinically with symptoms of HD at follow-up later in the study. Machine learning can allow for large datasets to be processed and analyzed to create models that can discern underlying patterns and make predictions on unseen data. In this work we create Random Forest models in the Scikit-learn package that are trained on Enroll-HD PDS6 data to a) predict which subjects will move from pre-manifestation of clinical symptoms to manifestation of clinical symptoms along with the features within the dataset most predictive of this transition using classification models and b) predict progression in UHDRS scores for participants who already were showing clinical signs of HD on enrollment using regression models. In order to preprocess the data we first removed any participants with incomplete or missing data for UHDRS scores. We then used a nested cross-validation approach with ten inner and outer folds and no hyperparameter optimization to predict the above



outcomes. We report accuracy specificity sensitivity and positive and negative predictive values for the classification model predicting participants that progress to showing clinical signs of HD. For the regression model predicting UHDRS scale scores we say mean absolute error the coefficient of regression (R2) mean squared error and root mean squared error. Although our results are in process and further model refinement is ongoing large-scale demographic and genetic data may be used to identify factors that predict the transition from pre-manifestation of HD to manifestation of HD along with the progression of the disease. Such models could be used in the future to aid clinicians in providing patients with more information about what their disease progression may look like.

**Saturday May 04**

### **When The Earth Stood Still: the effects of COVID-19 on urban youth mental health.**

Loren Odam M.A.; Vanessa Ocon; Humberto Baquerizo Ed.D.; Victor Mensah M.D.

**Background:** The COVID-19 pandemic has led to a rapid and unprecedented change in societal behavior including stay-at-home orders school closures and the cancellation of significant holidays and celebrations. These changes have disproportionately impacted disadvantaged communities and contributed to an epidemic of mental health crises among youth. This study seeks to understand the psychosocial effects of the COVID-19 pandemic on the youth of Newark NJ. We hypothesize that individuals who participated in community activities during COVID-19 developed more protective factors in coping with mental health challenges.

**Methods:** A focus group was conducted in Newark NJ in May 2023. The focus group included 43 youth and adolescent participants from surrounding communities. The participants were between the ages of 13 and 18 years old. A mental health professional moderated the focus group. The moderator began the focus group by introducing

coping strategies and resilience. The focus group discussion lasted for 60 minutes. At the end of the focus group all participants were asked to complete a 50-item questionnaire. The questionnaire comprised 5 validated surveys on youth mental health self-efficacy and self-awareness. The participants were randomly assigned to two groups: the control and experimental groups. The control group consisted of 24 participants. The experimental group consisted of 19 participants. The experimental group consisted of youth who had participated in a mentorship program. **Results:** Of the participants 72% identified as ethnically Hispanic/Latino while 34.9% identified as racially Black/African American. The majority of participants (57%) described themselves as economically disadvantaged. 79.1% of the youth surveyed indicated that the most stressful part of dealing with COVID-19 was feeling disconnected from friends and family and 72.1% stated loneliness and isolation. However students who received formal mentorship demonstrated higher levels of perseverance in the Rugged Resilience Measure (RRM) scale despite difficulties (42% vs. 29%) hope for the future (60% vs. 38%) rising to the challenge (42% vs. 21%) and finding meaning in life (47% vs 38%). While they have increased resilience the data also shows that about 60.47% of participants scored >21 on the Social Emotional Distress Scale-Secondary (SEDS-S) scale meaning that over ½ of them are classified as languishing meaning they are experiencing a lower quality of relationships. **Conclusion:** The COVID-19 pandemic has significantly impacted youth's mental health with social disconnection being a major contributing factor. This study found that 72% of focus group participants felt lonely or isolated during the pandemic and nearly 12% considered attempting suicide. These findings highlight the need for increased mental health support for youth and interventions to promote social connection.

**Saturday May 04**

## **A Digital Single Session Intervention for Clinical High Risk for Psychosis: A Pilot Study**

Madhumitha Saravanan; Hassan Bazzi; Olivia Hamrah M.D.

**Objectives** Early interventions such as Cognitive Behavioral Therapy (CBT) especially in those identified as clinically high-risk for psychosis (CHRp) have shown promising results but are difficult to access. Single-session interventions (SSIs) are effective in the treatment of youth psychiatric problems and increase the accessibility scalability completion rate and cost-effectiveness of mental health services. The goal of this study is to assess the feasibility of a digital self-guided SSI focused on reducing distress and encouraging help-seeking among youth who screen positive for CHRp. **Methods:** Participants were recruited from the Launch program for transition-age youth at MedStar Georgetown University Hospital's child and adolescent psychiatry clinic. Participants between the ages of 16-24 who screened positive on the prodromal questionnaire brief version (PQ-B) were directed to complete our digital single-session intervention and provide feedback on their experience. **Results:** Of the 12 patients who consented to participate in our study four screened positive for CHRp and completed the online module. All participants were able to complete the intervention with an average completion time of 27 minutes. Participants (n=4) were in favor of recommending this intervention to others with similar experiences (mean 9.5/10) found the exercise to be helpful (9.5/10) anticipated using the skills learned in the future (9.25/10) and knew who to ask for mental health help (9.25/10) after completing the intervention. **Conclusions:** This pilot study demonstrates the feasibility and acceptability of a single-session intervention for CHRp in a transition-age population. Future studies will evaluate the effectiveness of the intervention in reducing distress and increasing help-seeking among adolescents in both clinical settings and the general population. The creation of a widely available online SSI for CHRp youth may be an essential tool for decreasing the cost

and stigma associated with treatment and offering anonymity while decreasing the burden of psychosis through early recognition and appropriate interventions.

**Saturday May 04**

## **A Health Needs Assessment of People Experiencing Homelessness in Central Wisconsin: Mental Health Needs Substance Use and Barriers to Care**

Reilly Coombs M.S.; Alexandra Reischman M.D.; Robert Gouthro; Amy Prunuske

**Background:** People experiencing homelessness face elevated risks of acute and chronic illnesses including mental disorders. Substance use is more prevalent among those who are experiencing homelessness than among those who are not. Unfortunately addiction may co-occur with psychiatric conditions further complicating living situations and adding additional stressors. This project aimed to assess the health needs and barriers to care of people experiencing homelessness in Central Wisconsin. **Methods:** A survey to assess health needs and barriers to care was developed by adapting a previous questionnaire incorporating changes recommended by individuals working in the field (Matzke et al. 2022). Surveys were distributed during outreach activities in Wausau Wisconsin and at local organizations that provide services to our unhoused population. Data was transcribed reviewed and descriptive statistics were calculated. **Results:** A total of 45 surveys were completed. Most participants identified as white non-Hispanic males (24 53%). Most participants were between the ages of 46-55 (14 31%). Common reasons for homelessness include addiction criminal history disability lack of affordable housing medical bills or family member death. 84% (38) of participants stated they have a mental health diagnosis yet only 31% (14) stated they see a mental health professional. 75% (9) of

female participants stated they have a mental health diagnosis but only 33% (4) see a mental health professional. 86% (12) of minority participants stated they have a mental health diagnosis but only 14% (2) see a mental health professional. 82% (37) of participants reported substance use. Of the participants that reported substance use the most commonly used were tobacco/nicotine products (34 92%) alcohol (17 46%) cannabis (17 46%) methamphetamine (8 22%) hallucinogens (4 11%) and cocaine (4 11%). 92% (11) of female participants and 71% (10) of minority participants stated they use substances. 47% (21) of participants stated they do not have access to harm reduction (clean needles fentanyl testing strips naloxone etc.). Barriers to health care included lack of housing cost transportation lack of a mailing address inadequate hours and disrespectful care. Conclusions: Individuals experiencing homelessness in Central Wisconsin have numerous complex health needs and face considerable barriers to care. The findings underscore the intricate interplay between homelessness substance use and mental health. A significant portion of the population reports chronic illnesses mental health diagnoses and substance use without adequate access to care. These multifaceted challenges necessitate comprehensive compassionate care emphasizing holistic and inclusive healthcare solutions and providing direction for future interventions.

**Saturday May 04**

### **Assertive Community Treatment (ACT) Psychiatry Clerkship Results: Quantitative Findings from a VCU School of Medicine Pilot Program**

Andrew Pidutti; Jewel Washington; Tanner Nelson

Introduction: Assertive Community Treatment (ACT) is an evidence-based multidisciplinary approach to mental health care that is designed to help individuals with severe and persistent mental illnesses live successfully in the community (1). ACT teams typically consist of mental health

professionals such as psychiatrists nurses social workers and case managers who work collaboratively to provide comprehensive and intensive services to clients. ACT has been shown to be effective in reducing hospitalizations improving housing stability and enhancing overall well-being for this population (2). However opportunities to gain exposure and experience in ACT during the core psychiatry clerkship are limited to very few medical schools in the country (3). A pilot program at Virginia Commonwealth University School of Medicine (VCU SOM) was started in 2022 to introduce students to ACT experiences during their 3rd year psychiatry clerkship. Last year's qualitative findings were shared at the 2023 APA annual meeting. In this paper we analyze the quantitative results of surveys administered to M3 students before and after participation in the 3rd year psychiatry clerkship ACT pilot program. **Methods:** Implementation at VCU SOM in partnership with Chesterfield Mental Health Services ACT team began in May of 2022. Evaluation includes pre and post mixed qualitative and quantitative surveys answering three questions on understanding of ACT and two interest questions in pursuing further community psychiatry opportunities. Two questions were also directed toward satisfaction with the program after completion. Answers were recorded on a Likert scale and analyzed through comparisons of means and ANOVA. **Results:** A total of 15 participants completed both pre and post surveys for the ACT experience during the psych clerkships organized in the 2022-2023 academic year. Comparison of means between pre and post survey for understanding of ACT and community psychiatry showed increases in mean self-reported understanding (pre M= 3.49 SD= 1.02 post M= 4.51 SD = 0.54) while community psychiatry/ACT interest questions showed little change (pre M= 3.16 SD= 0.86 post M= 3.03 SD= 1.08). Pilot program satisfaction after completion of the program was very high (M= 4.79 SD= 0.58). ANOVA results of the data pool between pre and post survey results reveal the results are not statistically significant ( $F(1,14) = 1.056$   $p = 0.32$ ). **Discussion:** The 3rd year ACT pilot program at VCU SOM demonstrated increased understanding but no change in interest in ACT and community

psychiatry. Participant perceptions upon completion were strongly positive about the program's quality. We hope that our pilot program framework can inspire other medical schools to create similar programs to improve the available data on the effectiveness of ACT experiences in promoting understanding and interest in community psychiatry.

**Saturday May 04**

### **Association between ACEs and the prevalence of specific negative childhood behaviors**

Zach Monahan B.S.; Tanner Stone; Micah Hartwell; Abby Hogan

**Background:** Adverse childhood experiences—stressful or traumatic events that occur to children during their development—are frequently associated with adult substance use injury violence and a lower life expectancy but also have been shown to have an immediate impact on negative behaviors during childhood. Insight into the association between ACEs and the presence of specific negative behaviors within conduct disorder diagnostic criteria has been understudied. Thus our primary objective was to investigate the association between ACE scores and various negative childhood behaviors. **Methods:** We performed a cross-sectional analysis of the 2022 National Health Interview Survey for Children. After calculating cumulative ACEs among respondents which were categorized from 0 ACEs 1-3 ACEs and 4+ ACEs we reported the prevalence of negative behaviors among ACE categories among children 5-17. We then used binary and multivariable logistic regression to measure via odds ratio (OR) and adjusted odds ratios (AOR) the increased likelihood for individuals with higher ACEs to display negative behaviors. **Results:** Increasing ACEs was found to be significantly associated with decreased reporting that the child aged 5-17 shares

toys/games ( $P = 0.0005$ ) and is generally well-behaved ( $P = 0.0149$ ). Increased ACEs was also associated with increased rates of the child losing their temper often ( $P = <0.0001$ ) fighting with other children ( $P = <0.0001$ ) often lying or cheating ( $P = <0.0001$ ) stealing ( $P = <0.0001$ ) and having difficulties with emotions ( $P = <0.0001$ ). Two traits were found not significantly associated with ACE scores: being considerate of others' feelings ( $P = 0.5798$ ) and being helpful when someone is hurt upset or ill ( $P = 0.5341$ ). Further a logistic regression comparing 4+ ACEs to 0 ACEs (reference value of 1) found an AOR of 5.75 (95% CI: 3.68-8.98) for difficulties with emotions 5.46 (95% CI: 2.69-11.09) for stealing and 4.96 (95% CI: 2.87-8.56) for fighting with other children. **Conclusion:** Insight into how adverse childhood experiences are associated with specific behaviors can provide insight for caregivers and healthcare providers into these behaviors and how they contribute to the overall behavioral disorder. This understanding can provide points for more specific and personalized intervention strategies. Further insight into how the prevalence of these behaviors develops as the child ages could provide further insight into the ideal timing of intervention strategies. No funding was received to support this research.

**Saturday May 04**

### **Association Between Child Abuse Types and Suicide Attempt: A Case-Control Study of Depressive Adolescents**

Michel Spodenkiewicz Ph.D.; Johanne Renaud M.D.

**Background:** Increasing evidence suggests that child abuse is a modifiable risk factor strongly linked to suicide attempt among adolescents. While prior research has indicated that sexual and emotional abuse may exert a more pronounced influence on suicidal behavior than physical abuse or neglect in large community-based

samples the precise impact of distinct forms of child maltreatment on suicide attempt within clinical samples of adolescents at higher risk of suicide remains unclear. This study aimed to investigate the relationship between various types of childhood maltreatment and suicide attempt in adolescents diagnosed with depressive disorders. Methods: The investigation consisted in a cross-sectional case-control design comprising three distinct groups: adolescents diagnosed with depressive disorders who had attempted suicide adolescents with depressive disorders who had not attempted suicide and a control group of adolescents without any psychiatric disorder. The presence of psychiatric disorders was determined using the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL) while depressive symptoms were evaluated using the Beck Depressive Inventory (BDI). Suicide attempts were assessed using the Suicidal History Questionnaire (SHQ) and childhood maltreatment experiences were assessed using the Childhood Trauma Questionnaire (CTQ). Results: The study included a total sample of 110 adolescents aged from 11 to 17 years: 38 adolescents with depressive disorders who had attempted suicide (Mean Age=15.84 Females=33) 33 adolescents with depressive disorders who had not attempted suicide (Mean Age=15.44 Females=25) and 39 adolescents without any depressive disorder (Age=14.85 Females=26) All categories of childhood maltreatment were more prevalent in the group of adolescents with depressive disorders who had attempted suicide. Particularly noteworthy was the significant difference in the CTQ child abuse score between the groups ( $p < 0.039$  Hedge's  $g = 0.57$ ) which exhibited the most substantial association with suicide attempt among adolescents. Conclusion: These findings underscore the detrimental influence of diverse forms of child abuse on suicide attempt among adolescents diagnosed with depressive disorders. This suggests the need for early detection and intervention with particular emphasis on detection of a prior history of sexual abuse among adolescents with depressive disorders who have attempted suicide. The implementation of a systematic screening for

such experiences using self-report questionnaires such as the Childhood Trauma Questionnaire holds promise as a valuable screening tool in clinical settings. It may contribute to decreasing stigma around reporting experiences of sexual abuse in adolescence as well as facilitating a comprehensive assessment. Ultimately it may contribute to prevent suicide in high-risk populations.

**Saturday May 04**

### **Bridging Gaps in Youth Mental Health: Insights from the MOST Program**

Sebastian Acevedo M.P.H.; Daniella Colombo; Ozlem Gunal M.D. Ph.D.

The APA Foundation funded this project as an APAF Helping Hands Grant awardee. ??????? Background: Adolescent mental health disorders often emerge around 14 years of age with significant delays in treatment initiation. This issue is more acute in minority populations due to lower mental health literacy and higher stigma. The Moving from Surviving to Thriving (MOST) Program a community-based intervention in Newark New Jersey aimed to enhance mental health literacy and attitudes among high school students in underserved urban communities. Objectives: The study aimed to assess the impact of the MOST Program on reducing stigma and improving mental health literacy among urban adolescents with a focus on historically marginalized groups. Methods: The program involved a series of twice weekly workshops over a period of five weeks combining educational sessions with activity-based components in partnership with United Community Corporation a local non-profit. Participants included 30 high school students who identified as either African American or Latino. Data were collected through pre- and post-surveys and a focus group was conducted for qualitative insights. Scales included the Peer Mental Health Stigmatization Scale (PMHSS) a 24-item 5-point Likert response scale that assesses beliefs about mental health



with items relating to societal and personal stigma. Secondly youth mental health knowledge was assessed using the Mental Health Literacy questionnaire (MHLq) a 33-item scale that assesses beliefs about mental health in across three major factors: (1) Help seeking and first aid skills (2) Knowledge/stereotypes on mental health problems and (3) Self-Help Strategies Results: The intervention showed a significant reduction in stigma awareness indicating a positive shift in societal attitudes towards mental health. However there was no significant change in overall mental health literacy. Qualitative analysis highlighted a perceived externalization of mental illness in the community the importance of group-specific lessons and mixed feelings about discussing mental health. Limitations: The study faced challenges including a small sample size and difficulty in matching pre- and post-survey responses. This limited the robustness of the findings and their generalizability. Conclusions: The MOST Program demonstrates potential in reducing mental health stigma among adolescents living in urban communities. However the findings underscore the need for more comprehensive and culturally sensitive approaches to enhance mental health literacy. Future research should focus on larger matched samples and interventions tailored to the cultural and interest-specific contexts of participants.

**Saturday May 04**

### **Characteristics Associated with Suicide Attempts in Human Trafficking Victims and Survivors**

Eric Sumlin; Youssef Ahmed; So Yu Cicy Ng

Background: Human trafficking is a form of abuse where force fraud or coercion are used to exploit another individual into performing commercial sex acts (sex trafficking) or labor (labor trafficking). Victims and survivors of human trafficking present with high rates of suicidal thoughts and behaviors.

Despite this limited empirical attention has been paid to factors that are associated with suicide risk in trafficking victims and survivors in a psychiatric setting. Thus the aim of this investigation is to identify characteristics of adult patients in an inpatient psychiatric setting with histories of human trafficking that are associated with histories of attempted suicide. Methods: Chart review was utilized to extract data pertaining to suicide attempt history (previous SA and current SA) age race gender trafficking type (sex trafficking labor trafficking or combined) engagement in survival sex relationship to trafficker (e.g. family intimate partner) traumatic-stress symptom severity substance use history and housing stability. Cross-tab chi-square analyses were used to determine any significant relationships between categorical variables and suicide variables and independent samples t-tests were used to investigate any significant mean differences on continuous variables between those with SA and those without. Results: Age gender substance use and family-controlled trafficking were all significantly associated with a history of SA. There were also significant associations between SA at the time of admission and race substance use and the presence of survival sex. Discussion: Our results indicate that there are descriptive characteristics that are significantly associated with suicide attempt history; both more broadly as well as recent. Future research should extrapolate on these findings in order to better inform risk resilience and treatment in this population.

**Saturday May 04**

### **COVID-19's Impact on Quality of Life: A Comparative Study of Daegu Citizens with and without Suicidal Ideation**

Tae Young Choi M.D.; Jonghun Lee; Yun Woo An; Hyanghee Jeong

**Background:** The COVID-19 pandemic has exerted a profound influence on the quality of life (QoL) of individuals worldwide. Daegu a major city in South Korea faced significant public health challenges during this period. Aims of this study were to explore the changes in QoL among Daegu citizens over three pivotal years: 2018 (pre-pandemic phase) 2020 (pandemic phase) and 2022 (post-peak phase) focusing on differences between those with and without suicidal ideation.

**Methods:** Daegu citizens were enrolled annually in 2018 2020 and 2022 (N=709 1158 898 respectively) considering regional gender and age proportions. Suicidal ideation was determined by a yes/no question regarding suicidal thoughts during the past year. 2018 2020 and 2022 were defined as the pre-pandemic pandemic and post-peak phase of COVID-19 respectively. QoL was assessed using the World Health Organization Quality of Life: Brief Version which consists of physical health psychological social relationships and environment domains. A multivariate analysis of covariance (MANCOVA) was conducted to examine the main effect of suicidal ideation group phases of COVID-19 and interaction effects between the suicidal ideation and phases adjusting for age education marital status and income. **Results:** In 2018 2020 and 2022 59 (8.3%) 245 (21.2%) and 71 (7.9%) individuals reported suicidal ideation respectively. MANCOVA revealed a significant main effect of suicidal ideation on QoL [F(42752)=69.99 p<0.001]. Post-hoc analysis showed significant effects of suicidal ideation on all domains of QoL. There was also a significant main effect of phases of COVID-19 on QoL [F(85504)=4.62 p<0.001]. Post-hoc analysis indicated significant effects of phases on QoL for all domains except the environment domain. More importantly interaction effect of suicidal ideation with phases of COVID-19 was found to be at trend level [F(85504)=1.89 p=0.057]. Post-hoc analysis revealed a significant interaction effect only in the physical health domain [F(22755)=3.53 p=0.030] which means that while in all three phases suicidal ideation group reported a lower QoL in the physical health domain than non-suicidal ideation group the difference in QoL between the these two groups was less pronounced in pandemic phase compared to the other phases of COVID-19.

**Conclusion:** The COVID-19 pandemic notably affected the QoL of Daegu citizens. Individuals with suicidal ideation consistently reported a lower QoL across the COVID-19 pandemic. However compared to pre-pandemic and post-peak phase the disparity in physical health domain of QoL between those with and without suicidal ideation was less distinct in pandemic phase. These findings suggest that global events like the COVID-19 pandemic can blur the traditional QoL differences according to the suicidal ideation especially during their pandemic phase highlighting the broad impact of such crises on the general population's well-being.

**Saturday May 04**

### **Defining School Truancy: A closer look at school truancy in Nassau County**

Albulena Ajeti BS; Simarpreet Kaur; Megan Go M.D.; Fartun Aliduux M.D.; Samantha Goldstein

**Background:** School truancy is rising among pre-kindergarten through twelve grades throughout the U.S. Literature has yet to have a universal definition for school truancy. School truancy broadly encompasses lack of attendance for >2 weeks out of the school year. However the lack of consistent reporting analysis and treatment results in a lack of preventative measures undertaken. For example school truancy has been linked with the juvenile and family court systems. **Methods:** Review of available literature and evaluations of juvenile case reports from Nassau University Medical Center. **Results:** Current working definitions of school truancy range from 15 missing days as defined by the Midwest to 18 missing school days as defined by Allen. Despite the lack of universal guidelines for school truancy research indicates that attending school can alleviate the involvement of court systems with students and their families (McNeely2019). There were 6.8 million students from pre-kindergarten through 12th grade who were chronically absent from school (Allen2018). Working reasons leading to school truancy include traumatic life events

(Hargarve2022) co-diagnosis of anxiety and phobic disorders (Berg1997) and parental disengagement (Filkin2022). Additionally strong correlations were found between school truancy and misconduct and arrests in the youth (Craig2020). Current preventative measures are dependent on states and counties. The Midwest in the United States has a Truancy Intervention Program (TIP) for students between grades 7 and 10 (McNeely2019). As per TIP if three unexcused absences exist the student and parent receive a letter indicating the need for better school attendance. Should the student continue to miss five days there is a referral to an attorney who indicates the parent and child must attend group-parent meetings at school. If the student continues to miss ten days there is a SART meeting between the parent child school and county attorney. At the meeting there is an agreement created to improve the child's school attendance. Should the child continue to miss 15 days of school a petition is sent to the juvenile court (McNeely2019). Similarly to prior research conducted the effectiveness of TIP is not known. Evaluation of (n=10) case reports at Nassau University Medical Center indicate school truancy to be linked with gang affiliation particularly MS-13 (n= 3) suspension due to violent behavior (n= 4) and bullying (n=3). Conclusion: The lack of systematic working definitions and limited availability of classification assessment and treatment of school truancy doesn't allow for universal guidelines in undertaking current challenges regarding the millions of children presenting within the court system due to school truancy. We propose a longitudinal study within Nassau County to understand better the causes and effects of school truancy within the court system. We aim to provide guidelines for these students.

**Saturday May 04**

## **Demand for non-contact disaster mental health services for the general population who experienced the COVID-19 pandemic**

DONG HYEON KIM

**Background** Since the COVID-19 pandemic's outbreak significant negative impacts on mental health have emerged due to social distancing measures. While many countries implemented stringent social distancing such as closing restaurants and cultural facilities Korea primarily limited the number of people in gathering for an extended period. In addition despite Korea's high access to medical care during the COVID-19 pandemic the discussion about non-contact health services was less prominent than in other countries. Therefore understanding the physical and mental symptoms of the general population and high-risk groups as well as the demand for non-contact disaster mental health services in Korea is essential in the context of COVID-19 becoming an endemic disease. **Aims** We conducted an online-based survey targeting the general public and comprehensively analyzed the need for disaster mental health services considering the mental health characteristics of the general public in the prolonged COVID-19 situation. Our aim is to provide valuable information for the future design of non-contact disaster mental health services. **Methods** We employed a multi-stage stratified sampling method to randomly sample 1000 people aged 20-69 from the general population. An online survey was conducted from December 6 2022 to December 15 2022 to gather data on demographic characteristics mental and physical health status and the demand for disaster mental health services among the general population. SPSS 26.0 was used for quantitative analysis of variables while NVivo analyzed descriptive responses. **Results** The samples included 510 men (51%) and 490 women (49%) with a mean age of 45.12 years (range 20-69 SD 13.152). Of the 587 respondents (58.7%) who had confirmed COVID-19 419 (71.4%) reported physical after-effects and 140 (23.9%) reported mental health after-effects post-diagnosis. The most demanded non-contact services were 'mental health self-examination

with immediate result confirmation' (305 people 30.5%) '24-hour mental health emergency counseling via phone' (149 people 14.9%) and 'provision of target-specific mental health information for various vulnerable groups' (92 people 9.2%). In high-risk groups such as those of advanced age and severe depression the demand for 'non-contact mental health self-examination and immediate result confirmation' was highest followed by '24-hour mental health emergency counseling via phone'. Conclusion Among all citizens the most demanded non-contact disaster mental health services were self-examination and immediate result confirmation and 24-hour mental health emergency counseling via phone. A trend also observed in high-risk groups. The study also identified a need for various other non-contact disaster mental health services. These findings could be instrumental in designing non-contact disaster mental health services that effectively manage both mental health and physical symptoms.

**Saturday May 04**

### **Digital game-based English learning for Korean children with problematic behaviors in school**

Eun Kim M.D.; Wooyoung Im; SUNGAH CHUNG; Beomwoo Nam; Hyunchan Hwang

Introduction: Most commonly addressed student behavioral issues in classrooms are related to anxiety learning problems and attention deficit. Academic performance is negatively correlated with disruptive behavior and low academic performance. Furthermore poor cognitive abilities could predict a higher risk of disruptive behavior. For such students language skills training can improve self-discipline and problematic behavior. For students with behavioral issues we hypothesized that computer game language training could be more effective than classical language training. In addition the improved

language skills could be associated with improved problematic behaviors. Method: A total of 38 Korean students including 18 third-graders (Group 1) and 20 fourth-graders (Group 2) from Anseong Wongok Elementary School participated in the study. Each student underwent psychological assessments using Center for Epidemiological Studies Depression Scale for Children (CES-DC) the State Subcategory of State-Trait Anxiety Inventory for Children-State (STAIC-S) Korean Child Behavior Check list (KCBCL) and Korean Attention Deficit Hyperactivity Disorder Rating Scale (K-ARS) along with selective tests for behavioral problems. Wise-Ax English™ was used designed as an interactive English vocabulary educational game consisting of two phases: game rounds and control rounds in a cross-research design. Results: In the game group it was possible to predict English test score improvements with higher levels of behavioral issues increased anxiety and higher game stages. In the control group higher grade levels predicted English test score improvements. In all rounds English test scores in the game rounds significantly increased compared to the control rounds ( $F=15.17$   $p<0.001$ ). In Group 1 English test scores increased during the game rounds but not during the control rounds ( $z=2.91$   $p<0.01$ ). Conclusion: These findings suggest that computer game-based language training holds promise as an effective approach for students with behavioral issues. It not only enhances language skills but also correlates with improvements in self-control and reduction in problematic behaviors. Further research should investigate whether game-based training is effective not only for language but also for other educational subjects in students with behavioral problems.

**Saturday May 04**

### **Dynamic Deconstructive Psychotherapy for Suicidal Adolescents**

Rebecca Shields; Jessica Helfrich; Rachael Kuch-Cecconi; Robert Gregory

Introduction: Dynamic deconstructive psychotherapy (DDP) is a treatment model originally developed and tested in adults with borderline personality disorder and recently successfully extended to treatment of suicidal adults with or without personality disorders. The present study further extends the application of DDP to suicidal adolescents examining the naturalistic outcomes of DDP in this population. Method: The sample included 43 consecutive adolescents treated at the Psychiatry High Risk Program an outpatient specialty program for youth at high risk for suicide that uses weekly DDP as its core required treatment. Age range was 13-17 with mean of 15.84 ± 1.19 years. The primary outcome was the change over 6 months in a combined suicide ideation score that adds item 9 of the PHQ-9 to C-SSRS ideation scores. Results: 27 clients (63%) completed at least 6 months of treatment with DDP. In the intent-to-treat sample suicide ideation substantially decreased over 6 months ( $Z = 3.42$   $p < .001$   $d = 1.60$   $CI .99-2.21$ ). On secondary outcomes suicide attempts decreased by 86% self-harm by 89% emergency room visits by 69% and hospitalizations by 70% over 6 months of treatment. Conclusions: Adolescent suicide is a global public health concern. DDP appears to be a promising treatment for adolescent suicide prevention. Further research is indicated directly comparing DDP to other treatments for suicidal adolescents and to conduct a cost effectiveness analysis.

**Saturday May 04**

### **Educating Brooklyn Safe Havens about 988**

Samuel Jackson M.D.; Justin Dolin; Steven Nelson

Background: In July 2022 the launch of the 988 hotline for mental health crises was a historic and hopeful moment in the campaign to help those suffering from psychiatric illness in the midst of a mental health crisis affecting the United States. The rationale behind implementing the was sound; calling or texting an easy-to-remember 3-

digit number would be more accessible in a crisis than finding and dialing the previous National Suicide Hotline number. Furthermore 988 broadens the scope of what type of emergencies a mental health hotline could assist with offering help not only with suicidal ideation but also substance abuse and issues specific to the LGBTQIA+ community. While 988 has shown great promise with large levels of support among both mental health professionals and the general public awareness of and preparedness for 988 lags behind what is necessary to optimally address the mental health crisis in community settings. These shortcomings regarding 988 utilization are evident in central Brooklyn Safe Havens (transitional housing for chronically street homelessness individuals with serious mental illness and addictions) where there is on average one 911 call every other day mostly for psychiatric emergencies and little to no 988 use. Increasing 988 utilization in these high utilization settings may appropriately decrease costly and often ineffective police and EMS intervention while improving access to mental health treatment. Methods: A training program was designed to educate the Safe Haven staff about what 988 is and how to effectively use it when clients at the Safe Havens experience mental health crises. Pre-and-post test surveys were prepared to assess the staff members' understanding of 988 (assessed via an 8 question multiple choice quiz) and their comfort with using it (assessed via a 1-5 Likert scale). A question was removed during data analysis due to improper formatting of the question leading to an incorrect response across groups. Data was collected among staff prior to the start of and following the training session and was analyzed using an independent sample t-test. Two post-tests were not returned to the trainers for grading. Results: When comparing the pre-test ( $n=13$ ) and post-test responses ( $n=11$ ) The staff members showed significant improvement in both understanding of 988 (post-test mean correct answers: 6.091 versus pre-test mean correct:3.846;  $SD 1.281$   $p < 0.001$ ) and comfort with using 988 (post-test mean comfort:4.273 versus pre-test mean comfort:3.21;  $SD 1.166$   $p = 0.02$ ) Conclusions: The results show that a simple one-time training session is



highly effective in improving understanding of and comfort with using 988 among staff members at central Brooklyn's Safe Havens. These encouraging results suggest that simple training initiatives can be implemented on a larger scale to educate and inform both the general public and mental health workers about 988 a resource with tremendous potential to help remedy the mental health crisis.

**Saturday May 04**

### **Effect of Meditation or Escitalopram on Work Performance in Patients with Anxiety Disorders**

Sruveera Sathi MS MD; Anna Oft; Samantha Philip; Xue Geng; Elizabeth Hoge

**Background** Anxiety disorders are some of the most prevalent mental health conditions among the working population and are associated with substantial economic costs amounting to billions of dollars. Mounting evidence suggests that the presence of an anxiety disorder can significantly affect an individual's overall work performance measured by factors such as workplace absenteeism—defined as missing time off work—and presenteeism—conceptualized as the loss of work productivity or working below full capacity while at work. **Objective** This study aimed to 1) examine how psychopharmacotherapy and mindfulness-based stress reduction (MBSR) influence absenteeism and job performance among individuals with anxiety disorders and 2) compare the effectiveness of these treatments in improving work performance. **Methods** The present study uses data collected during the Treatment for Anxiety: Meditation vs. Escitalopram (TAME) study a randomized controlled trial. Adults (N=67) with a primary anxiety disorder were recruited at the three following sites: Georgetown University Medical Center New York University Langone Health and Massachusetts General Hospital. Participants were randomized to

escitalopram a common treatment for anxiety disorders or MBSR. Absenteeism and job performance were measured with the Health and Work Performance (HPQ) questionnaire before treatment and at the week 24 follow-up. Results At week 24 individuals in the escitalopram arm and the MBSR arm showed significant improvements in partial days of missed work due to mental/physical health problems from baseline (1.00 [0.00-2.50] to 0.00 [0.00=1.00]  $p=.034$  and 0.00 [0.00-2.00] to 0.00 [0.00=1.00]  $p=.001$  respectively). In the MBSR arm only job performance increased from baseline to week 24 (65.00 [50.00-80.00] to 75.00 [67.50-82.50]  $p=.017$ ). None of the outcome variables significantly varied by group at baseline or week 24. **Conclusions** Our study finds evidence that MBSR improves work performance equivalently to SSRI medication among individuals with anxiety disorders. Given the limitations of SSRIs MBSR should be considered as an alternative to individuals who desire improved anxiety symptoms and work outcomes.

**Saturday May 04**

### **Efficacy of Resident-Led Crisis Intervention Training (CIT) on Houston-Area Police Officer Education and Management of Psychiatric Disorders**

Youssef Ahmed; Rachel Stroh; Dania Albaba M.D.; Nancy Shenoi; Somto Obi

**Background:** Over the past 30 years research has focused on the burgeoning liaison between police and mental health professionals through Crisis Intervention Training (CIT). Our study aims to analyze the efficacy of a mental health education course designed by psychiatry residents for Houston-area police officers receiving behavioral health training. **Methods:** Psychiatry resident physicians from Baylor College of Medicine provided 90-minute interactive live-teaching format lectures for police officers in the Harris County Sheriff's Office. Inclusion criteria were all police officers who attended mental health

training sessions. Exclusion criteria were officers who declined to participate. Pre- and post-course surveys utilizing Likert scales were administered in paper format to assess knowledge base on psychiatric terminology and mental illness recognition. Results were analyzed using Qualtrics and Excel 365 and a two-sample t-test was performed to compare response averages. Results: Police officers (n=99) who completed the course consisted of 75% male 24% female and 1% non-binary gender. 41% of officers were Black/African American 36% were Hispanic/Latino 20% were White/Caucasian and 3% were Asian/Native American/other. Before the course there was a significant relationship between knowing someone with schizophrenia and the attitude that patients with schizophrenia have less propensity to commit violent crime ( $p < 0.05$ ). Similarly among those police officers receiving or having received psychiatric treatment attitudes indicated less perceived likelihood of aggression in patients with schizophrenia as opposed to the same or more in those without schizophrenia ( $p < 0.05$ ). Officer attitudes significantly changed following the course with the perception that patients with schizophrenia are less likely to be violent or aggressive post-survey (Likert scale mean 2.95) rather than pre-survey (3.72) ( $p < 0.05$ ). 92-99% of police officers reported increased confidence in de-escalating situations involving patients with schizophrenia and substance use disorders facilitating their admission to mental health facilities and communicating about them with healthcare professionals. There was an improvement in officers' comfort levels in addressing and referring individuals with schizophrenia and substance use disorders for psychiatric care with Likert scores rising from 3.04 pre-training to 3.67 post-training ( $p < 0.05$ ). Discussion: Our course has shown promising shifts in perceptions among police officers towards patients with schizophrenia substance use disorder and other psychiatric illnesses. The limitations of this study include potential self-report bias and the lack of generalizability to all police departments. Furthermore the study did not assess the long-term impact of the training on officers' attitudes and behaviors. Future directions include assessing larger samples of police officers

with specific regard to other mental health conditions.

**Saturday May 04**

## **Evaluating Outcomes from Mental Health Skills Education Curriculum for Korean Community**

Kyu Young Oh M.D.; Jeongyoon Hwang

Background: Asian Americans have a low mental health care utilization rate compared to other racial-ethnic groups. According to surveys pooled prevalence rates of depression measured among different subethnic groups showed 33.3% for Koreans compared to 7.1% of all U.S. adults. There is a need for more research on effective mental health education programs delivered to Korean communities in the U.S. Methods: A total of 25 Korean participants aged 18 and above were recruited from the community to participate in the mental health education curriculum. The curriculum was taught in Korean language over a virtual platform for six weekly sessions. Topics covered were knowledge of common psychiatric disorders and how to recognize them recognizing warning signs of suicide and basic therapeutic skills to help self and others in the community. These therapeutic skills were chosen from readily applicable behavioral skills in CBT (Cognitive Behavioral Therapy) DBT (Dialectical Behavior Therapy) and IPT (Interpersonal Psychotherapy) including building healthy habits empathetic communication strategies mindfulness and emotional regulation and improving interpersonal relationships. Surveys assessing three categories 1) level of stigma and openness to mental health; 2) level of confidence in the knowledge of common mental health topics; 3) level of confidence in helping self and others with mental health problems were administered before and after the curriculum. Pre- and post-survey results were compared. Results: 24 out of 25 participants completed the surveys. Participants' average

rating of confidence in knowledge of common mental health topics consistently increased for all 8 questions on surveys with statistically significant improvement in knowledge of categories of mental health problems (3.23 to 3.8;  $p < 0.05$ ) symptoms of depression (3.59 to 4.25;  $p < 0.05$ ) helping a suicidal person (3.23 to 4.10;  $p < 0.01$ ) and different types of psychotherapies (3.18 to 3.85;  $p < 0.05$ ). The average rating of confidence in helping self and others using the skills learned increased by 20.5% from 3.36 to 4.05;  $p < 0.01$ . Participants' average rating of stigma and openness to mental health showed improvement on some questions related to suicide and psychotherapy but most did not show statistically significant results. Participants found the session on mindfulness and emotional regulation the most helpful out of all six sessions. Conclusion: This mental health curriculum focused on therapeutic skills was effective in improving the participants' confidence in their knowledge of mental health topics and their ability to help themselves and other community members in distress. Further research is needed to identify ways to consistently decrease stigma related to mental health in Korean communities. This research has been funded by APA SAMHSA Minority Fellowship.

Saturday May 04

### **Factors affecting fear of COVID-19 infection in healthcare workers at COVID-19 dedicated teams: Focus on professional quality of life**

Jongbin Kim

Background: Fear of coronavirus disease 2019 (COVID-19) infection is particularly significant for healthcare workers (HCWs) due to their increased exposure to viral transmission at the forefront of the battle against the pandemic. This study examined factors related to high fear of COVID-19 infection in HCWs at COVID-19 dedicated teams

and the association between COVID-19 infection fears and professional quality of life. Methods: This study used an online (Google Forms) questionnaire administered by the Jeju Mental Health Welfare Center in South Korea to collect data on negative psychological states related to COVID-19. Fear of COVID-19 infection was assessed using the COVID-19 Infection Fear Scale (CIFS) and professional quality of life was assessed using the Professional Quality of Life Scale 5 (ProQOL-5). A total of 371 HCWs were classified into high (COVID-19 infection fear score  $\geq$  75th percentile) intermediate (25th percentile  $\leq$  score  $<$  75th percentile) and low (score  $<$  25th percentile) COVID-19 infection fear groups. We compared characteristics associated with COVID-19 infection fear levels among the three groups and investigated factors associated with COVID-19 infection fear. Results: Higher COVID-19 infection fear was significantly associated with being a woman and poorer professional quality of life. Multivariate logistic regression analyses of factors associated with high COVID-19 infection fear using the low fear group as the reference. Of the demographic variables being a woman was significantly related to high COVID-19 fear ( $P = 0.004$  model 1). In model 2 which included all variables being a woman (adjusted odds ratio [aOR] 3.562 95% confidence interval [CI] 1.313–9.665  $P = 0.013$ ) age in the 40s (aOR 2.494 95% CI 1.093–5.692  $P = 0.030$ ) and high burnout level (aOR 1.146 95% CI 1.025–1.281  $P = 0.017$ ) were significantly associated with high COVID-19 infection fear. Conclusions: Based on results COVID-19 infection fear can have a negative effect on the professional lives of HCWs leading to reduced work ability. Implementing a plan to lower COVID-19 infection fear among HCWs is crucial for their well-being job satisfaction and ability to provide effective care. Keywords: COVID-19; Fear; Healthcare workers; Professional quality of life

Saturday May 04

## **Inpatient Hospital Stay Duration by Suicide Attempt Method: A Retrospective Cohort Study**

Steven Sprenger M.D.; Gerardo Corsi M.D.;  
Alexandre Koumtchev M.D.; Jeffrey Anderson;  
Manpreet Bindra D.O.

Background: Suicide attempts are a psychiatric emergency necessitating psychiatric admission for observations and stabilization. Admission duration varies greatly according to physician assessment of risk. Suicide attempt methodology may influence hospitalization duration. Readmission rates may serve as an outcome measure for treatment of patients following inpatient admission. There is a paucity of data that confirms that higher risk suicide attempts have longer length of stays. There has also been little data examining the effect of duration of hospitalization on the outcomes measure readmission rate. The purpose of this study was to explore the consequences of suicide method and comorbid personality disorder on LOS and readmission rate. Methods: Inpatient records from the HCA database were reviewed from January 1 2019 to December 31 2021 to identify unique patients who attempted suicide. Suicidal method length of stay 90-day readmission rate race gender and personality disorder data were extracted. A One-Way ANOVA was administered to investigate the impact of suicide method on LOS. Significance was determined when P-values<0.05 at the ? level of 0.05. Logistic regression was used to assess the association of suicide method ethnicity personality disorder and race on 90-day readmission. Odds ratios and 95% confidence intervals were used to determine significance. Results: A total of 5814 patients were assigned by attempt means into 368 alcohol use 285 Benzodiazepine/sedative use 289 illicit substance use 741 prescription medication abuse 857 trauma 51 firearm/explosive use 42 hanging/suffocation/asphyxiation and 3181 unspecified suicide attempts. Significant differences in length of stay were observed. Suicide attempt via firearms had significantly higher length of stay than medication use(p=0.0261) benzo use(P=0.0023) illicit

substance use(p=0.0360) alcohol use(p=0.0010) trauma(p<.0001) and other methods (p=0.0007). The highest length of stay was seen in patients who attempted suicide with firearms (7.55 days) and the lowest was among patients who attempted with alcohol (2.35 days). When looking at outcomes: 37.3% of firearm use 22.3% of alcohol use 26.0% of benzodiazepine use 23.8% of the hanging/suffocation/asphyxiation 26.3% of the illicit substance use 27.4% of trauma 22.1% of prescription medication abuse and 25.7% of the unspecified attempt patient had a readmission in 90 days. Patients with personality disorders had significantly higher odds of readmission (OR=1.517 95% CI=1.125-2.044 p=0.0062). Conclusion: In a large patient population from 2019-2021 patients attempting suicide via firearm use had the longest length of stay with no improvement readmission rates. Further research is needed to determine if variation in length of stay by attempt means correlates with actual or perceived risk.

**Saturday May 04**

## **Nutrient deficiencies contribute significantly to sexual dysfunction and possibly sexual addiction**

Barbara Bartlik M.D.; Janet Mindes Ph.D.; Yeira Baez B.A.; Katelyn Baez

Though rarely medically grave sexual problems cause a great deal of suffering for a huge number of people and nutritional deficiencies may play a role. Common deficiencies in Americans include calcium choline Co-Q10 glycine iodine magnesium niacinamide omega-3 fatty acids vitamins A B12 C D E K2 and zinc. These can contribute to endocrine and neurotransmitter imbalances and metabolic disorders that underlie many sexual psychiatric and medical problems. Nutrients are needed to produce sex hormones and neurotransmitters essential to sexual function restful sleep and mental and physical health.

These deficiencies occur due to: a poor diet inadequate nutrient absorption little sunlight and nutrient loss due to medications substances and toxins. B vitamins are needed for the synthesis of neurotransmitters and ATP essential to sexual arousal. Iron deficiency impairs oxygenation and is linked to sexual and psychiatric problems. Magnesium aids nitric oxide (NO) production necessary for improving blood flow to the genitals. Vitamin C enhances iron absorption and production of NO sex hormones and neurotransmitters. Vitamin D aids NO production and when deficient is associated with low testosterone and erectile disorder. Zinc is essential for testosterone production. The poster will also describe sex-positive foods and botanicals. Nutritional interventions also may help address sexual addiction. Scientists hypothesize that ADHD compulsivity hypersexuality and impulse control problems are associated with a relative lack of dopamine in the brain. Nutrients enhancing dopaminergic function are recommended such as phenylalanine and tyrosine precursors to dopamine and norepinephrine as well as B vitamins copper and iron cofactors in dopamine synthesis. Phospholipids and essential fatty acids support cell membrane repair and synaptic physiology. Some foods and supplements to increase dopamine include fava beans fermented foods high in probiotics ginkgo biloba L-theanine (green tea) and turmeric. Nutritional supplements to address concurrent psychiatric problems (e.g. anxiety depression insomnia obsessions/compulsions) in individuals with sexual dysfunction and sexual addiction include B-vitamins GABA glycine lavender lithium orotate L-theanine magnesium N-acetylcysteine saffron SAM-e St. John's wort taurine tryptophan 5-HTP valerian root Vitamin D3 zinc. The poster will teach the basics of testing for and remediating micronutrient deficiencies. Several cases illustrate the use of vitamins minerals and herbs. One is an alcohol-dependent sex addict successfully treated with nutrients among other modalities. Another is a woman who developed sexual dysfunction due to contraceptives and was given nutrients to clear synthetic hormones from her body. Her libido and ability to function sexually

returned. Non-nutrient (medication holistic) approaches to addressing sexual addiction/dysfunction will be covered.

**Saturday May 04**

### **Predictive Factors of Co-occurring ADHD and Autism Spectrum Disorders: Insights from National Inpatient Sample from the US Hospitals**

Shreya Mishra; Azka Iqbal; Lalitha Pallemapati; Divya Aishwarya Gandhi; Sanobar Jaka M.D. M.P.H.; Harshita Ganga

**Objective:** To evaluate the impact of demographics and comorbidities on the likelihood of autism spectrum disorders (ASD) ADHD or ASD+ADHD in children. **Methods:** We used 2018-2019 national inpatient sample and included 107315 psychiatric inpatients (age 3-17). We compared variables across cohorts using the linear-by-linear association test. We estimated the association between demographics and comorbidities and the odds ratio (OR) of co-occurring ASD+ADHD compared to the ASD/ADHD-only cohorts. **Results:** ASD+ADHD was majorly constituted in adolescents (81%) males (78.5%) and White (81%); ASD+ADHD was not seen in preschoolers. Intellectual disability (ID) speech/language disorders eating disorders and DMDD were higher in ASD+ADHD (6% 2.5% 4.6% 29.2% respectively) compared to ASD/ADHD-only. No genetic disorders were co-diagnosed in the sample except Klinefelter's syndrome (0.5% in ADHD). Predictors of ADHD in ASD cohort included male (OR 1.85) and comorbid ODD (OR 1.79) DMDD (OR 2.16) and eating disorders (OR 2.55). Predictors of ASD in ADHD cohort included male (OR 3.03) and comorbid ID (OR 1.43) speech/language disorders (OR 2.13) eating disorders (OR 2.07) and epilepsy (OR 1.66). ASD+ADHD had higher likelihood of obesity and hypertension by 1.5-2 times than ASD/ADHD-only cohorts. Loss of functioning was



significantly higher in ASD (26.4%) and ASD+ADHD (23.9%) vs. ADHD (9.5%). Conclusion: Our findings point to predictive factors including comorbidities like ID epilepsy and speech disorders seen in co-occurring ASD+ADHD. Prevalence of ASD+ADHD (1.3%) was low and under-represented in preschoolers females and minorities. Future research should focus on understanding the disparities in diagnoses of neurodevelopmental disorders and guidelines for equitable care.

Saturday May 04

### **Proinflammatory Cytokine Levels Cognitive Function and Suicidal Symptoms of Adolescents and Young Adults with Major Depressive Disorder**

Muhong Chen

Background: Whether proinflammatory cytokine dysregulation and cognitive dysfunction are associated with suicidal symptoms in adolescents and young adults with major depressive disorder (MDD) remains uncertain. Methods: We assessed the cognitive function and proinflammatory cytokine levels of 43 and 51 patients aged 15–29 years with MDD and severe and mild suicidal symptoms respectively as well as those of 85 age- and sex-matched healthy controls. Specifically we measured serum levels of C-reactive protein tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) interleukin-2 and interleukin-6 and assessed cognitive function by using working memory and go/no-go tasks. The severity of the patients' suicidal symptoms was based on Item 10 of the Montgomery-Åsberg Depression Rating Scale; scores of  $\geq 2$  and  $\geq 4$  indicated mild and severe symptoms respectively. Results: The patients with MDD and severe suicidal symptoms had higher levels of C-reactive protein ( $p = .019$ ) and TNF- $\alpha$  ( $p = .002$ ) than did the patients with mild symptoms or the healthy controls. The number of errors committed on the go/no-go by patients with MDD and severe suicidal symptoms ( $p = .001$ ) was significantly higher than those by patients with

MDD and mild symptoms or by controls. After adjusting for nonsuicidal depressive symptoms we observed suicidal symptoms to be positively associated with TNF- $\alpha$  levels ( $p = .050$ ) and errors on the go/no-go task ( $p = .021$ ). Discussion: Compared with mild suicidal symptoms severe symptoms are associated with greater serum levels of proinflammatory cytokines and inferior cognitive function in adolescents and young adults with MDD.

Saturday May 04

### **Student-Run Free Psychiatric Clinic in Collaboration with the Wellness & Stress Clinic of Memphis**

Jakub Denkiwicz; Samhita Swamy; Ronald Cowan

The Wellness & Stress Clinic of Memphis (WSC) provides primary care services in the neighborhood of Oakhaven—an economically underdeveloped area in South Memphis. This population's uninsured rate is twice that of the national average of 8%. The clinic serves uninsured and underserved principally African Americans individuals every Monday from 5pm-9pm. Each month the clinic provides full primary care and preventative care acute care services basic laboratory testing flu shots and free prescriptions to roughly 50 uninsured patients over the age of 18. The purpose of the Student-Run Psychiatry Interest Group Clinic is to expand and destigmatize psychiatric care services of the WSC to include robust free psychiatric care for their patients. The University of Tennessee Health Science Center (UTHSC) Psychiatry Interest Group determined the marked mental needs of this community through conversations with clinic leadership. This led to a collaboration between WSC and UTHSC Department of Psychiatry to create a student-run free psychiatric clinic. To create a safe space for patients the interest group used \$5000 from The Helping Hands Grant

provided by the APA to build rooms for a separate psychiatric clinic space. This new safe space will offer a warm and therapeutic environment that avoids the psychiatric stigma often associated with medical spaces. While this room was being built over the last year we have seen patients monthly while integrating into the existing clinic. To measure impact over the year we tracked psychiatric visits diagnosed conditions and used screening tools to measure patient outcomes. Patients enrolled through screening done by trained volunteers using the validated PAL assessment which measures depression risk and through referrals from homeless shelters and an HIV clinic in Memphis. In addition to psychiatric care provided by the clinic patients are also offered multidisciplinary medical social and legal services through the WSC. The Student-Run Psychiatric Clinic in collaboration with the WSC established a new avenue for access to free psychiatric care in the South Memphis community and provided UTHSC medical students with supplemental psychiatric experience. Future goals include formalization of relationships with other Memphis community mental health care organizations creation of culturally sensitive mental health handouts and the creation of a fundraising program to sustain the organization.

**Saturday May 04**

### **Study of Cognitive Reserve in Adolescent Cannabis Consumers: Description of the Protocol and Preliminary Results**

Juan Ignacio Mena Garcia; Iñaki Ochandiano Recio

Introduction Given the increasing prevalence of cannabis consumption among adolescents and its impact on mental health there is a need to identify individuals more susceptible to its harmful effects. Cognitive reserve (CR) is the brain's ability to withstand brain damage without manifesting symptoms of impairment. This

approach is particularly interesting for identifying susceptible individuals during vulnerable stages such as adolescence. Objectives To describe the study protocol and preliminary results obtained by assessing Cognitive Reserve (CR) and global functioning in a sample of adolescents diagnosed with cannabis use disorder as well as its influence on psychopathology functioning neuroimaging and cognitive performance. Cognitive reserve was assessed using the Cognitive Reserve Questionnaire for Adolescents (CoRe-A) developed by the Child and Adolescent Psychiatry and Psychology Service at Hospital Clínic in Barcelona after a systematic review conducted to identify the components of cognitive reserve and assess their suitability relevance and clarity. The CoRe-A evaluates some aspects considered essential in the cognitive reserve construct such as education and occupation sociability academic performance and development as well as leisure activities. Materials and Methods The study protocol is described utilizing the CORE-A scale to assess CR and the GAF scale to evaluate global functioning among others. Statistical analysis was conducted to examine the association and correlation between CR and GAF with defined clinical variables. Results A total of 12 participants 58.33% female with an average age of  $16.5 \pm 1.00$  years were included. The majority of the sample fell into the low CR group (90%) with nearly 50% exhibiting low functioning. An association was observed between low global functioning and positive psychotic and manic symptomatology global clinical severity and poorer adherence to the Mediterranean diet. Conclusions: The preliminary sample indicates a significant low CR. Identifying individuals with low CR and a risk of psychopathology could guide more effective and precise preventive and therapeutic programs.

**Saturday May 04**

### **The Black Church & Mental Health: In The Era of COVID-19 & Black Lives Matter**

Joryan Franklin MPH; Devin Cromartie MD MPH

Issues: Since COVID-19's inception and heightened visibility of the brutality against Black bodies Black Americans have reported higher prevalence of depression symptoms of trauma- and stress-related disorders and substance use. Therefore a targeted approach to address mental health is warranted to combat the growing disparity affecting the Black population. One methodology utilized to improve health outcomes in disenfranchised communities is Community Based Participatory Research (CBPR). Description: Employing the context of the COVID-19 pandemic and exposure to racial stress and trauma this research aspires to improve mental health outcomes in the Black community of Boston through the mobilization of Black Churches. Buy-in from senior pastors of three historically Black churches in the Roxbury community of Boston and recruitment of Community Advisory Board members from each church were obtained. Progress was measured by the number of meetings conducted meeting attendance audio recordings and notes from each meeting. Planned milestone products included a CAB Charter Needs Assessment plan and a preliminary Sustainability Plan. Using CBPR we endeavored to foster equity self-efficacy and trust in the design execution and dissemination of research. Lessons Learned: As a result a church needs assessment is being implemented in partnership with the CAB and the relationship between the churches and the academic hospital has been strengthened. This research has contributed to existing church wellness programs resulting in the churches expressing interest in more mental health-related programming and assistance. Recommendations: In partnership with the CAB an intervention based on the findings of the needs assessment will be developed.

Saturday May 04

## **The National Tele Mental Health Program (2022) of India (Tele MANAS): Analysis of**

## **call profiles from first year of the implementation**

Narayana Naik Manjunatha; Channaveerachari Kumar M.D.; Suresh Bada Math

Government of India launched the National Tele Mental Health Program (Tele MANAS) on 10th October 2022 to cater to the aftermath of mental health issues from COVID-19. It is a national 24x7 toll-free telephone number 14416 that enables access to its citizens from anywhere within India over the phone through 46 Tele MANAS cells nationwide. This poster aims to analyze the call profiles to understand the distribution growth pattern and duration of calls over the first year of its implementation. Methods: The data was analyzed from October 10 2022 to October 9 2023. Results and Discussion Call profiles: During the first year the total recorded calls were 351024 from 160745 users of which connected calls were 286905 (%%) user-initiated calls (Direct by user friends families bystanders and collaborative calls by ASHA & CHOs) is 240420 (connected are 236951) and Tele MANAS cells initiated calls 110604 (connected are 49954).

Triage: Out of 179537 recorded calls out of 286905 connected calls 167422 (93.25%) are routine calls 6352 (3.54%) are emergency calls 4115 (2.29%) are prank calls The growth graph of every 50000 calls suggests Incremental growth with the gradually reduced time gap between successive 50000 calls. Among 286905 connected calls about 64% and 12 % of the calls were completed within 10 and 20 minutes respectively. The peak calls are coming in between 10 AM and 12 Noon. About 74% (5421) of the users from randomly selected 7375 users revealed that they are highly satisfied with their service. Conclusions: Tele MANAS services in India are showing incremental growth with higher user satisfaction and most calls are completed within 20 minutes during the first year of implementation.

Saturday May 04

## **Unveiling the Psychological Toll: Exploring the Impact of Detention Centers on the Mental Health of Asylum-Seeking Children in the United States**

Victoria Miller; Alyssa Reese; Jasmin Gill; Afreen Siddiqui; KIM GRISWOLD

Background: Families experiencing persecution in their home countries have the opportunity to seek asylum in the United States. Upon their arrival many asylum-seekers are placed in detention centers. Similar to their adult counterparts pediatric asylum seekers experience the conditions and psychological impact associated with detainment. The purpose of this study was to investigate how detention centers in the United States impact the mental health of asylum-seeking children. Methods: A systematic review was conducted using PubMed EMBASE and Web of Science to identify publications using the following search terms: ('migrant' OR 'immigrants' OR 'asylum seekers' OR 'refugee') AND detention AND ('mental health' OR 'psych') AND ('youth' OR 'child' OR 'adolescent'). Three hundred seventy-two articles were retrieved and duplicates were removed resulting in 230 unique articles. Articles were included if there was a discussion of mental health in pediatric asylum seekers. Results: Thirty-one articles were included and screened for common themes and mental health conditions in the pediatric population of asylum seekers. Of the selected papers PTSD (N=24 77.4%) general emotional and behavior issues (N=23 32.3%) major depressive disorder (N=20 60.4%) anxiety disorder (N=18 58.1%) and suicidal ideation (N=11 35.5%) were the most prevalent diagnoses mentioned. The children seeking asylum are confined to detention centers that have been described as having inhumane conditions. In some cases children are forcefully separated from their families. The findings suggest that the mental well-being of children is heavily influenced by the challenges they have faced in their journey to America as well as the experiences they endure within detention centers. Conclusion: Children and adolescents in detention centers have an increased risk of experiencing PTSD

depression and suicidal ideation. These mental health disorders may be exacerbated by the conditions within detention centers. Addressing this psychological toll and mitigating the endured trauma is critical for the development of this pediatric population. This research study had no funding or financial involvement.

Saturday May 04

## **Youth Exposure to E-Cigarette Content on Instagram: How Effective are Current Regulatory Policies?**

Jessica Tran BS; Lily Nguyen B.S.; Joseph Shotwell M.D.

Background: E-cigarettes including vaping products synthetic nicotine products and other ENDS (electronic nicotine delivery systems) are promoted extensively on visual-based social media platforms such as Instagram. Evidence suggests that social media e-cigarette exposure is associated with increased e-cigarette use especially among youth. While other studies have analyzed e-cigarette related content on Twitter TikTok and Instagram few studies have analyzed such content on Instagram after the implementation of branded content policies in 2019 that prohibit the promotion of e-cigarettes. Aims: To determine creator type content type engagement rate accuracy of information marketing strategies and adherence to federal regulation policies of posts on Instagram related to ENDS. Methods: ENDS-related Instagram posts were queried in December 2023 using a new female 14-year old Instagram profile in an incognito web browser with the following hashtags: #vaping #vapelifelife #vapestagram #vapefam #eliquid #ejuce #ecig #vapenation #vapelyfe and #vapecommunity. The top 27 publicly available posts from each hashtag were pre-selected yielding a total number of 270 posts. After exclusion (duplicate not in English unrelated) a total of 51 ENDS-related posts from Sep-Dec 2023 were analyzed. Two reviewers independently assessed each post for level of engagement

accuracy of information presence of health-related warnings overall depiction of e-cigarette use and common themes. Results: Two-thirds of posts (n=34) had a positive portrayal of e-cigarette use while 1 in 4 posts (n=12) had a negative portrayal. 58.8% (n=30) of posts were promotional and 27.5% (n=14) were educational. Common marketing strategies included appeals to aesthetics lifestyle youth culture humor and emotion. Posts that appealed to humor and lifestyle had the highest level of engagement (7.1% and 6.9% respectively). Two-thirds of posts (n=34) did not contain warnings regarding age restriction or the addictive potential of nicotine violating FDA regulations. Nearly half of posts (n=23) were shared by vape ambassadors reviewers or shops violating Instagram's branded content policy. Conclusion: Despite regulatory policies adolescents are routinely exposed to promotional ENDS-related content on Instagram. The majority of ENDS-related content violated FDA and Instagram content policies. Effective age restrictions and better enforcement of regulatory policies are needed to minimize youth exposure to promotional content. These findings highlight the need for more educational content tailored toward youth using effective marketing strategies such as appeals to humor and lifestyle to increase youth engagement.

Saturday May 04

#### Poster Session 4

Saturday May 04

#### **“I’ll call for pen and ink and write my mind:” A Review of Physiological and Neural Effects of Narrative Medicine**

Elizabeth Hofman MFA

“I’ll call for pen and ink and write my mind:” A Review of Physiological and Neural Effects of Narrative Medicine Objectives: Numerous healthcare professionals reference patient narratives to better understand their patients’ and families’ perspectives and needs to provide more personalized patient care. This review explores the various modes of patient narratives their uses in pediatric and adult populations physiological and neural effects of the narrative process and their higher physiological psychological and societal impacts. Methods: This literature review references sources that were limited to journals written in English mainly regarding patient experiences and narratives about healthcare health complications and mental health. Terms included: mental health stories neuroscience and storytelling storytelling therapy narrative medicine narrative psychiatry and stigma. Multiple databases were used including PubMed CINAHL Complete and Boxer LibrarySearch (Searches multiple databases at once including MEDLINE AccessMedicine CINAHL PsycINFO and more). Results: Multiple modes of patient narratives were found to be beneficial in improving communication among patients their families and healthcare providers. The mediums of patient narratives include but are not limited to graphic phenomenological poetic and theatrical narratives. Storytelling reduces stress in patients as evidenced through reduced cortisol and increased oxytocin levels in hospitalized patients engaged in storytelling compared with subjects engaged in a puzzle game. fMRI studies also show that storytelling/listening unsurprisingly increases activity in the prefrontal cortex where imagination and cognition take place but also in the anterior insula anterior cingulate cortex somatosensory cortex and amygdala where the brain processes nociceptive information and threat signals. Studies also revealed neural alignment in which storytellers and story listeners have mirroring brain activity. These studies suggest storytelling might increase empathy in listeners. The literature shows empathy in medical personnel provides psychological benefits such as improved communication and self-confidence and has the ability to create positive health outcomes safer communities and better quality of life on a



societal level. Conclusion: This literature review revealed the connection between internal physiological and neural processes and external interactive relationships in the context of narrative medicine. Patient narratives not only represent patients' experiences with illness and recovery processes but also provide their life contexts. As a relatively inexpensive intervention when compared to medication or procedures storytelling shows potential to provide numerous physiological psychological and societal benefits.

**Saturday May 04**

### **A Rare Case of Severe EPS Stiffness in CYP1A2 Ultrarapid Metabolizer of Haloperidol**

Jonathan Tringali M.D.; Bo Ram Yoo; Monish Parmar; Meriam Naqvi

Objective: Both extrapyramidal symptoms (EPS) and neuroleptic malignant syndrome (NMS) are risks and life-threatening emergencies associated with antipsychotic medications. NMS typically presents with rigidity fever and autonomic instability. EPS includes symptoms including but not limited to: akathisia parkinsonism tremors and dystonia some of which may present similarly as NMS. Although EPS and NMS have overlapping symptoms our case indicates the importance of identifying the etiology of a patient's symptoms as it can determine management and the clinical course. Methods: A 31-year-old male with a history of schizophrenia presented to the emergency department one week after being hospitalized at an inpatient psychiatric hospital where he received a long-acting injectable of haloperidol decanoate and oral benztropine. He presented with symptoms of severe bilateral upper and lower extremity rigidity diaphoresis and tremors. Of note he had intermittent elevated blood pressures throughout his admission and was afebrile. Patient's lab results were only notable for a mildly elevated CK 866 on admission mild transaminitis (AST 66 ALT 114 T. Bili 1.4) and serum haloperidol level 4 ng/mL. He was initially

treated with trials of lorazepam which resulted in severe lethargy. At the time of his admission there was suspicion for NMS. As a result of this concern his antipsychotic medications were held and he was treated with bromocriptine and dantrolene resulting in mild improvement. Upon further review of his previous notes it appeared that he exhibited EPS symptoms while taking oral haloperidol which subsequently improved with benztropine during his prior psychiatric admission. With that said benztropine was re-started. Results: After restarting benztropine the patient resulted in a significant improvement in his symptoms. Prior to his discharge the patient was alert ambulating and eating independently. GeneSight testing was performed given his severe EPS symptomology with haloperidol level of only 4 ng/mL. Testing demonstrated he is a CYP1A2 ultrarapid metabolizer thus explaining his low haloperidol level. Today he continues to do well in outpatient clinic on a regimen of aripiprazole benztropine and clonazepam. Conclusion: NMS can present with the following symptoms: muscular rigidity dystonia akinesia mutism obtundation hyperthermia diaphoresis and increased blood pressure which were consistent with the patient's initial presentation. Of note While NMS is rare (0.01-0.02%) mortality rates rise to 10-20% when long-acting injectable antipsychotics are involved. This concern resulted in the patient's treatment to be directed towards treatment of NMS including dantrolene and bromocriptine. When his symptoms were unresolved despite conventional treatment of NMS it led to a change in his suspected diagnosis to EPS and treatment with benztropine resulting in a rapid resolution of his symptoms.

**Saturday May 04**

### **Acceptability of Orondo Program: a qualitative evaluation of an intersectoral care model in children's mental health based on bonding**

Paula Bedregal; Victoria Lermada; Sebastián Claro; Alvaro Tellez; Macarena Zulueta

**Background:** The Orondo program is an intervention developed with the purpose of contributing to children's mental health issues by strengthening the bond between the child and his/her caregiver. In this intervention the caregiver reads the child a story where fantastic characters appear; afterwards these characters send letters to the child asking her/him to accomplish activities with her/his caregiver; the group of caregivers that participate in the intervention meet every other week with a therapist and talk about their relationship with the child and the difficulties and opportunities they encounter doing the activities; it finishes in a ceremony where caregivers give testimony of having discovered a treasure: the life of the child. A relevant aspect to consider for a successful implementation of an intervention is acceptability. Thus the objective of this study was to evaluate the acceptability of the Orondo program from all the incumbents of the intervention. **Method:** Cross-sectional qualitative study. Individual and group semi-structured interviews were applied to 44 participants considering users and implementers from 4 healthcare centers 4 educational institutions and decision makers. Data were analyzed using thematic content analysis. **Results:** The narratives showed positive feedback to the program idea materials and resources with special emphasis on the therapeutic potential of the intervention. However despite the motivation to participate on it the perceived burden of the application was an influential factor in adherence that is relevant to review. **Conclusions:** The Orondo program was positively evaluated in terms of acceptability. However it is important to check other factors such as the appropriateness of the target population and the role of social determinants of health in the design of the intervention.

Saturday May 04

## Adolescent Runways and Risky Sexual Behaviors: A Case Series

Sherina Langdon M.D.; Sarah Noaman; Afra Rahman; Fariha Hossain

**Background:** Between 1.6 and 2.8 million youth run away from home each year in the United States and adolescent females are at increased risk. Previous research suggests that running away and homelessness increase the odds of sexual debut sexual assault and risky sexual behavior among adolescent females. This case series focuses on the predisposing factors as well as potential interventions for runaway children and adolescents who presented with the complaint of running away within the last two years. **Methods:** A retrospective chart review of (111) child and adolescent patients (17 years old and younger) who presented to Brookdale Hospital Medical Center with the complaint of running away between 2021 and 2023 was performed. Items analyzed included Pediatric Emergency Department and Pediatric Comprehensive Psychiatric Emergency Program diagnoses and chief complaints of runaway running away behavior involving running away victim of human trafficking as well as the demographic profile and risks of running away. **Results:** The analysis included 111 male and female runaway youth who were 17 years old and younger (mean age= 13 median age= 14 62.1% female 37.8% male). Fifteen-year-olds were more likely to run away (mode age= 15) youth under 11 were less likely. Defiant behavior was the most common predisposing factor for runaway male and female youth (n= 46 41.4%). Sexual behavior was the most common predisposing factor for runaway female youth (n= 34 49.3%) followed by Family Instability (n= 16 23.2%) and Defiant Behavior (n= 16 23.2%). Defiant behavior was the most common predisposing factor for runaway male youth (n= 30 71.4%) followed by Family Instability (n= 9 21.4%). Female adolescent runaways were more likely to engage in sexual behavior from ages 14 (40%) to 17 (62.5%). **Conclusion:** Runaways are a marginalized group within the population of adolescents who already have vulnerabilities given their distinctive developmental stage which

typically includes risky behaviors. Female adolescents are more likely to run away and be victims of sexual assault or engage in risky sexual behavior than their male counterparts. It is important for health care providers to assess for sexual history and abuse in runaway patients as well as educate the patients and their family members about potential interventions.

**Saturday May 04**

### **Antipsychotic Polypharmacy VS Monotherapy with psychiatric re-hospitalization rate in adults with schizophrenia in ACT TEAM Patients in Bronx**

Omobolanle Alli-Balogun; Akshita Lalendran M.D.

**Introduction** Assertive community treatment (ACT) is a community based mental health care model designed to provide comprehensive and intensive support to individuals with serious mental illness. (Stein 2005). ACT is characterized by a multidisciplinary team approach with a focus on community-based care and a high yield level of outreach and engagement with patients. The Assertive community treatment model was developed in the 1970s by a group of mental health professionals in Madison WI. The founders of ACT were inspired by the community snip based mental health care models of Europe and sought to create a similar model in the United States. The goal of act was two provide a more effective and less restrictive form of mental health care to individuals with serious mental illness who have traditionally been served in institutional settings characterized by multiple disciplinary team approach with a focus on community-based care and high level of outreach engagement with patients. (Stein 2005) **Aim:** of the study is to determine the number of patients followed by the ACT team in the Bronx who are on 2 or more antipsychotics as compared to those on monotherapy who were re-hospitalized within 1 year of discharge **Method:** This is a retrospective study on patients who are followed by Bronx ACT

team affiliated with the Institute for Community Living (ICL) in NYC from February 2022 to February 2023. The study compared the number of re-hospitalizations of patients on 2 or more Antipsychotics as compared to those on Monotherapy from February 2022- February 2023. A thorough review of charts of the 68 Clients being followed by the ACT team was done Data analyzed with SPSS. **Data analyzed with SPSS. Result:** Out of 68 patients being followed by the ACT team; 9 Patients were on 2 antipsychotics/ LAI (Long Acting Injectable) of which 5 patients were on 2 oral antipsychotics 1 Patient on 3 oral antipsychotics and 3 Patients on two long-acting intramuscular depot preparations of which five 5(3 for psychiatric related issues and 2 for medical reasons) out of 9 (55.55%) of this population were hospitalized in the 12-month reporting period of February 2022 to February 2023. As compared to 27 (45.7%) patients on monotherapy who were also hospitalized in the last 12-month reporting period. All remaining 32 (54.2%) clients on monotherapy had no hospitalizations in the 12 months reporting period.

**Saturday May 04**

### **Assessing Educational Value of YouTube Kids Videos Related to GAD MDD and ADHD**

Meghan Mallya B.S.; Jasmine Liu-Zarzuela B.A.; Isreal Munoz; Joseph Shotwell M.D.

**Background:** Children may use social media platforms such as YouTube Kids to obtain information about their medical conditions such as major depressive disorder (MDD) generalized anxiety disorder (GAD) and attention deficit hyperactivity disorder (ADHD) three commonly diagnosed mental health conditions in children and adolescents. **Aims:** To determine the educational value of the videos on YouTube Kids related to GAD MDD and ADHD. **Methods:** Videos related to these three topics were coded in

June 2023 for information regarding disclosure of mental health diagnosis symptoms and treatments/coping strategies. Parameters such as authority (creator) accuracy and delivery of content and focus on personal experiences were also considered and factored into whether videos were classified as useful misleading or neither useful nor misleading. Results: After exclusion analysis consisted of 66 videos on MDD 55 videos on GAD and 45 videos on ADHD. Approximately 71% of the videos on MDD 84% of the videos on GAD and 58% of the videos on ADHD were classified as useful. The remaining 29% of videos on MDD 16% of videos on GAD and 33% of videos on ADHD were neither useful nor misleading. About 9% of videos on ADHD were classified as misleading. For all three conditions most videos (70.4%) contained content created by credentialed professionals published authors governmental agencies and news channels. Conclusion: The bulk of videos on YouTube Kids related to GAD MDD and ADHD were produced by professionals and categorized as useful which may have resulted from increased moderation. By encouraging the curation of content and removal of videos that misinform and violate platform policy children will more easily be able to access higher-quality information on GAD MDD and ADHD.

**Saturday May 04**

### **Association of Ovarian Dysfunction and Psychosis in Adolescent Females: A Review**

Vatsala Sharma M.D.; Maria Chona San Gabriel; Serge Mitelman; Ayodeji Jolayemi M.D.

Hypothalamic-pituitary-adrenal (HPA) and hypothalamic-pituitary-gonadal (HPG) axes interaction during adolescence play a significant role in psychosis onset elucidating its hormonal etiology. Literature supports the antidopaminergic activity of estrogen which is evident in low

estrogen levels found in patients with psychosis and various coexisting contributory gynecological pathologies. Likewise premenstrual and menstrual phases with lower estrogen are sometimes accompanied by psychosis. The potential role of increased estrogen in mediating hippocampal plasticity and maintaining hippocampal-occipital connectivity may account for psychosis prevention. (1) Apart from psychotic symptoms secondary to hormonal derangement due to ovarian conditions tumors such as ovarian teratoma can generate an autoimmune response in the form of autoantibody-mediated psychosis via paraneoplastic or anti-N-methyl-D-aspartate receptor encephalitis (NMDARE) in adolescents. (2) This 10-year literature review discusses synergistic relationships of multiple ovarian pathologies with psychosis in adolescent females to highlight the management complexities of these co-occurring conditions. The demarcation of ovarian dysfunction-associated psychosis from other primary or secondary psychotic etiologies due to hormonal derangement becomes challenging. Catamenial psychosis characterized by psychotic symptoms during menstruation needs to be cautiously differentiated from the perimenstrual exacerbation of pre-existing psychosis. Therefore the management of psychosis secondary to ovarian dysfunction depends on underlying etiology requires differentiation and warrants an etiology-focused approach. Certain conditions such as Polycystic Ovary Syndrome (PCOS) have symptomatic overlap with antipsychotic side effects particularly metabolic syndrome and type 2 diabetes mellitus which also necessitates circumspect distinction. (3) Clinicians should carefully identify new-onset PCOS in adolescent females on antipsychotics versus antipsychotic-related exacerbation of pre-existing PCOS symptoms in patients receiving PCOS-associated psychosis management. To our knowledge this is the first review encompassing a cumulative systematized account of female gonadal hormone derangements and psychosis in adolescents with a discussion of their management ambiguities and complexities. Through this poster we aim to encourage psychiatrists and gynecologists to be mindful of the psychotic presentation of various ovarian

etiologies in adolescent females and promote an optimal collaborative multidisciplinary management approach as well as to foster further discussion for future research.

**Saturday May 04**

### **Caring Messages for US Muslims: Feasibility of a Text-Messaging Intervention for Preventing Suicidality Among Muslim- American Immigrant Young Adults**

Mariam Shalaby M.D.; Daniel George PhD;  
Stephanie Craig Rushing PhD

Introduction: Given disproportionately high rates of attempted suicide among Muslim Americans we studied the feasibility of a text message-based intervention called Caring Messages that has been effective in reducing suicide risk in other vulnerable populations. Methods: Our pilot initiative delivered three culturally-tailored text messages per week for four weeks and we assessed participants' experience using pre- and post-surveys. Eligible participants included Muslim American immigrants and first-generationers aged 18-25. Results: 56 young adults participated. We observed high usage rates and strong efficacy in uplifting mood and decreasing loneliness but analysis of quantitative survey data did not suggest statistically significant behavioral change. Conclusion: A Caring Messages program tailored to a target population and executed by a small team is feasible and may hold promise in supporting Muslim American young adult mental health. Further research using text-based approaches to address rising rates of suicidality in larger populations is warranted.

**Saturday May 04**

### **Climate Change and Mental Health: Implications and Strategies for Mitigation**

Shivendra Shah M.B.B.S; Shivendra Shah M.B.B.S;  
Sahil Gehlot M.B.B.S.

Introduction: Climate change is a global crisis with wide-ranging implications for human health. This research abstract explores the relationship between climate change and mental health highlighting the potential adverse effects and proposing strategies for dealing with these challenges. The purpose of this research abstract is to examine the relationship between climate change and mental health identify the potential mechanisms through which climate change affects mental well-being and propose strategies for dealing with these challenges. This abstract provides an overview of the current understanding of climate change's impact on mental health and offers recommendations for effective mitigation strategies. Methods: A comprehensive review of the existing literature was conducted utilizing electronic databases such as PubMed PsycINFO and Google Scholar. The search terms included climate change "global warming" "mental health" "psychological well-being" and related keywords. Studies that investigated the impact of climate change on mental health outcomes and interventions to mitigate these effects were included in the review. Results: The findings indicate that climate change has significant implications for mental health. Direct impacts of extreme weather events such as hurricanes floods and heatwaves can lead to post-traumatic stress disorder (PTSD) anxiety depression and other psychological distress. Indirect consequences of climate change including environmental degradation loss of biodiversity and displacement contribute to feelings of grief eco-anxiety and a sense of loss which can negatively impact mental well-being. Additionally psychosocial stressors related to climate change such as increased social inequalities economic instability and conflicts over resources further exacerbate mental health challenges. Conclusion: Climate change poses significant challenges to mental health with direct and indirect impacts on individuals and communities. Recognizing and addressing these challenges requires a multi-level approach that encompasses individual community and policy-level interventions. By



promoting resilience fostering social support and integrating mental health considerations into climate change strategies we can mitigate the adverse mental health effects of climate change and promote well-being in a changing world."

**Saturday May 04**

### **Community-based participatory recovery (CPR) model for people with serious mental illness**

Amy Cheung M.D.;Ph.D.; Xiaoduo Fan

It is well established that people with serious mental illness (SMI) have a 10- to 25- year shorter life expectancy compared with the general population. The experience of living with SMI often resulting in loss of independence financial insecurity psychiatric decompensation and stigma around mental illness lowers overall quality of life [1]. Recent evidence demonstrates that there is a smaller elevation in early mortality among those with SMI in the community setting compared with those who are hospitalized which warrants greater community action to combat this challenge to public health [2 3]. Here we propose a community-based participatory recovery (CPR) model of research to nurture meaningful collaboration between academic institutions and community partners with serious mental illness. The foundation of the CPR model is built on 1) whole health promotion 2) stigma reduction and 3) community collaboration. UMass MIND's Community Intervention Program (CIP) was designed using the CPR model. Three CIP initiatives were created to address different domains of health promotion in the SMI community: 1) Lifestyle as Medicine 2) Arts and Music and 3) Early Psychosis Detection and Intervention. Each initiative has led to continuing partnerships with local community mental health organizations colleges non-profit organizations and other academic institutions. The model empowers trainees at all levels from high school

students to psychiatry residents and those with lived experience and their advocates to facilitate program development through this recovery-based framework. Notably the Food4Thought program in the Lifestyle as Medicine initiative demonstrates the evolution of pilot to sustained programming and promotion of community involvement as part of medical education. With the shift in person-oriented care and shared decision making effective interventions will undoubtedly embrace the voices of community members with SMI in their development to promote functional and stable health outcomes.

**Saturday May 04**

### **Comparison of Antipsychotics in The Treatment of COVID-19 Induced First-Episode-Psychosis: A Systematic Review of Case Studies**

Gurraj Singh M.B.B.S.; Riley Hartnett; Briana Silva; Riley Hartnett

Background: COVID-19 a novel coronavirus variant can cause a wide range of manifestations from no symptoms to mild respiratory symptoms and even fatal severe acute respiratory syndrome. In rare cases it has also been associated with neuropsychiatric manifestations including psychotic features particularly those with no prior psychiatric history. This review aims to compare and analyze the use of antipsychotic medications in managing various clinical psychotic presentations seen in COVID-19 induced first-episode psychosis (FEP). Furthermore this study assesses how these patients responded to the prescribed antipsychotic(s) management from recently published literature. Methods: We completed a review study consisting of 43 cases that demonstrated psychotic features during or following a COVID-19 diagnosis in patients who had no prior psychiatric history. The studies were searched across Google Scholar and the National Library of Medicine (NIH) databases. Data was extracted from these cases based on the parameters established from the inclusion and

exclusion criteria. The inclusion criteria considered studies of all ages gender race and country of origin experiencing first-episode psychosis following or concurrently with a diagnosis of COVID-19. The exclusion criteria omitted studies presenting patients with any prior psychiatric history substance use disorder history and cases of first-episode psychosis that did not use antipsychotics as the primary management. Additionally the following were assessed: demographics psychiatric features observed antipsychotic(s) used clinical course and outcome. Results: Psychotic symptoms were seen greater in the male population (25 cases 58.1%) and a greater number of FEP in the 30-39 age group (10 cases 23.3%). Olanzapine was the most commonly used single-use antipsychotic (6/21 cases 23.8%) while the combination of Haloperidol and Aripiprazole was used most in multi-use antipsychotics (5/22 cases 22.7%). Atypical antipsychotics were preferred (23/43 cases 53.5%) and the most used antipsychotic was Haloperidol (19/43 cases 44.2%) with an average dose of 9mg/day. Side effects were observed in 5 (11.6%) cases and 2 (4.7%) cases experienced episodes of relapse. Due to the heterogeneity of studies a meta-analysis was deferred. Conclusion: With the limited recognition and clarity of COVID-19's association with psychosis in the medical community insufficient protocols have been established or recommended to manage such patients. This study highlights frequently administered strategies when assessing patients of COVID-19-induced FEP in the clinical setting. Further research is crucial and well-defined protocols should be established to effectively address cases of psychosis during the COVID-19 pandemic especially in light of the potential resurgence of COVID-19 prevalence in years to come.

Saturday May 04

## Confabulous and altered: The importance of hepatic metabolism in alcohol use disorder

Chu Hsiao PhD; Daniel McNeil M.D.; Richa Vijayvargiya

Confabulations and altered mental status in a patient with severe alcohol use disorder is commonly taught as a pathognomonic feature of Wernicke-Korsakoff syndrome secondary to thiamine deficiency. Korsakoff's psychosis is also often taught as being an irreversible condition which can create a dangerous anchoring bias when thiamine does not improve mentation. In such cases clinical decision-making should be informed by considering the patient's larger medical picture such as calculating the patient's Child-Pugh score. When patients' alcohol use has progressed towards alcoholic cirrhosis (as can be expected in 20-25% of heavy drinkers [Mellinger 2019]) it becomes important to also consider the compromised hepatic metabolism of medications. To illustrate this concept we describe the case of SV is a 45-year-old male with alcoholic cirrhosis who presented with altered mental status and acute hypotension requiring intensive care. Metronidazole was started as prophylaxis against spontaneous bacterial peritonitis. The etiology of his mentation was initially thought to be secondary to hepatic encephalopathy but mentation did not improve despite adequate stool output on rifaximin and lactulose. Psychiatry was consulted for a capacity assessment when the patient attempted to leave against medical advice. On encounter the patient was emotionally volatile reporting false memories and detailed stories erroneously believed to be factual such as seeing monkeys in the hospital believing that his wife at bedside had died and paranoia surrounding physicians illegally injecting patients with fentanyl. Oculomotor and cerebellar dysfunction were not noted. With his wife's report of persistently poor diet and heavy alcohol abuse in the past year the confabulations were thought to be most likely secondary to Wernicke-Korsakoff syndrome meeting Caine criteria (Caine et al. 1997). A three-day course of IV thiamine was completed but mentation did not improve. His

Child-Pugh score was noted to be class C (decompensated disease) raising concern for hepatic metabolism and prompted review of his medications. Metronidazole is known to cause dysarthria gait instability limb discoordination and altered mental status (although no reports of confabulation) particularly in those with pre-existing liver disease (Sørensen et al. 2020). A return to baseline mentation was observed after stopping metronidazole. Although the literature on the neurobiological causes of confabulations in adults with alcohol use is limited to Korsakoff syndrome or alcohol-related brain damage (Francis et al. 2022) this case highlights the importance of considering the wider physiopathological context. Wernicke-Korsakoff syndrome is considered to be underdiagnosed (Barata et al. 2020) but more research may be needed to understand how many cases of Wernicke-Korsakoff syndrome might be misdiagnosed and not truly irreversible.

**Saturday May 04**

### **COVID-19 and Porn**

Taylor Anthony; Madeleine Andreas B.S.; Celena Ma M.D.; Najeeb Hussain

**Objective:** To determine if COVID-19 lockdowns and its social sequelae increased the amount of pornography consumed worldwide from 2020-2023 and caused an increase in unhealthy or addictive use of pornography. We hypothesized an increase as existential threats and boredom can trigger hypersexual behavior. In particular online sexual activity increases with boredom. **Methods/procedures:** A search using PubMed Scopus and Google Scholar was conducted using the search criteria “COVID-19 and internet porn” and “COVID-19 and porn.” Studies were limited to those published in English between April 2020 and January 2023. Five Reddit threads regarding COVID-19 and/or porn addiction from Feb 2020 to Jan 2023 were also analyzed. **Results:** Seven studies fit the criteria. Four studies

showed pornography usage increased in the US. In particular Pornhub showed US traffic changes spiked as high as + 41.5% with the start of lockdowns on March 23 2020. In addition an analysis from early 2020 demonstrated a “strong positive association between daily new cases and pornhub traffic rate.” In contrast two studies demonstrated an overall decrease in US adult porn consumption in 2020. Of note one case report identified that COVID-19 was partially responsible for an exacerbation of OCD manifesting in an increase in internet porn usage. Reddit threads regarding the link between COVID-19 and porn addiction were also analyzed. The average number of comments on a post was 225.6 and the average number of posts explicitly related to COVID was 1.4 with all of those posts dating to 2020 and 2021. The average number of posts and/or comments with personal stories of dealing with porn addiction was 2.8 or 12.4% of all responses. **Conclusions:** With every new technology comes addictive potential and the internet is no different. True pathology requires a preoccupation with internet usage leading to significant impairment in functioning. With the pandemic addictions have skyrocketed. Our study shows that while there is some research regarding effects of social isolation on pornography usage there is a lack of substantive data on the sequelae of the isolation on current pornography usage. As seen from the Reddit threads and published studies data is inconclusive regarding the extent to which the pandemic has impacted pornography addiction. More research is needed to elucidate the correlation between the pandemic and unhealthy or even addictive uses of internet pornography.

**Saturday May 04**

### **Developing Discharge Materials for Parents with Children Admitted to the Psychiatric Emergency Department: A Survey Study**

Sijia Zhang

**Background** Youth are increasingly experiencing mental health crises with suicide rates for people aged 10-24 rising 62% from 2007 to 2021 in the United States<sup>1</sup>. Interventions to reduce suicide risk include inpatient hospitalization or emergency department admission with development of a safety plan and follow-up with mental health providers. The post-discharge period is an especially vulnerable time for such patients with increased suicide rates and other adverse events<sup>2</sup>. For children post-discharge involves re-integration into their life often with significant time spent with their parents and at school. Parent relations have been identified to be the most consistent protective factor for adolescent suicide<sup>3</sup>. Parents can support children by safety-proofing the house de-escalating crises and bringing their children to the emergency department in case of imminent harm. However per scoping reviews<sup>4,5</sup> and our review there are no studies to date querying the mental health education that parents of children admitted for psychiatric treatment request at discharge.

**Methodology** We designed a survey for parents of children admitted to the Rady Children Hospital of San Diego's behavioral health emergency department (BHED). The surveys were administered at routine meetings between a BHED nurse and parent to overview discharge planning with a response rate of 100%. Based on the needs assessment survey we created educational materials to be incorporated in the patients' discharge instructions.

**Results** Our survey asked parent participants (n=37) if they would like to be provided information in the form of educational handouts about the following topics at discharge:

Their child's mental health diagnoses (89% responded "yes")
General parenting skills (86% responded "yes")
Locking up guns and medications (62% responded "yes")
Talking to kids with suicidal thoughts/de-escalation crises (97% responded "yes")
Risk factors and warning signs of suicidal ideation (95% responded "yes")

**Discussion** We provide evidence that parents of children admitted to the psychiatric emergency department would like to be supported at discharge with educational materials. Such handouts include topics such as instructions on

how to safety proof parenting skills supportive communication during a mental health crisis and identifying warning signs for suicidal ideation. We have incorporated these topics in the form of a discharge packet provided to parents. Further investigation is needed to better understand if such educational materials are associated with improved outcomes following discharge from the pediatric BHED. Future directions include administering a survey to assess parent satisfaction of our developed educational materials.

**Saturday May 04**

## **Development of a Multi-Module Course on Eating Disorders for Medical Professionals: A Student Led Interprofessional Collaboration**

Jean Wu; Katherine Hill MD; Jessie Menzel

**Introduction** Eating disorders (EDs) affect 4-5 million Americans and have the 2nd highest mortality rates of all mental illnesses (4). Unfortunately individuals experience significant shame and stigma that contribute to delays in care with serious and life-long consequences. In 2022 the APA received a \$100K grant to focus on EDs reflecting the pressing need to improve ED care. Medical education on EDs is often sparse and reaffirms stereotypes. The aim of this project is to describe the design development and implementation of a student-led initiative to develop a course on EDs in collaboration with physicians psychologists and persons with lived ED at a virtual ED treatment service.

**Methods**  
**Assessment:** We first explored the landscape of ED education. Key takeaways included: (1) physicians represent an important point of contact for ED identification and treatment (2) studies have found significant knowledge gaps (12). Subsequently we defined our target audience as medical professionals.

**Design:** For accessibility purposes we ultimately decided on

an online course format. In terms of content the course would comprise 10 case based modules on various ED topics (ie medical workup weight stigma diagnoses EDs in specific populations [LGBTQIA+ male identifying]). The aim is to provide learners with a richer understanding of the complexity of EDs. Development: We started with authoring a comprehensive 150 page module content guide which formed the foundation for the 10 modules. The modules were first developed using the free design tool Canva then translated into an interactive learning interface using Rise Learning Management System. Content has been reviewed by an interdisciplinary team of physicians psychologists technical designers and subject matter experts. Results A pilot program for the course has been developed and implemented. Early phases for the 10 modules were used to train onboarding staff at the eating disorders treatment service in April 2023. Trainee feedback has been valuable in guiding course improvement such as fine tuning objectives. Discussion Rates of EDs have been increasing especially since COVID (2). The inadequate identification and treatment of EDs has long-lasting medical and psychosocial consequences on an individual's life. Physicians represent an important point of contact in the early and accurate identification assessment and treatment of EDs yet medical training in this field is sparse. To the best of our knowledge there are no medical schools that offer a focused elective on EDs. This project seeks to bridge this gap through the creation of an open access course on EDs for medical professionals. Future directions include developing metrics to understand impact of the educational tool and obtaining approval for CME certification.

Saturday May 04

## **Development of a Podcast and National Social Media Presence for Current and Aspiring Trainees in Community Psychiatry**

Jean Wu; Hannah Lynch; Angela Liu M.D.

**Introduction** With the rise in demand for mental health services and increasing shortage of community psychiatrists there is a need to recruit and engage more trainees (13). Podcasting and social media are valuable tools to educate inspire and engage the next generation of trainees (2). This project aims to outline the development of a community psychiatry podcast and Instagram page to engage and connect the current and next generation of aspiring community psychiatrists. **Methods** **Step 1: Establishing Team** This is a student driven project developed by medical students residents and early career psychiatrists (ECP) across the nation who connected through the American Association for Community Psychiatry (AACP) collaboration and connection plank meetings. **Step 2: Defining Goals** We first established a partnership with the AACP Board through engagement at board meetings. Key takeaways include: 1) AACP desires a stronger social media presence for trainee involvement 2) there are no podcasts or Instagram accounts focusing on community psychiatry and 3) podcasting is low cost and easy to learn. Thus we decided the purpose of the podcast is to connect educate and inspire trainees and young community psychiatrists through monthly episodes with community psychiatrists. **Step 3: Outlining Plans** A strategic plan was developed for the Community Psychiatry Podcast including detailed goals timelines marketing plan. Podcast guest speakers would participate in recorded Zoom calls edited using Audacity. A template is used to organize the interview's outline anticipated questions and key takeaways. Marketing material includes fliers and audiograms. A formal proposal for the AACP Instagram was developed including: content ideas workflow and structure. Some content ideas include: podcast highlights AACP opportunities stories from community psychiatrists. **Step 4: Project Launch** The AACP instagram (@aacp\_communitypsych) was first launched 3/29/23. The Community Psychiatry podcast was launched 4/5/2023 and is now available on Spotify and Apple podcasts. **Results** We have been collecting monthly statistics for the podcast and



Instagram page. The podcast has grown to 160 followers and Instagram to 628 followers from March to August. Over 6 months (3/30/23-8/25/23) there were 552 total podcast plays and an average of 858 accounts reached each month for the Instagram page. Both platforms also increased new trainee membership by 89% from 3/30/23-8/25/23 compared to the same time frame last year. Discussion This is the first podcast and Instagram account to the best of our knowledge that focuses on community psychiatry. Given the shortages in community psychiatrists there is a need to recruit and inspire more trainees. The high levels of engagement with The Community Psychiatry Podcast and Instagram suggest that these digital platforms are valuable tools for engaging educating and connecting with the next generation of trainees in community psychiatry.

**Saturday May 04**

### **Effects of Live Music Therapy in a Trauma-Focused Inpatient Pediatric Setting**

Mathew Lemberger M.D.; Chuchitra Thanigaivasan; Stephanie Gao; Robert Sears

Background: Music is known to have a profound effect on emotion and memory. The regions of the brain involved in processing these cognitive functions are also implicated when people experience psychological trauma including abuse and neglect. While the neuroscience of music's effects on the brain has been extensively studied clinical research is limited regarding what effects live music participation might have in a trauma-focused setting specifically among pediatric patients. Methods: In this retrospective cohort study we analyze how patients at a psychiatric residential treatment program for youth who have experienced trauma responded to an eight-week period of once-weekly live music therapy. Data analysis includes patient involvement in psychiatric emergencies receipt of as-needed medication for trauma-reactive behavior and self-report of mood/trauma symptoms during the eight

weeks of music therapy and the four weeks before/after. Objective observation of patient response to music therapy sessions is also assessed. Results: This analysis includes 12 patients with prominent trauma-reactive symptoms admitted to a psychiatric residential treatment program designed for children who have been sexually physically or emotionally abused and who have been experiencing psychological/emotional/behavioral difficulties. Inclusion criteria for the program are ages 8-12 minimum IQ 70 diagnosis of abuse/neglect/PTSD/RAD in parental or state custody previously hospitalized for harm to self/others failure of less restrictive environment and readiness to talk about experienced trauma and work on expression of feelings. Considering the neurophysiological mechanisms involved in psychological trauma we anticipated that participation in live music therapy would have a calming effect on children who have experienced trauma. Preliminary analysis shows variable response with roughly a third of patients showing consistent benefit and two thirds showing little to no change in trauma-reactive behavior. Conclusion: The goal of this study was to determine how participation in live music therapy could affect trauma-reactive symptoms for pediatric patients in a residential treatment setting. While a smaller percentage of patients demonstrated sustained improvement to mood/trauma symptomatology transient mood brightening was observed even among those with less sustained benefit. A number of factors may have impacted patient response to live music therapy including unit milieu peer/staff-reactivity school-related stressors music preference effects of medication adjustments for co-occurring psychiatric symptoms and engagement in trauma-focused therapy. We hope this study may serve as a foundation for further research as well as a basis for interdisciplinary collaboration to develop music-focused recreational therapy models that may shorten length of hospitalization and reduce need for pharmacological intervention among children who have experienced trauma.

Saturday May 04

## **Efficacy of Juvenile Drug Courts on Reducing Recidivism and Substance Use Disorders**

Joy Osaji M.B.B.S.

Adolescents in the legal system in the U.S. have a higher rate of mental illness and substance use disorders with research showing that more than half of these individuals in the supervised setting have a substance use disorder (SUD) (Funk et al. 2020). Substance use disorders have been closely linked with behavioral issues (BI)(Funk et al. 2020). Juvenile Drug Courts (JDC) is a justice system initiative designed to use a therapeutic jurisprudence model for adolescents in the legal system with SUD (Roman 2004). The purpose of these courts is to decrease recidivism and treat the SUD's of the adolescents in its system (Roman 2004). However previous research on it's effectiveness yielded mixed results (Mitchell et al. 2012; Tanner-Smith et al. 2016). These variable results may be due to the lack of uniformity across JDCs leading to the Office of Juvenile Justice and Delinquency Prevention (OJJDP) members to create research-informed guidelines for juvenile drug treatment courts to more effectively treat adolescents in the JDC for SUD (Huddleston 2016). A critical appraisal of the literature is necessary to see the new guideline's efficacy on recidivism rates and SUD amongst youths treated in the JDC. **Methods:** This is a critical appraisal of the literature utilizing PubMed OVID and Scopus databases. The initial search yielded 53 articles. Further title review and application of inclusion and exclusion criteria yielded 11 articles and a detailed review of the associated abstract led to five remaining articles. **Inclusion criteria:** Articles published after the 2016 guidelines of the JDC had been implemented studies in English Randomized Control Trial (RCT) Non-Randomized Controlled Trial (Non-RCT) Systematic Reviews and metaanalysis articles on the JDC and SUD and Mental illnesses. **Exclusion criteria:** Conference paper editorial and notes. **Search terms:** Juvenile drug court drug abuse adolescent

substance use disorder rearrests delinquency recidivism and mental illness. **Results:** Five articles were included in the review. Two articles were multisite studies with a combination of RCT and Non-RCT; one was an observational study and two were prospective studies. The results were again inconclusive. It is essential to know that these studies looked at sample populations in JDC before the new guidelines were implemented even though they were published after the guidelines were established. Therefore it is imperative to conduct more research to assess the effectiveness of the new guideline in decreasing recidivism and substance use in the youth treated in JDC.

Saturday May 04

## **Ethical Dilemmas Arising from the Lack of Appropriate Language Interpretation in Mental Health Courts: A Literature Review**

Yarden Segal

In recent decades there has been a notable rise in both the quantity and variety of individuals residing in the United States who have limited proficiency in the English language. This literature review aims to examine the ethical dilemmas that emerge when individuals with limited English proficiency (LEP) or non-English-speaking backgrounds encounter barriers to effective language interpretation services within the context of mental health courts. A literature review was conducted using three publicly available databases (Embase American Psychological Association PsycINFO and PubMed) using search terms such related to limited English proficiency mental health and access to healthcare. Some of the ethical dilemmas identified are related to informed consent the right to a fair trial confidentiality cultural competency and access to justice. Insufficient language interpretation services jeopardized the ability of individuals with limited English proficiency to understand legal

proceedings participate effectively in their defense and express their mental health needs. The resulting consequences often included unjust outcomes and potential harm to individuals' mental health. The ethical dilemmas arising from the lack of appropriate language interpretation in mental health courts pose significant challenges to justice fairness and the well-being of individuals with limited English proficiency.

**Saturday May 04**

### **Evaluation of Pediatric Behavioral Rapid Response Team (BRRT) Events: Data Patterns and Lessons Learned**

Miriam Butler; Kiana Malta; Connor Mott; Puneet Sahota

**Objectives:** The objective of this retrospective chart review study was to characterize behavioral emergency events at Cooper University Hospital (CUH) for pediatric patients from 2018 to 2022. Behavioral Rapid Response Team (BRRT) alerts are called when a patient on a medical floor is having an acute behavioral event (e.g. aggression towards others self-harm destroying property). Pediatric patients are often admitted to the medical floors while awaiting placement in an outside child/adolescent psychiatry hospital and the number of BRRTs has increased during the pandemic-related mental health crisis.

**Methods:** The most recent cumulative informatics BRRT report was manually reviewed for locating pediatric patients and then patient charts were reviewed for variables of interest. Given the sample size descriptive and regression statistical analyses were conducted. **Results:** There were 73 pediatric BRRTs called from 2018-2022 with the average age of the patient being 15 (range: 5-22 years old). The total number of patients was 42 because 12 patients had multiple BRRTs called both during the same hospitalization and/or other hospitalizations. Patients with multiple psychiatric diagnoses were more likely to have repeat BRRTs. The most common diagnoses in pediatric patients who had BRRTs were attention deficit hyperactivity

disorder (ADHD) (N = 45) and autism spectrum disorder (ASD) (N = 24). Verbal de-escalation was the most commonly used method of intervention followed by medication administration and then physical restraints. Verbal de-escalation only was utilized in 21% of BRRTs while 19% required verbal de-escalation and medication. Medication only was used in 24% and both medication plus physical restraints in 29% with 7% of BRRTs using physical restraints only. Injectable medication was used significantly more often than oral medication (52.1% of BRRTs vs. 19%  $p < 0.001$ ). Of all BRRTs requiring the use of restraints (N = 38) 50% of cases were in patients with ADHD (N = 19) 23.7% had ASD (N = 9) and 26.3% had neither ADHD or ASD (N = 26). In all cases requiring the use of injectable or intravenous medications (N = 50) 48% had ADHD (N = 24) 26% had ASD (N = 13) and 26% had neither diagnosis (N = 13). **Conclusions:** This retrospective study showed that ADHD and ASD were the most common diagnoses among children who had BRRTs and that injectable medication was used in about half of BRRTs. Recent innovations aimed at reducing the use of injectable medication and restraints in BRRTs include: co-management of patients by the pediatric hospitalist and psychiatry consult teams; writing of behavior plans for BRRT prevention including verbal script and step-by-step procedure for nursing staff to de-escalate patients; and education for pediatric providers and nurses on working with psychiatric patients. These innovations provide lessons learned for the field in hospital-based management of pediatric patients awaiting psychiatric placement.

**Saturday May 04**

### **Experiences and burden of caregiver of patients with schizophrenia in Nepal- a qualitative study**

Jyoti Dahal MBBS

**Background:** People with schizophrenia heavily depend upon caregivers and this lead to high caregiver burden. Understandings of caregivers' experiences are vital in order to develop a program which can address their issues and support them to live a quality life. This study aimed to explore the subjective experiences of caregivers of schizophrenia and the burden that they face while providing care. **Methods:** The total of 17 caregivers of people with schizophrenia was recruited for the study. The open ended face-to-face qualitative interviews were conducted. The analysis of interview transcripts was done by utilizing grounded theory methods. **Results:** The finding of the study revealed that caregivers have significant burden of caring people with schizophrenia. These burdens are manifested in the form of emotional (e.g. anxiety depression) physical (e.g. tiredness sickness) social (e.g. isolation stigma relationship) and economical (e.g. financial issues). The caregivers also reported having very less time for them to complete their other responsibilities such as work family and personal. **Conclusions:** Caregivers of people with schizophrenia experienced significant burden which negatively impact them physically emotionally socially and financially. Theses burdens may differ based on individual factors and circumstances. Development of valid and reliable means to assess caregivers' burden is crucial which will inform the development of appropriate intervention strategies.

**Saturday May 04**

### **Exploration of the Characteristics of Admissions for Eating Disorders in Adolescents Pre and Post COVID-19 in Türkiye: Lessons Gained for The Future**

Anna Isayeva MSc.; Hakan Ögütlü; Alkim Oden Akman; fiona mcnicholas; Esra Cop

During the COVID-19 pandemic Turkey implemented age-specific curfews as part of

public health measures. Eating disorder (ED) incidence and severity has been known to have increased during the pandemic. Significant morbidity and mortality can be associated with onset of ED's in adolescence. Our study aims to evaluate the features associated with the presentations of adolescent ED's in a Turkish tertiary care hospital. This is a retrospective cohort study involving patients aged between 10 and 18 years old who presented to or were referred to Ankara City Hospital between September 2019 and August 2021. Diagnosis at presentation or within the referral must be listed under the ICD-10 diagnostic code of F50: Eating disorder or its subtypes. Data was collected in accordance with ethical approval by hospital ethics committee with written consent obtained prior to study participation. Sample size consisted of 176 participants of which 93.2% were female (n=165) and 6.8% were male (n=12). Pre-pandemic the mean number of monthly referrals was 3.67. During and after the pandemic the mean rose to 8.56 referrals a month representing a significant increase ( $p < 0.001$ ). No differences between gender proportions were observed. Young people presenting between September 2020 to February 2021 and March 2021 - August 2021 were significantly older ( $p < 0.05$ ). The greatest proportion of referrals occurred during February 2021 three months after the reinitiation of curfews for people under 20 or over 65 years old. Patients were noted to have fewer psychiatric comorbidities at time of assessment ( $p < 0.001$ ). Our centre also observed an increased number of presentations and referrals as previously reported internationally. Adolescents were more likely to present with an eating disorder as a primary diagnosis in the absence of other psychiatric comorbidities. Further study is necessary to determine if this continues to be an upgoing trend or if numbers have abated.

**Saturday May 04**

## **Feasibility Study of a Collaborative Care Model for Delivering Youth Urgent Mental Health Care**

Alexander Bourdon Resident Doctor; Karen Wang M.D.; Rosalie Steinberg MD MSc FRCPC

**Background:** According to the Ontario Student Drug Use and Health Survey (2019) nearly 25% of youth (11-18 years) in Ontario Canada reported moderate-severe anxiety or depression symptoms and 20% reported seriously considering suicide. Moreover during the Covid-19 pandemic use of physician-delivered youth mental health services in Ontario increased by 10-15% above expected levels throughout the first year of the pandemic. Consequently current wait times for child and youth psychiatric services in Ontario range from 9 months-2 years. In this context the “collaborative care” model is one strategy that has the potential to increase access (by decreasing wait times) to mental health care for this population. The following study aims to evaluate the feasibility of a centralized urgent youth assessment model (SCOPE-KIDS) that seeks to improve access to mental health navigation crisis counseling and psychiatric assessment for youth supported by primary care teams in the North Toronto region of Ontario where youth comprise over 11% of their patients. **Methods:** Using the Institute for Healthcare Improvement model of Quality Improvement (QI) SCOPE-KIDS was formed through a co-design implementation process. Both internal and external stakeholders (e.g. primary care providers child/adolescent psychiatrists administrative leaders QI and navigational experts) co-designed a model that seeks to offer effective accessible and patient-centered mental health care. SCOPE-KIDS is built upon a pre-existing adult mental health infrastructure being utilized by a network of family health teams facilitating access via an established e-referral system. **Key feasibility measures of this study included:** (1) number of referrals; (2) patient demographics; (3) service requested; (4) time to assessment; (5) barriers encountered; (6) patient satisfaction; and (7) provider satisfaction. Results on these measures informed adjustments to the model in order to improve efficiency and

effectiveness. **Results:** Within its first 3 months (May 29 2023 - Sept 5 2023) SCOPE-KIDS was linked to a referral base of 117 primary care physicians in the North Toronto region and has accepted 37 new referral requests representing 27 unique clients. Eighty percent of referrals were for a psychiatric consultation and close to 50% required social work consultation. Roughly 70% of all requests for psychiatric consultation were seen within 2 weeks. Lessons learned so far indicate that optimization of psychiatric referrals and timely access to a psychiatric consultation is feasible within this model. Furthermore ongoing collaborative partnerships are critical to success. Data on patient and provider satisfaction is currently being collated. **Conclusion:** Promising early results indicate that this model is feasible and accessible. Ongoing data collection will be important in determining whether the model is effective over time as well as for identification of potential barriers to access.

**Saturday May 04**

## **How Racial and Ethnic Disparities Impact Depression Care for Children and Adolescents**

Vanessa D'Souza M.D.; Monica Taylor-Desir M.D.; Andres Pumariega M.D.

**Background:** The prevalence of depression in children and adolescents is increasing and has severe impairments that interferes with their development ability to carry out major life activities and is associated with long-term mental and physical health problems. Depression screening remains controversial among this age group. Currently the United States Preventive Services Task Force (USPSTF) indicated moderate benefit for screening adolescents aged 12 to 18 but insufficient evidence to screen children 11 years old or younger. Once youth are screened ensuring adequate and culturally responsive care for children and adolescents with depression



remains a challenge. Prevailing barriers for depression care in racial and ethnic minorities include stigma family beliefs mental health literacy and autonomy. Methods: A systematic search of studies using the following databases: APA PsycInfo EBM Reviews- Cochrane Register of Controlled Trials EMB-Reviews Cochrane Database of Systematic Reviews OVID Medline was conducted. Search terms included “depression” “antidepressants” “healthcare disparities” “alternative medicines” and “culturally adapt”. Abstracts were manually screened based on the following inclusion criteria: ethnic/racial disparities depression treatment cultural interventions and access to care. Abstracts were excluded if there were no measures of depression included it was not focused on depression care and the abstract was only focused on depressive symptoms. This systematic search was focused on depression care among children and adolescents post-partum late life and individuals with medical comorbidities from 1990 to June 2023. Results: From this scoping systematic review we present the key findings of racial and ethnic disparities that impact depression care for children and adolescents. A total of 1211 abstracts were screened. A small number of these abstracts focused on racial and ethnic disparities associated with depression care for children and adolescents. Among African Americans Latinx and Asian Americans sociocultural factors contribute to differences in depression treatment utilization. A limited number of studies highlighted how different interventions and care models that have been adapted for cultural needs have been helpful. Conclusions: Our initial review highlights significant racial and ethnic disparities among depression care for several populations including children and adolescents despite the progress and novel interventions being used over the past 30 years. We present several recommendations to address disparities in depression care.

## Identifying and Supporting Children of Parents with Mental Illness: Preventative Medicine in Child Adolescent Psychiatry

Izabela Zubrzycka; Jasmin Lagman M.D.;  
Ramnarine Boodoo M.B.B.S.

Background: It has been well documented in the literature that children of parents with mental illness (COPMI) including substance use disorders (SUDs) are at increased risk of developing mental illness. This is a multifactorial inheritance influenced both by patient genetics and their environment. While multiple treatment modalities address mental illness in children less is known about preventing COPMI from developing their own mental illness. It was estimated that between 2009 to 2014 an annual average of 8.7 million children and adolescents live with at least one parent with SUD and the CDC estimates that 1 in 14 children has a caregiver with mental illness. This brief literature review aims to investigate methods of identification and supporting children of parents with mental illness particularly SUDs. Methods: A comprehensive search of PubMed Central PubMed Medline PsychINFO and a reference list of primary papers was done using the keywords: children of parents with mental illness support identification child adolescent Results: This literature review revealed studies from Denmark Australia and the United Kingdom (UK) supporting the use of identification methods for COPMI. Researchers have proposed family-based interventions for supporting these children. The studies assessing these protocols are still under way. Unfortunately majority of these studies did not include SUDs in the definition of mental illness. Countries including Norway and the UK have policies requiring mental healthcare providers to identify patients with minor children and assess their family situation. There are no studies documenting a standardized method used by healthcare providers in the United States to identify and support COPMI and SUDs. Discussion: Over the last few years rates of mental illness in children and adolescents have increased and are overwhelming the healthcare system. Studies have shown that policies requiring healthcare providers to ask patients

about minor children are effective in identifying children of parents with mental illness when implemented. There is evidence that social support and positive social interactions in the home and the community can improve the overall wellbeing of a child. Researchers are building on this knowledge to create multidisciplinary teams that provide interventions which may mitigate the impact of parental mental illness on the child's quality of life and risk of mental illness development. In the absence of any method in widespread use in the US we propose adoption of available evidence-based methods for identification of COPMI as well as further research into family-based interventions for supporting these children. These methods may require adjustment to fit US regulatory frameworks and resource availability and will require future research to determine their effectiveness.

**Saturday May 04**

## **IMPACT OF DIFFERENT TYPES OF JOB PLACEMENT PROGRAMS ON PEOPLE WITH SEVERE MENTAL DISORDERS**

Marina Antonia Andreo Vidal; María Calvo; Juan Carlos Fiorini Talavera

**Abstract** Background: People with severe mental disorders face a number of personal and community barriers that make it difficult to access employment. The aim of this study is to determine the efficacy of job placement programs for people with severe mental disorders to analyze those with the greatest benefit and to study the variables that have been analyzed in each program. **Methods:** In order to carry out the research a bibliographic review of literature related to the programs was carried out by consulting MedLine and Psychology and Behavioral Sciences Collection databases in Spanish and English using the EBSCOhost metasearch engine. The terms used were the following: "Severe mental illness" OR "Serious mental illness" OR "Psychos?s" OR "Psychotic disorder" OR "Schizophr\*" [TI] AND "Employment"

OR "Job" OR "Work" OR "Career" OR "Unemployment" [TI] AND "Efficacy" OR "Success" OR "Outcome" OR "Evaluation" [TI]. The deadline for the inclusion of articles were from 2010 to the present. **Results:** The search resulted in 61 articles. Only 28 met the specified inclusion criteria which were those based on patients diagnosed with severe mental disorder or psychosis included in a specific type of job placement program and its trajectory over time. Studies about patients without pharmacological stabilization were excluded as well as observational and review articles. The job programs that were analyzed were vocational rehabilitation and supported employment combined with cognitive therapies. We did not find recent publications on institutional labor therapy and sheltered employment as we expected since these are classic interventions whose lower efficacy compared to the aforementioned therapies is already known and has been demonstrated. Nor have we found any studies on social enterprises since experimental follow-ups have not yet been carried out. **Results** show that job placement programs are effective. Among them the one that obtains the best results is supported employment which consists of providing competitive employment in ordinary companies that ensure on-the-job training and follow-up. It involves a reduction in health care costs (hospital admissions and emergency room visits) and an increase in the participants' state of well-being both psychological and clinical. In addition positive results have been obtained in association with cognitive and/or behavioral therapy. **Conclusions:** Job placements programs are an important opportunity for improvement in order to obtain a job during the remission of severe mental illness. Among them supported employment programs have shown the greatest effectiveness. The results of traditional vocational therapy show that it is not sufficient to secure a job for these patients. Therefore we can conclude that the treatment of people with severe mental disorders should go beyond psychopharmacological treatment with actions that favor integration into the community such as job placement programs.

**Saturday May 04**

### **Investigating correlates to adherence with cardiology outpatients**

Sonia Kumar D.O.; Meghan Oswald M.D.; Paniz Johari; Aatman Makadia M.D.

Introduction: Research shows that adherence is a key factor in the management of chronic medical conditions. Cardiovascular disease (CVD) is the leading cause of death globally. While pharmacological advancements continue to improve the morbidity and mortality associated with CVD non-adherence to prescribed treatment remains a significant barrier to improved patient outcomes (Simon et al. 2021). Through self-report scales our study looks to investigate the relationship among psychological symptoms number of medications prescribed and ratings of physical health social support and personality factors in a hospital-affiliated private cardiology outpatient clinic. Methods: 185 patients in a cardiology outpatient waiting room consented and completed a packet of self-reports. The average age of participants was 66.21 (SD=12.13 range 23-87) years old and the ethnicity of participants was 88.3% Caucasian 6.7% Hispanic/Latino 2.2% African American 2.2% Asian and 0.6% listed as other. The majority of participants were male (55.7%). As part of the packet they completed the Medical Outcomes Study Measure of Patient Adherence Survey Instrument (higher scores indicative of better adherence Hays 1994) Malignant Self-Regard-Short Form (MSRQ-SF; Huprich 2011) SPECTRA-Indices of Psychopathology (Blais & Sinclair 2018) and were asked to rate their level of physical health (lower scores indicative of better health). Chart data was collected and included the total number of prescribed medications. Results: Adherence was found to be positively correlated with SPECTRA's psychosocial functioning scale ( $r=.29$   $p<.01$ ) and negatively correlated with ratings of general physical health ( $r=-.19$   $p = .01$ ) number of

medications prescribed ( $r=-.29$   $p<.001$ ) and malignant self-regard ( $r=-.25$   $p<.01$ ). Discussion: Associations between adverse psychological factors and CVD are well-established (Kubzansky et al. 2018). Studies have shown mental health is essential to improving medication adherence and associated health outcomes (Bosworth et al 2018) which is again demonstrated by our data. Our analysis shows the importance of assessing and addressing physical health social support and personality factors as well as being mindful of the burden of the number of medications in medical settings to better predict adherence issues. This analysis highlights an area of interdisciplinary collaboration to improve patient care. Our hope is by recognizing these psychosocial barriers we can improve adherence and thus improve patient wellbeing.

**Saturday May 04**

### **Is social media Gen Z's Dr. Google? A literature review of social media's effects on adolescent mental health diagnoses**

Jaqueline Campbell B.S.; Victoria Vuckovic MD resident; Hannah Russin M.D.

Background: The social environment adolescents live in has consistently evolved throughout the progression from the Millennial to Gen Z generation. Platforms such as Facebook Instagram Twitter Tik-Tok and several others are now used ubiquitously by adolescents as forms of social engagement with peers. Many recent studies have shown that social media use has a significant impact on adolescents' mental health. For example the rates of many mental health diagnoses have increased in the adolescent population drastically as a result of exposure to these platforms. In addition to the increasing anxiety and depressive disorders associated with increased social media usage providers are also seeing a surge in self-diagnoses. Conditions such as attention deficit/hyperactivity disorder autism

Tourette's and eating disorders are increasingly being self-reported by adolescents after encountering content about these conditions through social media posts. While increased exposure to mental health conditions could potentially decrease stigma there are concerns that social media content may also be presenting misinformation leading to overdiagnosis of certain conditions. The purpose of this literature review is to discuss the possible effects of social media use on accuracy of diagnosing mental health conditions in the current adolescent population. Methods: The articles chosen for this literature review were identified through a PubMed search using the keywords "Tik-Tok" "mental" and "diagnosis." The search was limited to articles published within the past 5 years. 39 studies met the search criteria and 7 were chosen for analysis. Findings: Studies which reviewed social media content on diagnoses such as ADHD autism Tourette's and eating disorders have shown that many of the discussions are presenting misinformation to users. Adolescents are more likely to present after self-diagnosing these conditions without accurate knowledge of diagnostic criteria which may be influencing the current rates of diagnoses by providers. Conclusions: Adolescent presentations for conditions such as ADHD autism Tourette's and eating disorders may be influenced by their exposure to social media content on these conditions. Providers should be aware of the current influences of social media on adolescent mental health diagnoses and understand how individual patients perceive these diagnoses based on their own social media use. Updated screening tools to include exposure to certain social media platforms may help providers better appreciate patients' understanding of mental health diagnoses and the impacts on diagnostic accuracy.

Saturday May 04

### **No significant change in reports of substance use or bullying in youth**

### **presenting to the ED for suicidality during the COVID-19 pandemic**

Courtney Hsu M.D.; Manisha Yedla MD; Sarthak Angal MD; manasi rana

Objective: The aim is to understand substance use bullying perception of social and acuity of mental health issues in youth presenting to the ED during the pandemic. Background: The COVID-19 pandemic has been disruptive to US youth and has impacted their mental health as evidenced by increased rates of depression and anxiety<sup>1</sup>. Many factors including social isolation due to shelter-in-place have likely contributed to these mental health effects<sup>2</sup>. Past studies indicated decreased substance use in youth during the pandemic<sup>3</sup>. Methods: This study was designed as a retrospective chart review with the study population being children from age 5 to 17 with no psychiatric diagnoses in the 2 years prior to presenting to Northern California Kaiser Permanente ED for suicidal ideation (SI) or behaviors during the pandemic. Diagnoses and disposition were extracted from the medical record along with demographic data. Chart review was conducted to collect types of psychiatric follow-up after the ED visit and risk factors for suicidality at the time of each ED visit. Chi-squared tests and IR and IRR were used to compare differences in reports of bullying substance use and perception of social isolation in youth presenting to the ED for SI during 2019 and 2020. Results: There was no significant difference in the number of children and adolescents presenting to the ED with SI who had substance use in the two weeks prior to ED presentation in 2020 as compared to 2019 [ $\chi^2(1;N=249) = 2.3224$   $p = .1275$ ]. There was no significant difference in the number of children and adolescents presenting to the ED with SI who had experienced bullying in 2020 as compared to 2019 [ $\chi^2(1;N=249) = 2.3636$   $p = .1242$ ]. There was no significant difference in the number of children and adolescents presenting to the ED with SI who had experienced perception of social isolation [ $\chi^2(1;N=249) = 2.6138$   $p = .1059$ ]. The IR for perception of social isolation in 2019 was 6.3736 (95% CI 4.6752 8.6891;  $p < .0001$ ) and in

2020 was 9.6110 (95% CI 7.4780 12.3525;  $p < .0001$ ). IRR was 1.5080 ( $p = .0435$ ). Conclusions: A lack of difference in bullying contributing to SI is noteworthy and suggests further study to determine if alternative methods for bullying such as via virtual communication tools used in education during the pandemic may have replaced conventional in-person bullying yet with similar negative consequences. Similarly a lack of significant difference in children and adolescents presenting to the ED with SI who had had substance use in the two weeks prior to hospitalization invites further study to determine if the nature of shelter-in-place orders and social isolation during the early pandemic in 2020 may have contributed to decrease access to substances in children and adolescents. Understanding the relationships between these factors could suggest targeted interventions to decrease these behaviors in this population.

**Saturday May 04**

### **Non-Disordered Cannabis Use: A New Teenage Phenomenon**

Stefanie Zarelli; Taylor Anthony; Madeleine Andreas B.S.; Muhammad Zeshan M.D.

Objectives: With cannabis legalization sweeping the nation many are convinced the benefits of cannabis outweigh potential costs. Perceived risks of weekly use have decreased by almost half while use among adolescents has increased by 6.3% - 52.5 million people over 12 report cannabis use. While decriminalization is not wrong unintended and adverse consequences must be acknowledged. Adolescents are particularly susceptible and this phenomenon necessitated a new DSM-5 diagnosis of “non-disordered cannabis use” now four times more common than cannabis use disorder. Methods: To investigate the prevalence and trends with this new diagnosis of “cannabis use disorder” we queried PubMed with the term “non-disordered cannabis use” limited to subjects between 12 and 18 and also

used governmental reports dealing with this phenomenon. Results: We found multiple psychiatric sequelae including increased rates of depression and suicidal behavior a four-time increase in adult psychosis diagnoses cognitive functioning deficits and a two-fold increase in difficulty concentrating even after 30 days of abstinence. More frequent users attempt suicide with a clear dose-response relationship Higher frequency users were more strongly associated with suicide attempts and medical intervention (vs. suicidal ideation) compared to infrequent users. Behavioral issues are also common with truancy 2.5-4.5 times more likely and users of any frequency were 2-3.5 times to have a lower GPA. Those who began daily use at age 15-17 exhibit substantial hippocampus and prefrontal cortex changes along with significant morphologic changes in hippocampus and amygdala shape and grey matter content. This causes increased future generalized anxiety symptoms and reduced perceptual reasoning performance. Conclusions: Cannabis use in teenagers has far-reaching implications for their current and future psychiatric health most notably for depressive and anxiety disorders. Studies have shown that cannabis is not innocuous and does change the morphology and potentially the neural pathways in the brain. More research is needed to fully understand the impact of cannabis on the adolescent brain.

**Saturday May 04**

### **Optimization of Child Behavioral Health Training for Tripler Army Medical Center (TAMC) Pediatrics Residents in Context of Prolonged Pandemic**

Barrett Bradham M.D.; Kathryn Egan

Background: In the last four years there has been an increased need for pediatricians to evaluate and treat mental health conditions highlighted by the national emergency in child and adolescent



mental health declared by the American Academy of Pediatrics the American Academy of Child and Adolescent Psychiatry and the Children's Hospital Association in 2021. In the first six months of 2021 children's hospitals across the country reported a 45 percent increase in the number of self-injury and suicide cases in 5 to 17-year-olds compared to the same period in 2019. Our team set out to develop a multi-faceted approach within Tripler Army Medical Center (TAMC) to enhance pediatric resident comfort with behavioral health concerns. Methods: This project was developed as a process improvement project at TAMC. A baseline Likert scale gap-analysis-tool was developed and distributed to graduating PGY-3 pediatric residents in June 2022. We used a fishbone diagram to determine root causes for deficits in physician comfort and then developed countermeasures to address these issues. Root causes consisted of issues with knowledge of points of behavioral health contact lack of a formal behavioral health rotation for pediatric residents and need for an enhanced behavioral health didactic curriculum. Countermeasures developed from this root cause analysis include the sharing of behavioral health points of contact and resources for primary care proposal of a child and adolescent behavioral health rotation for pediatric residents and creation of an enhanced behavioral health didactic curriculum for the pediatric residency. Didactic lectures developed included topics covering behavioral health resources acute crisis/suicidal ideation depression anxiety attention deficit hyperactivity disorder adverse childhood events/trauma disruptive behavior disorder and substance use disorders. Countermeasures were implemented over the course of March-June 2023. Following implementation the same Likert scale gap-analysis-tool previously used was distributed to the new class of graduating PGY-3 pediatric residents in June 2023. Results: The baseline Likert scale gap-analysis-tool delivered in 2022 showed an overall average score of 4.7. This represents an average response across all questions of "somewhat uncomfortable". This single score represents an average of all scores across all questions on the gap-analysis-tool. In the 2023 graduating PGY-3 pediatric resident response we saw an average Likert score of 5.5.

This exceeded our target score by 0.1 bringing the average response across all questions from "somewhat uncomfortable" to between "somewhat comfortable" and "comfortable". Conclusion: Following the bolstering of TAMC's pediatric resident behavioral health curriculum graduating resident Likert scale based behavioral health comfort scores improved.

Saturday May 04

### **Persisting Global Inequities in High-Impact Psychiatry Literature: Diversity Analysis of Cochrane 'Mental Health' Review Authorship**

Dhwani Ravi; Abhishek Kumar; Vivek Bhat MBBS; Thanmayi G S MBBS

Background: Within the field of mental health Cochrane reviews represent some of the highest impact literature and have great influence on evidence-based practice. However high- and upper-middle-income countries (HICs) have grossly disproportionate representation in the authorship of global medical literature despite a significant burden of disease in low- and low-middle-income countries (LMICs). Such disparities impact the representativeness and applicability of practice-guiding literature. With this study we aimed to analyze the country-wise and gender-wise distribution of authors of Cochrane reviews in mental health. Methods: We included all articles indexed in the Cochrane Library under the topic 'Mental Health' published from inception in 1997 till 15th April 2023. We extracted authors' details to a Microsoft Excel sheet and classified their country of affiliation into low- and lower-middle-income country (LMIC) and high- and upper-middle-income country (HIC) based on the World Bank income classification. We then searched online to determine their gender attempting to capture at least one web page demonstrating gender-identifying pronouns or gender-presenting photographs. For authors whose gender could not be found through manual search their names were inputted into Gender-API

an artificial intelligence based tool where we included results generated with >90% accuracy. All analyses were performed on Microsoft Excel and GraphPad. Results: We included 674 publications with 3359 total coauthors. Only 2.53% (n=86) of all authors came from LMICs. Among all countries the United Kingdom (45.24% n=1536) was by far the most represented followed by Germany (7.54% n=256) Australia (7.33% n=249) China (4.95% n=168) and Italy (4.27% n=145). A meagre 3.59% (n=122) and 3.98% (n=135) were from the United States and Canada respectively. Only 20 studies (2.96%) had a first author or corresponding author from an LMIC. We were able to ascertain gender for 3260 (99.7%) authors 46.59% (n=1565) were women. Women constituted 50.6% (n=351/693) of first authors and 47.09% (n=316/671) of corresponding authors Their representation steadily increased from 35.29% (n=12) in 1997-2000 to 53.65% (n=257) in 2021-2023. HICs had greater female representation compared to LMICs (46.38% n=1535 vs. 34.88% n=30; p=0.036). Specifically from LMICs only 6 first authors (30%) and 3 corresponding authors (15%) were female. Conclusions: LMICs have dismal representation in the authorship of Cochrane 'Mental Health' reviews some of the most influential psychiatry literature. Despite significant contributions to mental health research the US and Canada were also relatively less represented. Encouragingly women particularly from HICs had almost equitable representation in authorship. Greater efforts to ensure equitable global representation in high-impact psychiatry literature are needed.

Saturday May 04

### **Prevalence of Depression and Associated Factors among Post-Stroke Outpatients at a Teaching Hospital in Addis Ababa Ethiopia**

Enque Endeshaw MD; Surafel Worku Megersa

**Abstract** Background: Depression is a common complication following stroke adversely affecting outcomes. Previous research has explored Post stroke depression (PSD's) impact risk factors and etiology including cognitive impairment and psychological factors. Despite this sub-Saharan African data are scarce. The study aims to fill this gap by investigating the prevalence and factors of PSD in a low-income setting thereby improving recognition and treatment awareness among clinicians. The significance of addressing PSD's burden is underscored given its negative influence on recovery and quality of life in stroke survivors. Method: This cross-sectional study aimed to investigate depression prevalence and factors associated among post-stroke outpatients at a teaching hospital in Addis Ababa Ethiopia. A total of 159 post-stroke patients aged 18 and above were included. Exclusions applied to those with pre-existing mood disorders significant language impairment or other central nervous system diseases. Trained nurses conducted face-to-face interviews. The Amharic and Affan Oromo versions of the PHQ-9 with a cutoff of ? 10 were used to identify depression. Bivariate and multiple logistic regression analysis were conducted to identify associations between various factors and post-stroke depression. Results: Among 159 participants 57.9% were male with a mean age of 58.4 years. Around 32.1% had no formal education while 40.9% were employed. Most participants (77.4%) were urban residents. Of the participants 56% had hemorrhagic strokes. The majority (54.7%) had right-side brain hemisphere strokes while 38.4% had left-side strokes. The overall prevalence of post-stroke depression (PSD) was 43.4%. Among those with depression 62.3% reported extreme difficulty in daily activities emphasizing functional impairment. Significant associations were found between depression and age between 45 and 64 low monthly income (<17.5 USD) and diagnosis of stroke within the preceding six months. No significant association was observed for gender residency marital status level of education employment stroke type or stroke side. Conclusion: This study's findings highlight a high prevalence of depression among post-stroke outpatients in Ethiopia surpassing general

population estimates. Depression's substantial impact on daily activities is evident underscoring its functional consequences. While this study aligns with global PSD prevalence trends it emphasizes the need for enhanced attention to PSD in clinical care given its implications for rehabilitation and overall quality of life. This research was funded by St. Paul's Hospital Millennium Medical College.

**Saturday May 04**

### **Prioritizing the Bush-Francis Catatonia Rating Scale as an urgent instrument for early diagnosis of catatonia: Case series**

Evaristus Ezema MD MSc Dr.HA; Amir Meftah; Bashir Aribisala; Jude Beauchamp; Tolulope Olupona

Background: Catatonia involves the manifestation of negativism mutism stupor excitement stereotyped movement staring grimacing echolalia and echopraxia. At least three of these symptoms are required for diagnosis. It may manifest in malignant form with life-threatening symptoms like autonomic dysregulations and hyperthermia. Early diagnosis is challenging and can be overlooked. Other clinical conditions sharing similar features further hamper early diagnosis. In a report 63.6% of cases requiring treatment were missed and the prevalence ranges from 7.6% to 38% in the US. We present 3 cases of catatonia in which early diagnoses were aided by the Bush-Francis Catatonia Rating Scale (BFCRS). Case 1: A 21-year-old Hispanic male with a history of Autism Spectrum Disorder and Obsessive Compulsive Disorder (OCD) presented with aggressive behavior. On evaluation muteness stupor and fixed staring were noted. The BFCRS was 11 leading to a diagnosis of catatonia. Lab work and EKG were normal. The patient was started on Aivan 2 mg IM tid. After 3 days the patient's condition began to improve as evidenced by BFCRS score of 5. He was started on oral

medications including Fluoxetine 40 mg daily for OCD. By day 5 patient started feeding himself and attending to activities of daily living (ADLs). Case 2: A 28-year-old African-American male with a history of schizophrenia presented with an inability to self-care. He was observed sitting still for 7 hours with a fixed gaze and inability to feed himself. The initial BFCRS score was 10 and a diagnosis of catatonia was made. The patient was initiated on Aivan 2 mg IM Q6h for 2 weeks. An improvement began on day 7 with the BFCRS score reduced to 5. Then patient was transitioned to oral medications including Aripiprazole 10 mg daily for psychosis and became capable of self-care. Case 3: A 27-year-old African-American male with a history of schizophrenia came with verbal and physical non-response. On evaluation muteness stupor and persistent blinking of both eyes were noted leading to the patient's admission for Catatonia. The initial BFCRS score was 9. Lab work and EKG were within normal limits. The patient was initiated on Aivan 2 mg IM stat then Q6h. Improvement in the patient's condition became evident after 12 days as evidenced by a reduction in the BFCRS score to 5. This improvement allowed for the introduction of oral medications including Aripiprazole 15 mg daily for psychosis. Then the patient regained the ability to feed himself and attend to ADLs. Discussion: The prompt identification of catatonia was supported by employing the BFCRS in the above cases. This assessment tool not only aided in the initial diagnosis but also played a role in monitoring the evolution of the conditions until resolution. Conclusion: The utilization of BFCRS is crucial for the timely identification and subsequent trajectory of catatonia. We propose prioritizing its prompt usage in suspected cases.

**Saturday May 04**

### **Psychosocial Characteristics and Psychopathological Correlates of Sex Trafficking in Adolescent Victims: A Comprehensive Analysis Using HoNOSCA Scale**

Fatma Wafy M.B.B.S.; Peng Pang M.D.

**Background:** Sex trafficking among minors is a rising problem that portends a possible crisis. A recent study showed a prevalence of 12.3% among 212 minors screened in a large metropolitan hospital ER setting. Our study hypothesizes that some psychosocial characteristics are associated with more severe psychopathology in sex trafficking adolescent victims. **Methods:** A comprehensive chart review was conducted of adolescent patients from underserved neighborhoods who were admitted to a public psychiatric inpatient unit in NY city from January 2022 to December 2022. Social determinants and potential risk factors were assessed. The Health of the Nation Outcome Scales for Children and Adolescent (HoNOSCA) was used to evaluate the severity of psychopathologies. The 15-item HoNOSCA scale can be classified into 4 groups; externalized behaviors internalized emotional experiences social and occupational functionality and lastly the child-parent relationship. Spearman correlation was employed to explore the correlation between the scale scores and the psychosocial determinants. **Results:** 10 cases of sex trafficking adolescent victims were identified from a cohort of 134 (7.4 %) with mean age=15.5 9 females and 1 male. Social factors that were analyzed and correlated to the scale sub-scores included: the marital status of the parents ACS involvement (indicators of poor parent-child relationship) adoption status immigration status language difficulty between parents or child (categorized into parent-child relationship) runaway behavior truancy behavior abuse exposure drug abuse legal history (categorized into externalized behaviors) and the primary diagnoses. A correlation was found between the functional deficits scale and the history of abuse (sexual: 0.652 physical: 0.681  $p = .041$  and  $.030$  respectively) history of suicidal attempts (  $0.878$   $p < .001$ ) diagnosis of anxiety and conduct disorder ( $0.690$   $0.659$   $p = .027$  and  $.038$ ) respectively. A correlation was also found between externalized behavior scale and history of truancy (  $0.705$   $p = .023$ ) ODD diagnosis (  $0.692$   $p = .027$ ) and Legal History (  $0.784$   $p = .007$ ). **Conclusions:** The results

suggest that all these sex trafficking victims who have a history of physical and sexual abuse history of suicide attempts and primary diagnoses of conduct or anxiety have more severe functional deficits and those who have a significant legal history truancy history and ODD diagnosis have more maladaptive externalized behaviors. This small study using the HoNOSCA scale may serve as an easy-to-use promising tool for a larger study in the future to quickly identify the psychosocial risk factors and their impacts on functions in such population to predict and prevent future trauma and provide targeted psychological interventions. **Limitations:** This study was limited to its small sample size which was a challenge for conducting a regression analysis.

**Saturday May 04**

### **Relationship between Insight Suicidality and Severity of Body Dysmorphic Disorder: A Case-Based Review**

Emily Bih; Tina Giutashvili

Body Dysmorphic Disorder (BDD) is a distressing mental health condition characterized by an intense and debilitating preoccupation with perceived flaws in physical appearance. Approximately 24-28% of BDD patients attempt suicide and 0.3% complete suicide annually. Despite a higher suicide rate than several other mental disorders the research in this area is scarce. We aimed to present findings from an interesting case of BDD to compare and review with existing literature on the association between severity of somatic delusions in BDD insight and suicidality. A literature search using the (Body Dysmorphic Disorder) OR Suicidality) AND (Insight) criteria in PubMed yielding 177 results which yielded the final number of six articles that met all eligibility criteria for the review. All six studies examined insight and suicidality in BDD patients as a secondary outcome measure. Two studies reported a relationship between poor

insight and suicidality; however this relationship disappeared after controlling for the severity of BDD [1 2]. Another study that compared insight in BDD with obsessive-compulsive disorder reported a significant correlation between poor insight and the severity of BDD which was indirectly associated with suicidality [3]. The following study did not delineate delusional from non-delusional BDD but still reported that all BDD patients had a current or past history of suicidal ideation. It also reported suicidal attempts in about 94% of the BDD patients [4]. The final study reported poor insight in about 52% of the patients and suicidal ideation in 60% of patients with BDD suggesting an overlap between the two [6]. One study found substantial fluctuations in insight with poor insight correlating with negative affect and lower self-esteem [5]. This can be explained by the dynamic nature of insight especially during high distress times. This finding aligns with our case of a 14-year-old female with BDD with good insight into her condition. She was preoccupied with the size and shape of her nose and the shape of her face. She awoke hours before school to meticulously apply makeup. If unsatisfied with her appearance after applying makeup she would feel overwhelmingly distressed leading to two instances of overdose attempts. There is a strong link between BDD and suicidality when controlling for comorbid conditions. Furthermore patients with BDD were reported to have a significant comorbidity with MDD and GAD which can mask the symptoms of BDD creating diagnostic challenges found making diagnosis difficult. The studies and our case have revealed that adolescent girls with BDD have a substantial risk of suicidal ideation regardless of the level of insight. This was a surprising finding since the aim of BDD treatment is often to increase insight. The association between insight and suicidality needs to be explored to further elucidate this relationship and its impacts on current therapy modalities.

## Resilience emotional wellbeing and experiences of healthcare among Afghan refugee and asylee women in Northern Virginia

Marwah Shuaib; James Griffith M.D.

**BACKGROUND:** Circumstances of war and displacement can affect the emotional wellbeing of refugees and resilience factors displayed in resettlement. In Afghan culture the prevalence of highly gendered roles can plausibly complicate existing stressors for female refugees by hindering access to healthcare and the social acceptability of mental health services for women. **METHODS:** This qualitative study aimed to assess mental health needs and healthcare seeking experiences of reproductive aged Afghan women who were resettled in Northern Virginia as refugees asylum seekers or under humanitarian parole. Study methods included semi-structured interviews in individual or focus-group settings with 8 women. Participants came from diverse ethnic backgrounds and education levels. Interview questions covered mental and general health concerns and access to health services. Participants were asked about conditions producing displacement how displacement was experienced and coping strategies employed in times of hardship. Interviews were conducted with interpreters and audio-recorded by M.S. a visibly Muslim woman with six years of experience volunteering with Afghan refugees and a network of community relationships centered on local mosques. **RESULTS:** Interviews suggested a more successful refugee migration to Northern Virginia than initially expected. Participants described post-displacement stressors including family separations physical pain and insomnia highlighting the intersectionality of physical and mental health with traumatic experiences. However all participants emphasized personal and interpersonal strengths which could be drawn upon to cope. Their stories highlighted community relational support which they both benefitted from and provided to others. Participants generally expressed satisfaction with American healthcare systems and healthcare providers. Unexpectedly they did not express preferences for healthcare



providers who shared Afghan cultural or linguistic backgrounds. 7 of 8 participants minimized the adverse emotional impacts of displacement and only one reported visiting a mental health professional. Participants did not indicate that they would negatively judge peers for seeking mental health care but 4 of 8 expressed skepticism about the efficacy of American therapy and mental healthcare methods.

**CONCLUSIONS:** Findings suggest that mental health services for Afghan women should be organized around strength-based approaches rather than centering traumatization or victimhood to better align with cultural regard for resilience amidst adversity. Specific measures such as professional offices creating phone menu options in Dari or Pashto to assist non-English speaking callers seeking medical or social services could also be useful. Overall interviews revealed broader diversity than expected among female Afghan refugees when invited to speak in their own voices about their health needs and experiences of displacement.

**Saturday May 04**

### **Systematic review of substance use disorders and mental illness among multiracial Youth**

Madeline Jansen MPH;MD; David Miklowitz Ph.D.

**Background:** Multiracial individuals are the fastest growing U.S racial group comprising 6.9% of adults and 14.3% of youth [1]. Available evidence suggests that multiracial youth experience higher rates of substance use disorders than any other racial or ethnic group [2-5]. Available evidence also suggests that multiracial youth experience higher rates of mental illness than any other racial group including depression anxiety self-harm and suicide [2-5]. Despite these findings this issue has yet to be explored through systematic review methods which would allow for more clear and comprehensive understanding of these important substance use and mental health trends. In

order to address this important gap in the literature a systematic review of incidence of substance use disorder and mental illness among multiracial youth was undergone. **Methods:** 3 data bases were searched including embase PsycINFO and Pubmed. Several search terms were used including multiracial OR “multiple races” OR “mixed race” + teen OR adolescent OR teenager OR youth OR child + substance use OR substance use disorder OR addiction OR mental illness OR mental health. We included only peer-reviewed articles which contained original research findings focusing on substance use or mental illness incidence in Multiracial youth. **Results:** A total of 420 articles were identified and after removing duplicates 60 relevant articles were identified. We found elevated rates of multiple substance use disorders among Multiracial youth including opioid use disorder cannabis use disorder alcohol use disorder and tobacco use disorder. We also found elevated rates of mental illness including depression anxiety self harm and suicide attempts. **Conclusion** Further research is needed to understand protective and risk factors contributing to substance use disorder and mental illness in Multiracial Youth. Protective factors such as family support and healthy racial identity development may be important to explore especially with regard to potential avenues for prevention and intervention.

**Saturday May 04**

### **The Characteristics of Cyberbullying Victim-Perpetrator among Middle School Students from Cheongju South Korea.**

GEONTAEK BAE; Seungwon Chung

**Background:** Cyberbullying a new form of school violence is rapidly increasing and poses a serious threat especially to children and adolescents. Due to the COVID-19 pandemic remote learning has become prevalent leading to an increase in

internet and smartphone usage among children and adolescents. As a result they are more exposed to cyberbullying and both victimization and perpetration rates have risen. This study aims to investigate the experience of cyberbullying among middle school students in Cheongju City and to explore the relationship between cyberbullying experiences and psychopathologies. Methods: In 2022 a survey was conducted on 449 middle school students using a scale reflecting the evolving culture of cyberbullying to determine the prevalence of victimization and perpetration experiences over the past six months. Based on their cyberbullying experiences participants were categorized into four groups: victim perpetrator victims-perpetrator and non-participant. For the assessment of psychopathologies surveys such as Child's Depression Inventory (CDI) Beck Depression Index (BDI) Beck Anxiety Index (BAI) Self-esteem Scale (SES) and Strengths and Difficulties Questionnaire (SDQ) were utilized. To analyze the difference in the degree of psychopathology among groups an ANOVA analysis was conducted. Multiple regression analysis was carried out to investigate the influence of the degree of cyberbullying victimization and perpetration on psychopathologies. A multinomial logistic regression was conducted to identify factors influencing experiences of cyberbullying victimization and perpetration. Results: Among the participants 18.5% experienced victimization only 7.8% experienced perpetration only and 41.0% experienced both victimization and perpetration. The cyberbullying victim-perpetrator groups showed statistically significantly higher scores on CDI BDI SDQ-emotional symptom SDQ-conduct problem SDQ-hyperactivity/inattention and SDQ-peer relationship problem scales compared to the non-participation group while their SES scale was lower. According to the results of the multiple regression analysis the degree of cyberbullying victimization suggested a positive relationship with BAI. The multinomial logistic regression analysis results indicated that the victim-perpetrator groups were associated with BAI [odds ratio (OR) = 1.08] and SDQ-conduct problem (OR = 1.38). Conclusions: Middle school students involved in cyberbullying were

associated with psychopathologies including depression anxiety low self-esteem conduct problems hyperactivity/inattention and peer relationship problems. The relationship between experience of cyberbullying and anxiety displayed intricate interrelations. A profound understanding of the relationship between anxiety and cyberbullying is imperative for its prevention. Future longitudinal studies are warranted to explore the causative relationships between cyberbullying experiences and anxiety.

Saturday May 04

### **The effect of corticosteroid therapy on the mood of sample of patients with autoimmune disease**

Mohammed Hamouda M.D.

Background; Major depressive disorder (MD) is a serious mental health problem predicted to be the leading health burden worldwide by 203012. MD increases markedly during adolescence and young adulthood: 25% of lifetime mood disorders appear by 18 y of age and 50% by the age of 30 y3. The role of corticosteroids use in the origin and development of depression was studied at many Previous studies that found significant depressive symptoms and depression among persons receiving corticosteroids as treatment9 Aim and objectives; to assess the prevalence of post cortisone therapy depression among sample of patients who received cortisone Subjects and methods; This cross sectional study was conducted in Al-Azhar University Hospitals. This study was conducted on 50 cases. Result; The results of Beck Depression Inventory showed that all questions related to this questionnaire had significant increase after corticosteroid therapy. Before corticosteroid therapy the total score had a mean of  $6.02 \pm 2.05$   $11.28 \pm 7.94$  after corticosteroid therapy that indicates significant increase of total score after corticosteroid therapy compared to before therapy ( $p < 0.001$ ) no one of

the sample had depression before corticosteroid therapy (0%) according to Beck depression inventory . While after corticosteroid therapy 13 (26%) cases had depression and 10% were mild 6% were moderate 8% were severe and 2% were very severe. Presence of depression and severity of depression were significantly higher after corticosteroid therapy compared to before therapy

Saturday May 04

### **The Role of Cultural Isolation in Contributing to Mental Illness: A Literature Review**

Yarden Segal

This literature review aims to explore the relationship between cultural isolation and its potential contribution to the development and exacerbation of mental illness. The review included studies that examined various factors such as psychiatric familial and social factors as well as immigration status. A comprehensive literature search was conducted across three publicly available databases (Embase American Psychological Association PsycINFO and PubMed) using specific search terms related to immigration social and cultural isolation and acculturation. By synthesizing existing research this review provides a comprehensive understanding of the mechanisms prevalence and implications of cultural isolation on mental health. Mechanisms contributing to this relationship included limited access to culturally relevant social support discrimination acculturative stress and cultural identity conflicts. Notably some studies identified protective factors such as strong ethnic community ties and cultural maintenance that mitigated the adverse effects of cultural isolation on mental health. Cultural isolation can have profound implications for the mental well-being of individuals from culturally diverse backgrounds. The findings underscore the importance of developing culturally sensitive interventions and support systems that address the unique

challenges faced by individuals experiencing cultural isolation. Future research should focus on longitudinal studies and explore the cultural factors that promote resilience and positive mental health outcomes within culturally isolated populations.

Saturday May 04

### **Understanding Clinical Characteristics of Suicide Attempt by Self-Inflicted GSW to the Head: A Retrospective Analysis**

Tiffany Ong; Sahil Munjal

Background: Approximately 60% of individuals die within their first attempt of suicide (Bostwick 2016) of which 52.8% are from self-inflicted gunshot wounds (SIGSWs) (CDC 2020). The most common site of injury is the head (Williams 2011). In this study we will describe the sociodemographic social psychiatric and clinical variables in a sample of survivors and non-survivors admitted to Atrium Wake Forest Baptist Medical Center (AWFBMC) with a diagnosis of SIGSW-H. Methods: This is an IRB approved retrospective cohort study which will phenotype individuals with SIGSW-H (completers and non-completers) at our center. Data will be extracted from EHR using ICD codes W34.00XA (gunshot wound) from the years 2016-2023. Patients in this cohort will be defined as having a documented gunshot wound diagnosis with documentation of a suicide attempt. Variables of interest manually extracted include but are not limited to: demographic variables including age sex race ethnicity marital status; social variables including household members rural-urban-continuum codes based on county caliber weapon violence history; psychiatric variables including chief complaint timing of psychiatry consultation request chronic physical and/or mental illness; hospital course including length of stay GCS score psychiatric medications at the time of psychiatric consult and discharge. As an exploratory analysis

we will compare the incidence of SIGSW-H between the pre-pandemic period of 2016-2019 and the pandemic period of 2020-2023. For normalized data Student's t-test for continuous variables and Fisher's exact test for categorical data will be used to compare differences. For non-normal distributed data the Mann-Whitney U test for continuous data and chi-squared test for categorical data will be used for non-normal distributed data. Univariable and multivariable analyses will be conducted for the variables of interest. We hypothesize that survivors will have high levels of intoxication at presentation have long lengths of hospitalization stay have tracheostomy/PEG to be a barrier to inpatient psychiatric hospitalization and will have a psychiatric diagnosis after presentation. Results: Study is currently underway. Preliminary analysis of data extraction demonstrates majority of patients presenting with alcohol content greater than 100 ng/mL on urine drug screening hospital stay of greater than 3 days tracheostomy/PEG in place withholding medical clearance to inpatient psychiatric unit and multiple psychiatric diagnoses after presentation. Conclusion: By elucidating patterns in their clinical presentations we can identify areas of improvement with respect to assessment intervention and some of the barriers to treatment for these patients.

**Saturday May 04**

### **Understanding of COVID-19 and Mental Health of Migrant Workers presenting to the Emergency Service of a General Hospital for COVID-19 Screening**

Andre Teck Sng Tay MBBS MMed (Psychiatry) MRCPsych; Tabitha Mok; Cheryl Loh; Steven Hoon Chin Lim; Janet Chang

Introduction: Migrant workers (MW) form one-fifth of Singapore's resident population. With rising COVID-19 infections we aim to: 1. Describe disease knowledge attitudes and behaviors

among MW; 2. Describe mental health concerns among them. Methods: Design: Cross Sectional Descriptive Study. Setting: Hospital Swab and Send Home [SASH] Isolation Facility (HOSIF) in an emergency service of a general hospital. Participants: Symptomatic MW living in dormitories sent to HOSIF for COVID-19 screening. Duration: 10-month period from May 2020 to February 2021. Measurement: Self-administered anonymized questionnaires translated to the MW's native languages (Bengali Tamil and Mandarin) comprising data related to demographics COVID-19 (knowledge attitudes behaviors) Kessler Psychological Distress Scale (K10) and others (worries hospital experience support and written feedback) were filled in during their stay at HOSIF. Results: 223 (80.5%) of 277 participants who responded completed all components of the questionnaire. Demographics: Mean age 34.1 years old 89.2% from Bangladesh and India 98.6% male 61.8% married with 54.8% having children. 94.3% had a religion (54.1% Muslims). 81.5% working in a foreign country for the first time with 73.5% working in Singapore over the past 5 years or more. 62.2% worked in the construction industry and 12.0% spoke English. 52.0% felt they knew nothing or a bit about COVID-19. 81.6% thought it was dangerous when they first heard of this disease with 72.2% continuing to believe that it was dangerous by the time they responded to the questionnaire. 86.1% were aware that COVID-19 could be spread easily from person to person and 85.2% thought that being separated from others could help reduce COVID-19 spread to them. 15% had potential disease knowledge gaps. Although 64.1% felt this was the biggest problem they had ever faced all of them (93.7% Yes 6.3% Maybe) showed confidence that they could overcome COVID-19 if they got it. 57.0% were likely to be well (mean K10 score of 19 [SD 7.2]) and 19.2% were likely to have a moderate to severe mental health disorder. Discussion: 15% lacked basic disease knowledge and the perceived lack of knowledge (52.0%) might account for the high level of perceived disease dangerousness. Around one in 5 were likely to have a moderate to severe mental health disorder with worrying about family (70.2%) as the main stressor. Staying connected with their loved ones

and reliance on faith and religion helped reduce stress. Measures to facilitate connection with family and freedom of worship within safety limits should be considered. Providing basic mental health information leaflets in the native languages of MW peer support counseling services early detection and referral easier access to affordable mental health services should be explored. Conclusion: Improvements can be made to the MW's disease knowledge with infection preventive measures and their mental health needs addressed further.

**Sunday May 05**

### **Association Between C-Reactive Protein Level and Cortical Thinning in Major Depressive Disorder**

Youbin Kang; Kyu-Man Han

Background: Recent studies have highlighted the role of immune dysregulation in the etiopathogenesis of major depressive disorder (MDD). C-reactive protein (CRP) is a pentameric acute-phase reactant protein used as a biomarker of infection chronic disease and chronic low-grade inflammation. Previous studies have provided valuable insights into the relationships between elevated CRP levels depressive symptoms and antidepressant responses. However despite encouraging and intriguing findings only a limited number of studies have examined the neuroanatomical alterations associated with CRP levels in depression. Therefore in the current study we investigated the underlying association between alterations in cortical thickness and serum CRP levels in patients with MDD. Methods: A total of 76 patients with MDD and 65 healthy individuals (HCs) were included in this study. All participants underwent T1-weighted magnetic resonance imaging and peripheral blood collection. The plasma was separated within 30 minutes and the resulting supernatant was stored at a temperature of -80 °C before the evaluation of CRP levels using a highly sensitive human premixed multi-analyte

assay. Additionally the association between whole-brain cortical thickness and serum CRP levels in the total sample was investigated using the FreeSurfer software. Results: Compared to HCs the MDD group demonstrated a significantly high level of CRP ( $P = 0.039$ ). In vertex-wise analyses significant cortical thinning was present in the left inferior temporal gyrus ( $P = 0.00080$ ) left superior frontal gyrus ( $P = 0.00200$ ) left rostral anterior cingulate ( $P = 0.00719$ ) right postcentral gyrus ( $P = 0.00020$ ) right lateral orbitofrontal gyrus ( $P = 0.00060$ ) and insula ( $P = 0.02563$ ). In contrast a significant increase in cortical thickness was observed in the left lingual gyrus ( $P = 0.01732$ ) and right precentral gyrus ( $P = 0.00020$ ). The increase in serum CRP levels was associated with cortical thinning in the left precentral gyrus ( $P = 0.00020$ ) bilateral superior frontal gyri (left:  $P = 0.00020$ ; right:  $P = 0.00599$ ) left inferior temporal gyrus ( $P = 0.00020$ ) and left rostral middle frontal gyrus ( $P = 0.03980$ ). Moreover the increase was also mildly associated with an increase in cortical thickness in the left postcentral gyrus ( $P = 0.01534$ ) and the right medial orbitofrontal gyrus ( $P = 0.00778$ ). Conclusions: The results of this study raise the possibility that an increase in serum CRP levels may lead to cortical thinning in the superior frontal gyrus and inferior temporal gyrus. Considering that cortical regions are involved in emotional regulation and cognitive control the findings provide novel insights into the possible pivotal role of CRP levels in the development of MDD through its impact on structural alterations of emotion regulation-related neural circuits.

**Sunday May 05**

### **“Dear AI are you listening? A Big Data Analysis of Digital Conversations Related to Severe Depression in Asian Americans from 2019 to 2020**

Alexis Leo Student Researcher; Ruby Castilla Puentes M.D.



Background: Depression affects about 280 million people worldwide and presents differently across racial and ethnic boundaries. Data gaps persist regarding variation in severe depression among Asian Americans (AA) including differences in specific levels of approach to the condition and disparities in care. Digital conversations can offer unique information about attitudes outside of formal clinical settings and help generate useful information for formulating strategies to engage AA patients in the management of severe depression. Methods: We used machine-learning methods to extract open-source online conversations of adults who engaged in digital conversations about severe depression from February 2019 to November 2020. This COVID-19 pandemic period was chosen for its impact on mental health and the spike in digital presence. The pre-COVID-19 period was defined from February 2019 to February 2020. Severe depression was defined using the term “depression” and the inclusion of at least two predetermined severity adjectives. 4.2 million unique conversations were analyzed and severe depression was determined in 1.3 million conversations. Of this 80000 (6.1%) were conversations by self-identifying AA with severe depression. 38% of conversations came from depression support websites followed by 28% from message boards 13% from social networks 9% from blogs 12% from comments and 4% from others. The data was classified into 4 domains: topics generated sentiments mindset and path to treatment. Results: AA discussed twice as many topics related to the social consequences of depression during COVID-19 compared to pre-COVID-19. Pre-COVID-19 30% of negative sentiments among AA were driven by negative beliefs about themselves. They also felt stigmatized by others 2.1x more than non-Hispanic (NH) Whites. During COVID-19 these negative beliefs about themselves increased to 74% however the conversations about stigma shifted to focusing on the loss of quality of life (3.8x more) The feeling of being a burden to others was 4.3x more than NH Whites and the perception of lack of support increased from 9% to 8%. 49% of AA mindsets show an avoiding approach to their condition vs. a confronting one. However

with COVID-19 AAs are 1.7x more confronted with social stigma which is a key barrier to seeking help and support. Conclusion: Insights from digital conversations provide useful information to build support strategies for managing severe depression in heterogeneous groups like AA. We propose that the recognition and further exploration of the existing heterogeneity among AA the multidimensionality of (severe) depression and the intersectionality of other important variables such as gender acculturation and language using tools such as digital conversation analyses as next steps for the advancement of our understanding about depression among AA.

Sunday May 05

### **A Prospective Multi-center Randomized Controlled Blinded Trial of Vagus Nerve Stimulation for Difficult to Treat Hyper-resistant Major Depression**

Vasilis Hristidis M.D.; Charles Conway; Scott Aaronson

Background: Vagal Nerve Stimulation (VNS) was FDA-approved for treatment-resistant major depression (TRMD) in 2005. In 2007 the US Centers for Medicare and Medicaid Services (CMS) issued a “non-coverage decision” limiting access to VNS for TRMD. In 2019 CMS requested a “coverage with evidence trial” to study VNS efficacy in Medicare patients with TRMD. The RECOVER Trial a large multi-center (84 US sites) randomized double-blind sham-controlled trial assesses VNS efficacy over 12 months. Methods: Inclusion criteria: ?18 years old Major Depressive Disorder (MDD) or Major Depressive Episode (MDE) current in unipolar/bipolar disorder chronic (?2 years) or recurrent (?4 MDEs) failure of four record-verified antidepressant (AD) treatments in current MDE and a score of ? 22 on the Montgomery Åsberg Depression Rating Scale (MADRS). Exclusion criteria: substance use disorder (past year) lifetime psychosis acute

suicidal ideation/intention and severe personality disorders. All subjects were implanted and randomized to active treatment (device on) or sham (device off) for 12 months. The primary outcome is months in response (active vs. sham; 50% reduction from MADRS baseline) during the 12-month sham-controlled period. RECOVER secondary outcomes include MDD remission and changes in quality of life overall function/disability and suicidal ideation. Results: Presently 500 unipolar patients were randomized with a median age of 58.0 years median MADRS of 34.5 and 80.6% being judged as severely ill using the Clinical Global Impression (CGI). With the Quality of Life Enjoyment and Satisfaction Questionnaire – Short Form (Q-LES-Q-SF) the sample reported a low baseline quality of life (median Q-LES-Q-SF of 34 max = 70). The median age of MDE onset is 25.0 with a median of 18.7 years in MDE (36% lifetime). The sample has high suicidal ideation (77% positive); 40% have one or more suicide attempts. Median failed lifetime AD treatments and medications is 11.0 and 10.0 respectively. Most (64%) participants had received interventional (IT) AD treatments in the current MDE: repetitive transcranial magnetic stimulation (rTMS; 50%) electroconvulsive therapy (ECT; 38%) and ketamine (24%); 35% had received 2 of these three treatments 7% all three. To date 300 patients (including withdrawals) have completed the trial's first year. Further analysis of those patients who had received IT in the current MDE found vis-à-vis those without IT exposure them to be younger more severely depressed with greater suicidal ideation and earlier onset of MDD. Conclusions: RECOVER is the largest device-based TRMD treatment study conducted to date and is enrolling well-characterized severely resistant MDD patients including many who have failed interventional treatments. It will provide better understanding of VNS responsivity (e.g. onset of response and baseline outcome predictors) and VNS effects on quality of life overall function and suicidal ideation.

Sunday May 05

## An explanatory analysis of intravenous ketamine dose frequency in an outpatient clinic for patients with depressive symptoms

Jin Yan; Grace Pham Ph.D.;D.O.; Nicholas Murphy; Brittany O'Brien; Sanjay Mathew M.D.

Objective Ketamine (KET) has been shown to treat suicidality through rapid NMDA receptor antagonism and intravenous (IV) KET infusions have a rapid onset of efficacy in treatment-resistant depression. However clinical practice varies widely in the duration of an induction course of IV KET ranging from weekly infusions over 4 weeks to thrice weekly for 2 weeks etc. Our objective was to use real world clinical data to investigate characteristics distinguishing patients requiring a greater number of IV KET infusions. Methodology This observational study identified 177 patients with self-reported depressive symptoms who received KET infusions at an outpatient clinic in Houston TX and completed a Quick Inventory of Depressive Symptomatology-Self Report (QIDS-SR) prior to infusion at each visit. Patients had either 4 infusions within 4 weeks (group 1) or 8 infusions within 8 weeks (group 2) and these infusions were their first at the clinic. Group 1 had 114 patients and group 2 had 63. Visit 4 and 8 QIDS-SR were compared to baseline QIDS-SR with paired t-tests and differences between groups at these time points were assessed via ANCOVA. Results For groups 1 and 2 respectively the sample was 45% and 48% male had a mean age of 41.8 and 38.3 had a mean body-mass index (BMI) of 28.3 and 26.5 and had a mean baseline QIDS-SR score of 16.4 (4.9) and 17.8 (4.2). Group 1 had a statistically significant decrease (mean difference = 11.5) in QIDS-SR at visit 4 compared to baseline ( $p < .001$ ). Group 2 also saw a significant decrease in QIDS-SR at visit 4 ( $p < .001$ ) and visit 8 ( $p < .001$ ) compared to baseline QIDS-SR with a mean difference of 6.81 and 9.05 points respectively. For group 1 response rate (? 50% change in QIDS-SR) at visit 4 was 99.1% and remission rate (QIDS-SR ? 5) was 60.5%. For group 2 response and remission rates were 40.3% and 12.3% at visit 4 and 51.6% and 26.2% at visit 8 respectively. ANCOVA results

revealed that group 1 QIDS-SR reduction at visit 4 was significantly greater than that of group 2 after controlling for baseline QIDS-SR ( $p < .001$  ? $p_2 = .41$ ). Another ANCOVA comparing group 1 and group 2 responders showed that the former had significantly lower QIDS-SR scores at visit 4 after controlling for baseline ( $p < .001$  ? $p_2 = .089$ ). Discussion The results of this analysis reveal that group 1 saw better outcomes than group 2 at visit 4. Patients in group 2 who continued infusions with the same frequency after visit 4 (as opposed to group 1 which reduced frequency of infusions after visit 4) likely did so due to a less robust response suggesting more resistant depressive symptoms. Although patients were not randomized to groups this study has important implications regarding how the optimal course of IV KET treatment may vary by patient symptomology. Further studies are needed to determine best practices for IV KET treatment of clinical depression in outpatient clinic settings.

Sunday May 05

### **Association between functional brain network and antidepressant response in patients with major depressive disorders: a resting-state EEG study**

Seung-Hwan Lee; Kang-Min Choi; Chaeyeon Yang

Objective. Predicting the efficacy of pharmacological therapy is one of the most crucial concerns [1]. Recent neuroimaging studies have demonstrated that resting-state electroencephalography (rsEEG)-based functional brain networks could potentially serve as predictors for the treatment response of antidepressants [2]. Due to a scarcity of relevant studies however the properties of the network associated with treatment response are not fully understood. In this study we investigated functional network differences using rsEEG between the antidepressant responders and non-responders in patients with MDD. Methods. A

total of 367 patients with MDD were enrolled in the study. They were separated into two groups based on the post-pharmacological efficacy monitoring by a certified psychiatrist: good-responding (GR;  $n = 269$  aged  $42.25 \pm 12.82$  Male: 68)- and treatment-refractory (TR;  $n = 98$  aged  $42.47 \pm 12.87$  Male: 21)-MDD. Additionally 131 healthy controls (HCs;  $n = 131$  aged  $42.97 \pm 14.50$  Male: 36) participated in this study. EEG data were recorded during the resting-state with eyes closed. After preprocessing for the elimination of noise and artifacts EEG data were segmented into 2-s epochs followed by band-pass filtered at the beta band (12 – 30 Hz). The graph theory-based functional network was constructed with 31 regions as nodes and orthogonalized power-envelop correlation (PEC) as edges [2]. For an assessment of functional segregation the clustering coefficient (CC) was evaluated. For group comparisons Network-Based Statistics (NBS) [3] and ANOVA models were used for functional connectivity (FC) and CC respectively. Results. While both MDD groups exhibited hypo-connectivity compared to HCs patients with TR-MDD showed a more severe pattern mainly within the dorsal attention network. Furthermore the CCs were decreased in patients with TR-MDD compared to those with GR-MDD ( $p = 0.0328$ ) as well as HCs ( $p = 0.0039$ ) particularly for the salience network. Conclusion. Our study suggested that the rsEEG-based functional brain network patterns could be biomarkers to predict antidepressant treatment effects. Patients with TR-MDD were characterized by more severe malfunctioning functional brain networks.

Sunday May 05

### **Automatically Extracted Linguistic Features of MADRS Clinical Interview are associated with Depression Severity**

Eric ETTORE; Nicklas Linz; Felix Dörr; Michal Balazia; Alexandra König

Background: Today clinical states are measured by using question-based scales related to specific symptomatic domains which may be subject to biases. Identifying objective markers of psychiatric diseases such as Major Depressive Disorder (MDD) is necessary for differential diagnosis improved disease classification and treatment. With the current rise of the use of Artificial Intelligence (AI) in healthcare personalized management of mental disorders is moving forward. Hence technology-based behavioral sensing for instance through automatic speech analysis may prove to be effective in measuring subjective communicative functioning making inferences about symptoms and guiding treatment management. This project aims to detect automatically extractable linguistic markers which are associated with depressive symptoms and could potentially be used in automated speech analysis. Methods: For this 29 patients diagnosed with MDD were recruited at the psychiatric clinic at the University hospital in Nice France. They underwent a clinical semi-structured interview (Montgomery-Asberg Depression Rating Scale (MADRS) with their psychiatrist which was audio recorded. Audio files were processed and speaker diarization performed to separate both speakers (patient and clinician). Subsequently linguistic features were automatically extracted from the recorded and cut audio files. In an exploratory approach features were identified which showed associations with the overall MADRS score as represented by significant Spearman Rank Sum Partial Correlations while controlling for participants' age and gender. Results: A total of 4 features emerged to be significantly related to the overall MADRS score as can be seen in Table 1. While the adverb rate was negatively correlated with the overall score ( $r = -.456$   $p = .022$ ) the determiner rate showed a positive correlation ( $r = .457$   $p = .021$ ). Similarly the proportion of verb phrases with an object ( $r = .444$   $p = .026$ ) as well as Honore's Statistic ( $r = .399$   $p = .048$ ) a measure of lexical richness showed positive association with the MADRS total score. Our results suggest a pattern of certain linguistic changes associated with depression severity as measured by the MADRS namely an increase in the usage of certain types

of speech such as determiners and verb phrases and a decrease in others such as adverbs. Somewhat surprisingly more severely depressed patients show a richer vocabulary than those who are less severely depressed. Conclusion: Our project identifies linguistic markers of speech that hold promise for an objective diagnosis of MDD. To validate their potential further longitudinal and prospective studies are needed using an unframed and more naturalistic speech tasks. Ultimately the automatic speech-based analysis of depressive tendencies can be significantly faster and cheaper administered than alternative methods and this even remotely.

Sunday May 05

### **Childhood adversity and mental health in psychiatric patients: The moderating effects of resilience and loneliness during the COVID19 Pandemic.**

Mark Lukowitsky PhD; Jeffrey Winseman M.D.

Objective: This study explores the relationship between adverse childhood experiences (ACEs) depression and suicidal ideation and how resilience and loneliness moderated these connections as COVID-19 restrictions eased. Background: ACEs are robust predictors of mental health disorders including depression and suicidality. Loneliness and social isolation emerged as significant public health concerns during the federal enactment of social distancing policies and widespread lockdowns potentially exacerbating these issues. However recent studies have revealed heterogenous results indicating that not all people experienced loneliness equally. While individuals whose early life experiences were characterized by adversity may have been particularly vulnerable during the pandemic some have observed that negative life events including pandemics are followed by resilience. Indeed the presence of even one stable and supportive other has been shown to foster resilience and attenuate the negative outcomes associated with ACEs. Methods: Patients (N=182)

presenting for in-person intakes at a large community mental health clinic between July 2021 & August 2023 were asked to complete assessments measuring adverse childhood experiences loneliness (UCLA-3LS) resilience (CD-RISC) and depression and suicidality using the Treatment Outcome Package (TOP). Results: Approximately half the sample (49.5%) reported 4 or more ACEs. Participants also endorsed modest levels of suicide (average Z-score=1.62) and moderate levels of depression (average Z-score=2.16). Over half the participants (54.9%) reported having 2 or fewer close friends and nearly 13% reported having none. Using the Hayes PROCESS macro we found significant interactions effects between the total number of ACEs and resilience on depression ( $F=5.42$   $p<.05$ ) and suicidality ( $F=6.12$   $p<.05$ ) indicating that resilience buffered the impact of ACEs on these outcomes. Additionally we found evidence for an interaction between ACEs of neglect and reported feelings of loneliness on suicidality ( $F=6.17$   $p<.05$ ). Conclusions: These findings suggest that as COVID19 restrictions eased resilience may have played a crucial role in attenuating the impact of ACEs on important mental health outcomes including depression and suicidality. However for individuals reporting high ACEs of neglect experiences of loneliness exacerbated suicidality. These results underscore the importance of resilience and social support as preventive measures during times of stress to mitigate the effects of early life adversity on adult mental health.

Sunday May 05

### **Comparison of depressive symptoms between patients with cancer and normal control using network analysis**

JiIn CHOI; Ye Sol Chung; Dohyun Kim M.D.

Background : Patients with cancer often experiences psychological distress such as

depression and anxiety. Because diagnostic criteria of major depressive episodes consist of nine symptoms depression exhibit diverse and heterogeneous features. In particular the profile of depressive symptoms in cancer patients can differ significantly from that of individuals without cancer. The conventional approach using the total score of depressive symptom scales may overlook individual symptoms and their heterogeneity. To address this limitation our study utilized network analysis to explore the network structure of depressive symptoms in cancer patients. Method: Data from 2014 to 2020 Korean National Health and Nutrition Examination Survey conducted by Korea Disease Control and prevention agency were used in this study. Subjects aged over 18 were included in the analysis. Out of the 17254 subjects 1120 were diagnosed with cancer. Propensity scoring matching was applied to account for discrepancies in age and sex resulting in a final dataset of 2240 subjects (1120 cancer patients and 1120 controls). Depressive symptoms were assessed using the Patient Health Questionnaire-9 (PHQ-9). As the data was acquired from community sample the distribution of PHQ-9 scores were positively skewed which represents most subjects have no or mild degree symptoms. Therefore we estimated the depressive symptom network using eLasso method which is based on the Ising model after binarization of each PHQ-9 item. Subsequently we performed 1000 times permutation to test exploiting NetworkComparisonTest package version 2.2.2. All analyses were performed with R software (version 4.3.1.) Results: After propensity scoring matching both groups exhibited the same sex ratio and mean age (M: 416 F: 704 mean age 62.27). Depressed mood (PHQ2) showed the highest strength centrality in the network indicating significant connectivity with other nodes in both groups. In the network comparison test cancer group have significantly higher strength centrality of anergia (PHQ4) and higher weight of edge between psychomotor activity (PHQ6) and suicidal ideation (PHQ7) than control group Conclusion: Our network analysis revealed the difference of network structure of depressive symptoms in cancer patients. Anergia (PHQ4)



tend to co-occur with other depressive symptoms in cancer group and there was a strengthened correlation between psychomotor activity and suicidal ideation in this group. Considering these results depressive symptoms associate with physical activity (anergia and psychomotor activity) have may be central symptoms in patients with cancer. This symptom network analysis provides valuable insights into the diverse connectivity patterns of depressive symptoms in cancer patients.

Sunday May 05

### **Correlation of LSD Microdose Experience with Depressive Symptom Improvement**

Laura Rosas M.D.; Hanna Molla; Harriet de Wit

Background: Existing pharmacotherapies for depression can be limited by tolerability long latency to therapeutic response and variable therapeutic benefit. Psychedelics are thought to disrupt neural networks that encode thought and behavior habits which makes them promising for internalizing disorders like depression. Although research into treatment with psychedelics is growing a subset regarding microdoses remains understudied. We previously showed that individuals with mild depression had larger symptom improvement after taking a low dose of LSD compared to non-depressed volunteers. Our focus is a secondary outcome of that study. We looked at differences in the 5 Dimensions of Altered States of Consciousness (5D-ASC) scale which includes three domains: oceanic boundlessness (OB; measure of positive affect altered states) anxious ego dissolution (AED; measure of negative affect altered states) and visionary restructuralization (VR; measure of perceptual effects). We hypothesized that participants who reported greater LSD-induced increases in OB and VR (and decreases in AED) would exhibit greater improvement in symptoms 48 hours after the dose. Methods: The original study used a double-blind placebo-controlled

cross-over design in which participants received a sublingual low dose of LSD (26 µg) and placebo separately during two 5-hour laboratory sessions at least seven days apart. In the present analysis we examined acute responses to LSD in participants with baseline Beck Depression-II inventory (BDI) scores of > 17 (N=20). Two main outcome measures were i) Change in BDI scores from baseline to 48 hours after LSD and placebo sessions and ii) Change in 5D-ASC domains from baseline to immediately after LSD and placebo administration. Three Pearson correlation tests compared the changed BDI scores to the changed 5D-ASC domain scores. Results: All correlations were nonsignificant (OB  $r=0.09$   $p=0.71$ ; AED  $r=0.22$   $p=0.36$ ; VR  $r=0.13$   $p=0.60$ ). A negative correlation would indicate that having more experiences in that domain relates to symptom improvement while a positive correlation would indicate fewer experiences in that domain relates to symptom improvement. Conclusion: This study does not support the idea that psychedelic-like subjective effects of a microdose are associated with depressive symptom improvement. These findings add to the clinical question about what aspects of the drug effect contribute to psychedelic therapy. Low-dose LSD's mood-enhancing effect may occur through a mechanism unrelated to 5D-ASC measured state changes of consciousness. However the domains on the scale could have been too broad or specific to detect a difference. Also the sample size may have precluded the power to detect significant differences.

Sunday May 05

### **Discriminating Depression: Evaluation of Natural Language Processing and Speech Analysis in Identifying Unipolar vs Bipolar Disorders**

Yusei YAMAGUCHI; Hidehiko Takahashi; Yoshinobu Kano; Hironobu Nakamura; Taishiro Kishimoto

Background: Language and speech data are critical for psychiatric diagnosis. With the rise of natural language processing (NLP) and speech analysis their applications have the potential to predict psychiatric conditions and their severity. This research overcomes common hurdles such as dataset scarcity and integrates psychiatric assessments to predict the diagnosis of mood disorders. It also pioneers the use of NLP and speech analysis to distinguish between unipolar and bipolar depression. Methods: This study is part of the Understanding Psychiatric Illness through Natural Language Processing (UNDERPIN) project. The UNDERPIN project encompassed 97 major depressive disorder (MDD) patients and 62 bipolar patients alongside 97 healthy control subjects recruited from medical facilities in Japan. All participants were assessed using the Hamilton Depression Rating Scale (HAM-D) and the Young Mania Rating Scale (YMRS). They participated in 30-60 minute interviews which were repeated 2-5 times. The interviews were recorded in separate channels for each speaker then manually transcribed. Regarding NLP analysis utilizing models such as GINZA (a spaCy Japanese-language model) and BERT which was fine-tuned on the dataset based on Plutchik's eight basic emotions we identified approximately 80 linguistic features. Regarding speech analysis we conducted using openSMILE 3.0 extracted acoustic features such as fundamental frequency and Mel-frequency cepstral coefficients (MFCC). Our samples consist of 430 with MDD 347 with bipolar disorder and 235 healthy controls. Discrimination between unipolar and bipolar depression is focused on 195 and 116 samples respectively using subjects with HAM-D scores  $\geq 8$  and YMRS scores  $\geq 7$  indicating a depressive state without manic or mixed episodes. We employed the Catboost algorithm for classifying diagnoses in a supervised learning context. The dataset was divided into two sets: 90% for training and 10% for testing. To ensure the model's robustness and generalizability a 10-fold cross-validation was conducted on the training set. Finally the trained model's performance was evaluated on the test set focusing on sensitivity and specificity as the primary metrics. Results: The study achieved considerable discriminative

performance with sensitivities and specificities: 0.910 and 0.791 for healthy vs MDD 0.864 and 0.875 for healthy vs bipolar disorder 0.742 and 0.863 for unipolar vs bipolar depression (bipolar was defined positive). In discriminating between unipolar and bipolar depression the features from speech analysis such as the mean value of MFCC4" emerged as the most important. Conclusion: The findings confirmed the usefulness of NLP and speech analysis in psychiatric assessment. In particular these techniques may improve the discrimination between unipolar and bipolar depression. The study was supported by the Japan Science and Technology Agency CREST under Grant Numbers JPMJCR1684 and JPMJCR19F4."

Sunday May 05

### **Does Psychotherapy Reduce Inflammation in Patients with Major Depressive Disorder?**

Alvin Mantey M.S; Henry Nasrallah M.D.

Does Psychotherapy Reduce Inflammation in Patients with Major Depressive Disorder? Alvin Mantey UC COM MS3 (medical student); Dr. Henry Nasrallah Department of Psychiatry and Behavioral Science UC College of Medicine Cincinnati Ohio (PI) Background: It is well-established that major depressive disorder is associated with elevated serum inflammatory biomarkers such as IL-6 CRP TNF-alpha and cortisol. These elevated biomarkers are also linked to the somatic symptoms seen in depression such as pain and low energy. Antidepressant pharmacotherapy and neuromodulation (ECT) have been shown to reduce the levels of inflammatory biomarkers in responding patients. Psychotherapy especially CBT is well known to improve depressive symptoms. Here we review the literature of controlled studies reporting the effects of psychotherapy on serum pro-inflammatory

biomarkers. **Methods:** We conducted a systematic search of online databases (i.e. PubMed Web of Science Google Scholar PsychINFO and Cochrane Library) up to January 2023 using key words such as psychotherapy inflammation CBT and inflammatory biomarkers. **Results:** Seven studies met our inclusion and exclusion criteria including 4972 subjects. All reported a decline in one or more inflammatory biomarkers including IL-6 and CRP in responders but not in non-responders. **Discussion:** There is a strong relationship between certain subtypes of depression and inflammation. Evidence-based psychotherapeutic interventions such as CBT appear to be associated with reduced inflammatory biomarkers such as is observed with antidepressant medications. This suggests that psychotherapy can modulate the immune status of patients with depressive disorders. There are also numerous studies reporting that adjunctive anti-inflammatory agents including NSAIDs omega-3 fatty acids COX-2 inhibitors and minocycline potentiate the antidepressant effects of pharmacotherapy. Future studies should examine the potential use of anti-inflammatory agents (especially omega-3 because it is the safest) in patients with depressive disorders receiving psychotherapy instead of drug therapy.

Sunday May 05

### **Efficacy and tolerability of intranasal esketamine versus intravenous ketamine treatment for treatment resistant depression: An observational study**

Gilmar Gutierrez M.D.; Gustavo Vazquez M.D.

**Background:** Intravenous (IV) ketamine and intranasal (IN) esketamine have been studied as novel therapeutic alternatives for the management of treatment resistant depression (TRD). They have demonstrated rapid and potent reduction of depressive symptoms after the administration of both single and multiple

subsequent doses. The objective of this observational pilot study is to compare the real-world effectiveness and tolerability of IV ketamine versus IN esketamine in the management of unipolar TRD. The hypothesis of this study is that both ketamine and esketamine treatments will have similar efficacy and tolerability. **Methods:** These are the preliminary results for a multicenter prospective observational study of naturalistic clinical practice still in progress. Patients (n=60) experiencing moderate to severe TRD referred to receive IV ketamine (n=30) or IN esketamine (n=30) treatments are being recruited. Effectiveness of these treatments is assessed using the Montgomery and Åsberg Depression Rating Scale (MADRS) for depression severity and item 10 of the MADRS for suicidal ideation (SI). Tolerability is assessed by tracking side effects and depersonalization using the 6-item Clinician administered dissociative symptom scale (CADSS-6) depersonalization scale. The data will be analyzed using descriptive statistics risk ratio (RR) and effect size using Cohen D (d) analysis. **Results:** These preliminary results use the data collected by two research centers. 17 patients referred to receive IV ketamine (65% female 54.59±14.55 years old) and 12 referred to receive IN esketamine (75% female 49.42±14.26 years old) have been recruited so far. Both ketamine (d=3.07 p<0.0001) and esketamine (d=1.36 p=0.00081) groups presented a rapid and significant reduction of depressive symptoms severity at endpoint (4 weeks) with large effect size. The ketamine group experienced a significant reduction in SI (d=1.14 p=0.0027). Compared to IN esketamine IV ketamine was significantly more effective at reducing depression symptoms with a large effect size (d=0.99 p=0.020) though it also presented a significantly higher risk of developing side effects (RR=1.37 p=0.0046). All side effects reported were mild and transient with the most common side being sedation or drowsiness present in over 40% of patients. One patient has dropped out before completing their respective treatment in each arm. **Conclusions:** These preliminary results suggested that both IV ketamine and IN esketamine have similar effectiveness in the management of depressive symptoms. Though they differed in the

management of SI and side effect profile both treatments were well tolerated. Thus these results provide additional evidence for the treatment of patients with TRD in real life clinical setting and could serve to guide clinical practice and health policy.

**Sunday May 05**

### **Evaluating Functional Outcomes in Major Depressive Disorder: A Patient Interview Study**

Erin Gallagher; Mousam Parikh; Kathy Vong; Harlow Sharp; Tina Matthews-Hayes DNP

**Background** Many patients with major depressive disorder (MDD) experience functional deficits. Even for patients who achieve remission those who do not attain normal functioning have a greater risk of relapsing than those who do highlighting the importance of functional recovery. To better understand the effects of MDD on patient functioning we developed a conceptual model based on a literature review and enhanced it based on qualitative patient interviews to make it more patient-centric. **Methods** A literature review was performed to identify clinical outcomes assessments and develop a literature-based conceptual model of functional outcomes in MDD. Following institutional review board approval qualitative interviews were conducted with participants from 3 US clinical sites. An interview guide was used to elicit and understand functional impairments experienced by patients using spontaneous and probing approaches. Interview results were analyzed and used to revise the literature-based conceptual model. **Results** Following the literature review 80 abstracts informed clinical outcomes assessment identification and 34 articles supported the development of a conceptual model of functional outcomes in MDD. The literature-based model comprised 6 domains: cognitive (eg lack of attention/difficulty concentrating) physical (eg chest tightness) sexual dysfunction (eg decreased libido) work (eg autonomy) sleep (ie poor sleep

quality) and social (eg family relationships). A total of 20 adults with MDD participated in the interviews. On average participants were 38.6 years old female (60.0%) and had an MDD diagnosis for 4.9 years. Most participants (70.0%) indicated that their first signs/symptoms of depression appeared before the age of 18 years. The following functional outcomes were identified during interviews: emotional cognitive social physical work/school sexual dysfunction activities of daily living and sleep. Difficulty falling asleep apathy and negative impact on satisfaction with sex were reported to be the most bothersome functional outcomes on average. After analysis of interview results the revised conceptual model included the following additional or revised domains: emotional functioning (eg hopelessness) work/school functioning (eg decreased productivity/presenteeism) and functioning related to activities of daily living (eg negative impact on personal hygiene). **Conclusion** Overall these results highlight the broad impact that MDD has on patient functioning directly from a patient perspective. Future studies evaluating functional outcomes in MDD should consider measuring these concepts. This study was supported by AbbVie.

**Sunday May 05**

### **Examining the Experiences of Black Women in Medical School**

Isabelle Marcelin M.D.; Melissa Arbuckle; Martha Duah

**Background:** Many studies have highlighted the unique challenges that Black women face in higher educational settings attributed to both race and gender however little remains known about Black women's experiences throughout medical training as medical students. This study sought to characterize how racial and gender identity impacts Black female medical students' experiences in and interactions with the medical environment. **Methods:** Individual semi-

structured interviews were conducted with Black women medical students across nine medical schools along the U.S. east coast between October 2019- January 2020. Qualitative data analysis techniques including grounded theory were used to identify key themes in the participants' experiences throughout medical school influenced by their racial and gender identity. Results: Twenty medical students participated with varied distribution across all four graduate years. Three major conceptual categories characterizing students' experiences emerged: Identity Relationship with Medical Community and Relationship with Educational System. Specific challenges included: stereotype threat microaggressions lack of a critical mass navigating a majority white culture in medicine facing an uneven playing field (often as first-generation MDs with financial limitations) and discrimination and bias in both the core curriculum and hidden curriculum. Despite these challenges Black women described several positive aspects including their own inherent motivation to serve URM communities the opportunity to work with Black patients and the ability to feel connected with URM peers. Conclusion: Black women's experiences as medical students highlight the need for tailored medical institutional efforts towards addressing challenges and enhancing support as they navigate the medical community and educational system.

Sunday May 05

### Exploring State and Trait Characteristics Based on Temperament in Patients with Major Depressive Disorder

Kyeong Kang M.D.; Christopher Park

Background: Affective temperament is associated with various clinical characteristics in patients with mood disorders. However little is known about clinical characteristics based on affective

temperament specifically in patients diagnosed with major depressive disorder (MDD). This study aims to explore the impact of affective temperament on both the traits and states of patients diagnosed with MDD. Methods: This study analyzed the data from a routine symptom questionnaire administered to outpatients with MDD aged 18 to 49 presenting for their initial visit to the psychiatric department in a tertiary hospital. Affective temperament was assessed using the Temperament Evaluation of the Memphis Pisa Paris and San Diego- Autoquestionnaire. A Z-score of 1 or higher on each affective temperament was considered indicative of the presence of the respective affective temperament. The patients completed various assessments including the Patient Health Questionnaire-9 (PHQ-9) Generalized Anxiety Disorder-7 (GAD-7) Seasonal Pattern Assessment Questionnaire Hypomania Checklist-32 Interpersonal Sensitivity Measure and Depressive Symptom Index - Suicidality Subscale. Multiple linear regression analysis was conducted to analyze our data. Results: There were 247 patients with a mean age of  $29.34 \pm 9.16$  of whom 152 (61.5%) were female. There were 50 patients (20.2%) with cyclothymic temperament 55 patients (22.3%) with depressive temperament 49 patients (19.8%) with irritable temperament 42 patients (17.0%) with hyperthymic temperament and 56 patients (22.7%) with anxious temperament. Depressive ( $r = 0.247$   $p < 0.001$ ) and irritable temperament ( $r = 0.138$   $p = 0.032$ ) were positively associated with the scores of PHQ-9 while hyperthymic temperament ( $r = -0.123$   $p = 0.041$ ) showed a negative association. Furthermore depressive ( $r = 0.246$   $p < 0.001$ ) irritable ( $r = 0.195$   $p = 0.002$ ) and cyclothymic temperament ( $r = 0.148$   $p = 0.018$ ) were positively associated with the scores of GAD-7. Cyclothymic ( $r = 0.211$   $p = 0.001$ ) and anxious temperament ( $r = 0.136$   $p = 0.027$ ) were positively correlated with seasonality. Also hyperthymic ( $r = 0.200$   $p = 0.002$ ) and cyclothymic temperament ( $r = 0.140$   $p = 0.036$ ) were positively correlated with hypomanic features. Cyclothymic ( $r = 0.255$   $p < 0.001$ ) depressive ( $r = 0.218$   $p < 0.001$ ) and anxious temperament ( $r = 0.173$   $p = 0.004$ ) were positively correlated with interpersonal hypersensitivity.



Depressive temperament ( $r = 0.184$   $p = 0.004$ ) was positively associated with the severity of suicidality. Conclusion: Among patients with MDD variations in psychiatric states and traits were observed based on the dominant affective temperaments. This suggests an association between affective temperaments and diverse psychopathological manifestations. Consequently there appears to be a need for further research to elucidate the therapeutic implications associated with affective temperament.

Sunday May 05

### Frailty is Associated with Depression in the Korean Elderly

JHIN CHOI

Background : In the elderly frailty is known to increase the risk of depression and cognitive decline. In this cross-sectional study the impact of frailty levels on depression and cognition was investigated among 320 elderly individuals aged 65 and above. Methods : 320 participants were classified into three groups based on the FRAIL scale : a score of 0 indicates 'Robust' a score of 1-2 indicates 'Pre-frail' and a score of 3 or higher corresponds to the 'Frail' group. Chi-square tests or analysis of variance (ANOVA) were used to compare demographic and socioeconomic factors among the three group. Logistic regression analysis was used to investigate whether frailty influences the presence of cognitive impairment and depression. Cognition was assessed using the Mini-Mental State Examination - Dementia Screening (MMSE-DS) and depression was evaluated using the Geriatric Depression Scale (GDS). Results : Out of a total of 320 individuals 87 (27%) were classified as Robust 114 (36%) were classified as Pre-frail and 119 (37%) were classified as Frail. There were no statistically significant differences in demographic and economic factors such as gender health insurance coverage marital status cohabitation status and monthly income based on the degree

of frailty. There was a significant positive linear trend in GDS scores according to the frailty level ( $p < 0.001$ ). Pre-frail and Frail groups had higher odds of depression (OR=2.182  $p = 0.008$  and OR=3.864  $p < 0.001$  respectively). Adjusted analysis for age and schooling confirmed the significance of these associations ( $p = 0.010$  and  $p < 0.001$  respectively). There was also a significant positive linear trend in MMSE-DS scores according to the frailty level ( $P = 0.008$ ). However the odds of cognitive impairment in the pre-frail and frail groups compared to the robust group were not statistically significant ( $p = 0.606$  and  $p = 0.167$  respectively). MMSE-DS scores were affected by schooling age and GDS score but frailty group did not significantly impact MMSE-DS ( $P = 0.763$ ). Conclusion : Individuals who are older than 65 years of age frailty was linked to higher odds of depression yet its association with cognitive impairment was not evident after adjusting for other factors. this study highlights the association between frailty and depression and indicates the necessity for further research to gain a deeper understanding of the relationship between frailty and cognitive impairment. "

Sunday May 05

### From Digital Measures to Novel Composite Endpoints: Enabling Precision Psychiatry

Edmund Salzmann; Dooti Roy

Background The Montgomery-Åsberg Depression Rating Scale (MADRS)-Total score includes 10 subscores that evaluate the core symptoms of depression. While MADRS is reliable it can be burdensome for patients. Measuring digital traits may provide a less burdensome alternative to assess specific depressive symptoms over time. This analysis used AiCure (LLC New York NY USA) a smartphone application and machine learning (ML) to identify digital traits that correlate to specific MADRS subdomains. Findings were used to identify a new MADRS composite score covering symptoms best

predicted by digital traits. **Methods** During a Phase II randomized decentralized trial patients completed the MADRS and an image description task using AiCure at baseline. The digital task elicited visual and verbal behaviors that were captured by the smartphone's camera. Audio and digital data were extracted to measure speech (rate sentiment and first-person singular pronouns) vocal acoustics (intensity pause fraction and fundamental frequency) facial expressivity (regional facial movement) and head pose (euclidean and angular head movement). Digital traits analysis involved data pre-processing followed by ML using 3 models (Decision Tree Elastic Net and Random Forest); model performance was evaluated using 5-fold cross-validation and mean absolute error (MAE). Important digital traits were calculated by percentage change in MAE after permuting a specific variable. Once digital traits were identified they were extracted and the percentage of overlapping traits between each model was calculated (nonlinear correlation). A cluster analysis was performed to identify nonlinearly correlated subscales. A modified composite score was calculated as the summation of the identified cluster of subscores and the prediction power of the new composite score was compared with the MADRS Total score. **Results** The ML model predictions were different for different MADRS subscales. Overall Random Forest and Elastic Net models outperformed Decision Tree across all subscores other than suicidal thoughts. There was evidence of potential multivariate nonlinear relationships for certain subscores with the digital traits. The cluster analysis identified 3 nonlinearly correlated MADRS subscales (reported sadness apparent sadness and reduced appetite) which were used to derive a new modified composite MADRS score. The digital traits prediction power (MAE [standard error]) of the modified composite MADRS score (Elastic Net: 0.73 [0.08] Decision Tree: 0.79 [0.16] Random Forest: 0.76 [0.04]) was greater than the MADRS Total score (Elastic Net: 0.83 [0.14] Decision Tree: 0.96 [0.20] Random Forest: 0.85 [0.17]). **Conclusion** A new MADRS composite score was identified covering symptoms best predictable with digital traits. This analysis may be a promising step towards creating

digital health technology-based surrogate endpoints. **Funding** This study is funded by Boehringer Ingelheim

**Sunday May 05**

### **Geographical Distance and Being a Single Parent Predict Retention for Underserved Hispanic Women with Concurrent Major Depression and Breast Cancer**

Carlos Blanco M.D.; Ying Chen MD DrPH MA; John Markowitz M.D.; David Hellerstein M.D.

**Background:** Depression is one of the most common comorbid psychiatric disorders for patients with breast cancer (BC) and can decrease patient's quality of life and negatively affect cancer treatment results if untreated. We identified treatment barriers to women with BC who sought psychotherapy for depression. Such findings may help policy makers and researchers with decision making when funding and designing future studies that involve this population especially in communities with high rates of health disparities. **Methods:** We used data from a randomized trial for women with BC and current diagnosis of non psychotic unipolar major depressive disorder (MDD). Patients were randomly assigned to 12 weeks of one of three psychotherapies and attrition was assessed by whether subjects had week 12 assessments. Descriptive analyses and logistic regression were used to identify barriers. Statistical softwares R SAS and SPSS were used. **Results:** 134 patients were randomized of whom 84 (62.7%) were Hispanic. 59 (44%) were either nonstarters or dropouts and 49 (83.1%) of them were Hispanic. Single motherhood status less educated and geographically distant from treatment center significantly predicted attrition. Compared to unemployed patients part-time workers were more likely to dropout ( $p=0.0166$ ). **Conclusion:** Identifying barriers to treatment is important to improve treatment adherence for patients with

concurrent diagnosis of breast cancer and MDD especially for traditionally underserved minorities. Additional support such as affordable tele-medicine multi-language assistance financial aid for transportation and child care and allocating more funds to address some identified barriers deserve consideration to improve treatment adherence and outcomes.

**Sunday May 05**

### **Intravenous Ketamine in the Acutely Medically Ill: A Case Series of Hospitalized Patients on the Consultation-Liaison Psychiatry Service**

Rohini Paul D.O.; Anna Piotrowski

**Background/Purpose:** While intravenous ketamine and its role in treatment-resistant depression has been increasingly studied research on ketamine for treatment of depressive symptoms outside of primary psychiatric conditions is limited. There is a gap in literature regarding the role of ketamine in treating acutely medically ill patients with comorbid depressive symptoms. The purpose of this case series is to present a novel approach of intravenous ketamine utilization in the depressed medically ill to promote increased patient engagement in medical care as otherwise impaired by comorbid psychiatric presentation. **Method:** We present a case series of three patients hospitalized at Kaiser Permanente San Jose Medical Center for acute medical illnesses between June 2022 and September 2023 who required psychiatric consultation for evaluation and management of mood interfering with care delivery. All three patients also shared history of chronic pain and met criteria for MDD however were either unable to tolerate oral antidepressants secondary to impaired GI absorption or poor oral intake or did not show robust response. Indications for inpatient intravenous ketamine treatment were identified for all three patients and after meeting inclusion criteria for novel treatment protocol intravenous ketamine was administered at 0.5mg/kg for 3-4

sessions on average per patient during hospital stay. **Results:** Primary outcome of ketamine treatment was identified as increased patient engagement with medical care such as being more involved with personal medical decision-making participation with ancillary services such as physical and occupational therapy and adherence with medications and care delivery. Secondary outcomes were noted as improvement in mood reduction in depressive symptoms and willingness to continue psychiatric treatment in outpatient setting. Of the three patients two patients achieved both primary and secondary outcomes and have remained engaged in medical care post-hospitalization with stabilization of psychiatric symptoms. The third patient demonstrated mild improvement in mood during hospital stay however continued to refuse medical care; he was discharged AMA with poor outpatient follow-up. **Discussion:** These observations suggest that inpatient ketamine treatment may be considered as a reasonable alternative for acute psychiatric stabilization for patients who otherwise would be unable to receive mental health care in an inpatient psychiatric facility given acuity of their medical needs. The goal of inpatient ketamine treatment is not the resolution of depression but rather the return of patient motivation as physical and mental relief is rapidly provided. **Conclusion:** These findings may inform future consultation-liaison practices to promote collaborative care with primary hospital services to mitigate prolonged hospital stays improve hospital resource utilization and facilitate pain management for complex pain patients.

**Sunday May 05**

### **Is Anhedonia a predictor of the persistence of Major Depressive Disorder? Results of a longitudinal study**

Maurice Ohayon; Alan Schatzberg M.D.; Marie-Lise Cote

Introduction: It is estimated that between 37% and 72% of people with major depressive disorder (MDD) experience anhedonia and it has been associated with persistence unfavorable prognosis insufficient response to pharmaceutical interventions as well as a higher likelihood of completed suicide in clinical populations<sup>1-3</sup>. The objectives of this study are to identify the prevalence of anhedonia and to investigate its effects on its course and management within a broad community context. Methods: In this longitudinal study 2 interview waves were conducted between 2002 and 2015. The initial interviews (wave 1 [W1]) were carried out with 12218 individuals aged ≥18 years from the general population in 8 US states. At follow-up 3 years later (wave 2 [W2]) 10931 of the initial participants agreed to be interviewed again. Data were analyzed for the individuals who participated in both interviews (N=10931). A diagnosis of MDD was made according to Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) criteria. Results: Overall 9.0% (n=984; 95% CI 8.5%-9.5%) of the sample reported a loss of interest or pleasure at the initial interview. More specifically 1.5% (n=169; 95% CI 1.3%-1.8%) of the sample reported symptoms of physical anhedonia with a major depressive episode 1.1% (n=119; 95 CI 0.9%-1.3%) reported symptoms of social anhedonia and 1.6% (n=180; 95 CI 1.4%-1.9%) both physical and social anhedonia with a major depressive episode. At follow-up MDD participants with both physical and social anhedonia were two times less likely to be in full remission (31.9%) than MDD subjects without anhedonic features (69.4%; p< 0.001). Rates of full remission were 39.2% in MDD with physical anhedonia only (p<0.01) and 51.9% in MDD with social anhedonia only. Conclusions: These data indicate that non-anhedonic depressives commonly demonstrate resolution of their symptoms even without somatic therapy. The likelihood of remission was significantly lower on follow-up in the social anhedonia subjects than in those with physical anhedonia. Taken together these clinical data suggest that the delineation into subtypes has considerable validity.

Sunday May 05

## **Ketamine versus Electroconvulsive Therapy for Major Depressive Episode: A Systematic Review and Non-Inferiority Meta-Analysis**

Arthur Petrucci; Isabelle Albuquerque Reis; João Fernandes; Leandro Valiengo; Victória Pedro

Background: Electroconvulsive Therapy (ECT) is one of the most effective and rapid treatments for Major Depressive Episode (MDE) and is recommended by multiple guidelines as the standard treatment for acute depressive episodes. Nonetheless factors such as its limited availability and potential for cognitive impairment limit its use. Ketamine is an N-Methyl-D-aspartate (NMDA) receptor antagonist that has been increasingly researched as an alternative for treating depression. This meta-analysis investigated the comparative effectiveness of these two treatments. Methods: PubMed EMBASE and the Cochrane Library databases were searched for Randomized Clinical Trials (RCTs) that compared Ketamine and ECT for treating depression. Two independent authors screened the articles according to the predefined eligibility criteria and extracted the data of the included studies. Efficacy outcomes included treatment response and the effect size on depressive symptoms. Treatment response was defined as a decrease of at least 50% in the measured depression scale scores from baseline to the end of treatment. For this outcome the prespecified non-inferiority margin was set at -0.1. Subgroup analyses were conducted for non-psychotic and inpatient populations. Safety outcomes included reported serious adverse effects. Results: Six trials were included in the meta-analysis comprising a total of 655 patients. In response to treatment (RR -0.05; 95% CI -0.20 to 0.11) and in effect size on depressive symptoms (SMD 0.54; 95% CI -0.02 1.09) there was no statistically significant difference between the groups. In subgroup analysis Ketamine was non-inferior to ECT for non-psychotic patients (RR 0.09; 95% CI -

0.00 to 0.18) but it was inferior in the inpatient population (RR -0.16 95%; CI -0.26 to -0.05). Regarding adverse outcomes ketamine showed a low risk of cognitive impairments and muscle pain while ECT was associated with a lower risk of dissociative or depersonalization symptoms. Conclusion: The findings of this meta-analysis suggest that Ketamine is non-inferior to ECT in treating Major Depressive Episode in non-psychotic patients however is inferior for hospitalized patients with MDE.

**Sunday May 05**

### **Magnetoencephalography Changes During a Working-Memory Task in Treatment-Resistant Depression Patients Following a Ketamine Infusion**

Adam Fijtman; Mani Yavi; Abigail Vogeley; Jessica Gilbert; Carlos Zarate M.D.

Background: Individuals with treatment-resistant depression (TRD) frequently present with cognitive deficits including in working memory. There is a lack of effective pharmacological interventions to treat cognitive dysfunction in patients with TRD. Ketamine has been studied for its rapid-acting antidepressant effects. Preliminary evidence suggests ketamine could improve cognition in patients with TRD through its synaptogenic effects on the prefrontal cortex.

Magnetoencephalography (MEG) studies demonstrate that ketamine increases gamma power in parts of the occipital temporal and frontal cortices. This study aims to investigate the effect of ketamine on working memory performance (reaction time and accuracy on the n-back task) and on gamma power (30-58 Hz) in patients with unipolar and bipolar TRD. Methods: This post-hoc analysis combined two cross-over double-blind randomized placebo-controlled trials performed at the National Institute of Mental Health. Twenty subjects (14 female age mean 42.35 and SD = 11.10) 13 with bipolar disorder and 7 with major depressive disorder received a single intravenous infusion of subanesthetic ketamine

(0.5 mg/kg) or saline placebo over 40 minutes approximately two weeks apart. The subjects performed an n-back task during MEG scanning at baseline and 6-9 hours following each infusion. Depression was assessed 60 minutes prior and 230 minutes after each infusion using the Montgomery-Åsberg Depression Rating Scale (MADRS). We used a mixed model regression to compare the effects of the drug on n-back performance after each infusion. All models included a random intercept per person and a fixed drug effect. Gamma power was projected during the maintenance period of the task (-500 to 0 ms peristimulus time) for each subject and memory load (0- 1- and 2-back) using the multiple sparse priors algorithm in SPM12. Two-way repeated measures analysis of variance examined the effect of infusion (ketamine vs. placebo) and memory load on source-localized gamma power. Results: Ketamine led to a significant improvement on MADRS scores ( $p < 0.01$ ). Behaviorally there were no statistically significant differences comparing ketamine and placebo reaction time [(0-back:  $p = 0.66$ ) (1-back:  $p = 0.053$ ) (2-back  $p = 0.26$ )] or accuracy [(0-back:  $p = 0.61$ ) (1-back:  $p = 0.76$ ) (2-back:  $p = 0.46$ )] 6-9 hours post-infusions. While there was no effect of memory load on source-localized gamma power ketamine increased gamma power in the parieto-occipital junction ( $t = 2.61$   $p < 0.01$ ) and decreased gamma power in the posterior superior temporal sulcus ( $t = 2.5$   $p < 0.01$ ) and the inferior frontal gyrus ( $t = 2.51$   $p < 0.01$ ) compared to placebo. Conclusions: A single infusion of ketamine despite improving depression was not associated with improvements in working memory performance measured by the n-back task compared to placebo. However ketamine led to gamma power changes in regions associated with attention and working memory.

**Sunday May 05**

### **Monitoring real-world digital assessments of psychiatric symptoms**



Jacqueline Beltran BS; Tasnim Hossain; Marishka Mehta; Andrew Delgado; Laurel Morris

**BACKGROUND:** Mood and anxiety disorders are highly prevalent yet poorly understood. Understanding the lived experience and temporal dynamics of symptoms and how they relate to 'gold-standard' in-lab measures is critical. **METHODS:** To monitor psychiatric symptoms in the real-world we deployed a smartphone application to N=83 individuals with mood/anxiety disorders (MA) and healthy controls (HC). The app captured novel single-item measures of depression anxiety and distress. Subjects also completed the Mood and Anxiety Symptom Questionnaire (MASQ) in-lab. Zero-inflated mixed-effects models tested the association between daily self-reported symptoms passive data and gold-standard in-lab measures. **RESULTS:** After preprocessing N=66 participant data were available for analysis (N=39 MA N=27 HC). There was overall moderate adherence over 30-days (MA=67.9% HC=68.8% completion) with no group difference in missing data ( $t(57.82)=0.367$   $p=0.72$ ). A negative binomial zero-inflated mixed-effects model was selected and adjusted for time group and individual. As expected there was a significant association between group and real-world anxiety distress and depression ( $t's(63)>4.79$   $p's<0.001$ ). Daily real-world single-item measures of anxiety/distress were associated with corresponding in-lab measures (MASQ anxious-arousal/distress:  $t(63)=2.35$   $p=0.022/t(63)=3.14$   $p=0.0026$ ) and there was a trend towards an association between real-world and in-lab measures of depression in the patient group ( $t(63)=1.7$   $p=0.09$ ). Passive physical activity data (daily steps) was also available for N=43 after preprocessing (N=25 MA N=18 HC). Relationships between physical activity and symptoms will be presented. **CONCLUSIONS:** Preliminary findings suggest the utility of digital phenotyping for accurately monitoring psychiatric symptoms in the real-world in a patient population. All updated results will be presented.

Sunday May 05

## New Perspectives in the Treatment of TRD? A Descriptive Analysis of the STAR\*D and ESCAPE-TRD Studies

Narcís Cardoner Professor MD PhD

**Background:** Major depressive disorder (MDD) affects 4-10% of the general population and is the leading cause of disability worldwide. Approximately 30% of patients with MDD meet the criteria for treatment-resistant depression (TRD). The lack of consensus on the therapeutic approach to TRD prolongs waiting times between treatments and increases the risk of death from any cause and the use of healthcare resources. Real-world clinical practice often involves suboptimal approaches including the repetition of similar strategies and delayed treatment changes which are associated with unfavorable outcomes. **Methods:** This study presents a qualitative description of early remission rates in patients with TRD who have failed 2 or 3 or more therapeutic strategies as derived from the STAR\*D and ESCAPE-TRD studies. **Results:** As a third-line option the odds ratios (95% CI) for achieving early remission with the addition of intranasal esketamine were 5.43 (3.27 9.02) compared to the STAR\*D switching strategy and 2.53 (1.52 4.21) compared to STAR\*D augmentation strategies. For strategies of interest such as lithium augmentation or switching to tricyclic antidepressants (Nortriptyline) as a third-line option in TRD the odds ratios (CI) for early remission with the addition of intranasal esketamine were 3.87 (8.27 1.81) and 4.34 (8.00 2.36) respectively. As a fourth-line option the odds ratios (95% CI) for achieving early remission with the addition of intranasal esketamine were 3.04 (1.32 6.98) compared to STAR\*D switch to MAOI (tranylcypromine) and 2.72 (1.18 6.27) compared to switching to Venlafaxine + Mirtazapine combination. **Conclusions:** Understanding the most effective antidepressive interventions and their sequencing is an unmet clinical need in TRD. The impact on response and remission of intranasal Esketamine is at least

twice that reported for different options both as a third- and fourth-line strategy in TRD. However further studies and real clinical practice experience are needed to validate these findings.

Sunday May 05

### **Race/Ethnicity Diet and Mental Health Outcomes using a Nationally Representative Sample**

Manik Ahuja Ph.D. M.A.; Kajol Dahal; Thiveya Sathiyaseelan M.D.; Amani Patel

Background: Nutritional psychiatry is an emerging field of research and it is currently exploring the impact of nutrition on mental health outcomes. Prior studies link nutrition and depression however less is known of how diet including fruit and vegetable consumption is linked to mental health outcomes at the race/ethnicity level.

Methods We used cross-sectional data (n=438693) from the 2021 Behavioral Risk Factor Surveillance System a nationally representative U.S. telephone-based survey of adults aged 18 years or older. Logistic regression analyses were conducted to test the association between low fruit consumption low vegetable consumption and depression. We coded low fruit/vegetables consumption binary with 1 representing less than once a month in the last year and 0 for having fruit/vegetables on a monthly basis. We controlled for gender income depression age and educational attainment and stratified by race/ethnicity. Results Overall 7.8% (n=34,393) reported low vegetable consumption while 3.3% (n=14,654) reported low fruit consumption. Low fruit consumption is significantly associated with depression among White (OR=1.36 95% CI 1.30 1.42) Black (OR=1.45 95% CI 1.26 1.68) Asian (OR=1.88 95% CI 1.33 2.65) and Hispanic (OR=1.33 95% CI 1.16 1.52) race/ethnic groups. Low vegetable consumption is significantly associated with depression among White (OR=1.41 95% CI 1.37 1.46) Black (OR=1.20 95% CI 1.08 1.33) Asian (OR=1.34 95% CI 1.07 1.69) Hispanic (OR=1.21 95% CI 1.10 1.33) and

American Indian/Alaska native (OR=1.45 95% CI 1.20 1.75) race/ethnic groups. Conclusion: The importance of a healthy diet and mental health should not be understated. The study found that there were so significant differences across race/ethnic groups and that regardless of race/ethnicity poor nutrition including fruits and vegetables is associated with higher odds of depression. Among American Indian/Alaska natives low vegetable consumption was linked to depression and not fruit consumption.

Sunday May 05

### **Racial/Ethnic Disparities in Anxiety Disorder Development Post-COVID-19 Infection and in Remdesivir Treatment among Minorities with Anxiety Disorder**

Phillip Yang M.D.;M.A.; Dian Gu Ph.D.; Natalia Van Doren Ph.D.; JANICE TSOH Ph.D.

Background: Post-COVID-19 racial/ethnic disparities exist in medical outcomes such as hospitalization and mortality and COVID-19 treatment where non-Hispanic (NH) Whites have better outcomes and more access to treatment. Few studies have investigated racial/ethnic disparities in post-COVID-19 mental health outcomes particularly in children or non-English speakers. Even less is known about how mental health conditions may impact COVID-19 treatment receipt in racial/ethnic minorities. Using EHR data in patients with COVID-19 we explored the development of anxiety disorders in adults and children as well as remdesivir treatment in adults with anxiety disorders by race/ethnicity and language. Methods: We analyzed EHR data from adults and children COVID-19 patients between February 2020 to February 2022 from an academic medical center in Northern California. We used bivariate  $\chi^2$  tests to determine if there were significant differences in the incidence of anxiety disorders within six months of COVID-19 diagnosis across races/ethnicities and primary

spoken languages among patients without a history of anxiety. We used the same analysis to determine if there were significant differences in remdesivir treatment within one month of COVID-19 diagnosis among adult COVID-19 patients with a history of anxiety; we did not report children with a history of anxiety due to limited sample size. Results: Of 24127 adults without anxiety history 1.2% developed anxiety within 6 months of COVID-19 diagnosis. There was no difference by race/ethnicity or primary spoken language. Of 10674 children without anxiety history 0.7% developed anxiety within 6 months of COVID-19 diagnosis. Differences in new incidence of anxiety disorder diagnosis were observed by race/ethnicity (Hispanic 1.1% vs NH White 0.6% vs NH Black 0.7% vs NH Asian 0.5% vs NH other 0.4%;  $p=.034$ ) and language (English 0.6% vs Spanish 1.4% vs other 0.34%;  $p=.0002$ ). Adults with anxiety history had differences in remdesivir treatment by race/ethnicity (Hispanic 3.1% vs NH White 2.0% vs NH Black 4.8% vs NH Asian 2.9% vs NH other 3.5%;  $p=.012$ ) and language (English 2.5% vs Spanish 4.7% vs other 4.00%;  $p=.012$ ). Conclusions: Children who were Hispanic or spoke Spanish as their primary language showed disproportionately higher incidence of new anxiety disorder post-COVID-19. Non-English speaking is a proxy for recent immigration. Children who are infected with COVID-19 in a foreign healthcare system may be especially impacted due to sensitive developmental processes and fewer protective factors. While our results did not show significant racial/ethnic differences in anxiety development post-acute COVID-19 infection in adults those who were racial/ethnic minorities or non-English speakers with anxiety were more likely to receive remdesivir. Further work is warranted to explore the intersection between race/ethnicity and mental health co-morbidities and the associations with COVID-19 symptoms and treatment.

Sunday May 05

## Readability and translation analysis of Spanish language self-reported measures in depression

Joseph Nickel; Emmanuelle Vanessa Camile; John Groggel; Kayla Lyon MD; Niki Jona

**Background:** With increasing utilization of measurement-based care in psychiatry various screening questionnaires have been developed to assess depressive symptoms. In order to serve a wider audience several of these surveys have been translated into Spanish. Recent studies have found that measures in depression in the English language have been written at a reading level that exceeds AMA and NIH recommendations. To our knowledge this is the first study in psychiatry to analyze the readability of measures in the Spanish language. **Methods:** Measures in assessing depression were selected from systematic reviews and previous readability studies in English. Spanish translations were found by a publicly available literature search using PsycINFO ([apa.org/pubs/databases/psycinfo](http://apa.org/pubs/databases/psycinfo)) PubMed ([pubmed.ncbi.nlm.nih.gov](http://pubmed.ncbi.nlm.nih.gov)) and Google Scholar databases ([scholar.google.com](http://scholar.google.com)). The readability of each measure was calculated via Fernandez-Huerta and Indice Flesh-Szigriszt (INFLESZ). The readability of the instructions and item sections were calculated separately. Measures with an average readability of greater than 6.00 were considered to be above the recommended reading level. Two certified Spanish translators analyzed the questionnaires for grammar syntax and comprehension ease. **Results:** Four out of ten measures (40%) had at least one component (instructions or items) written above the recommended reading level. The following measures were identified as above the recommended level: Beck Depression Inventory II Center for Epidemiological Studies-Depression Scale Kessler Psychological Distress Scale and the Columbia Suicide Severity Rating Scale. On translation analysis there were translation errors and comprehension concerns identified in nine out of ten measures. **Conclusion:** Currently many measures of depression in the Spanish language are written at a reading level that exceeds AMA and NIH

recommendations. Thus providers should consider the importance of patient readability when translating PROMs. Clinicians and researchers should exercise caution when interpreting patient responses to questions or survey items that require reading levels exceeding the published standards.

**Sunday May 05**

### **Reliability and validity of the Spanish adaptation of the Stanford Proxy Test for Delirium (S-PTDsv) in two clinical communities.**

Jose Maldonado M.D.

Delirium is the most prevalent neuropsychiatric syndrome experienced by patients admitted to in-patient clinical units occurring in at least 20% of hospitalized medically ill patients and up to 85% of those admitted to critical care units. Although current guidelines recommend the implementation of universal prevention strategies the use of management strategies largely depend on constant surveillance and screening. The aim of this study was to psychometrically adapt and analyze the Spanish adaptation of the Stanford Proxy Test for Delirium (S-PTDsv) instrument for its use among Spanish speaking populations.

**METHOD:** The psychometric properties of the S-PTDsv were evaluated in a population of 123 patients using a quantitative cross-sectional design. All subjects were over 18 years of age and hospitalized in various in-patient medico-surgical and ICU services either to the Barcelona Clinical Hospital (Barcelona Spain) or the UC-Christus Health Clinical Hospital (Santiago Chile). The ultimate diagnosis of delirium was independently and blindly made by a member of the Psychiatry Consult Service by means of an independent neuropsychiatric evaluation based on the 5th Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria. All study tests were performed by study personnel who were blinded to each other's test results and within an hour of each other. **RESULTS:** In the ROC

analysis the S-PTDsv demonstrated excellent classification qualities when compared with the DSM-5 (gold-standard). Using a cut-off point of ?3 the S-PTDsv had a sensitivity of 94% and a specificity of 97%. The AUC indicator was equal to 0.95 suggesting the S-PTDsv has an excellent overall performance in accurately identifying cases of Delirium. Accordingly the S-PTDsv's positive predictive value (PPV) = 0.93 and the negative predictive value (NPV) = 0.97. The internal reliability measured with Cronbach's Alpha was 0.96. Confirmatory factor analysis revealed a one-dimensional structure with high loadings (>0.72) demonstrating that all items similarly contribute to the total diagnostic dimension suggesting adequate construct validity. This provided evidence of convergent validity. **CONCLUSION:** The performance of the S-PTDsv as compared to a blinded neuropsychiatric assessment based on DSM-5 indicates that it is an effective instrument for the detection of Delirium in the Spanish speaking populations.

**Sunday May 05**

### **SARS-CoV-2 Vaccination during Pregnancy: Evaluation of Postpartum Depression Outcomes**

Sahana Prakash; Kendall Moore; Frederieke Gigase; Corina Lesseur; Maria Mercedes Perez-Rodriguez MD PhD

**Background:** The SARS-CoV-2 vaccination is a vital tool in the COVID-19 pandemic. However the swift but powerful inflammatory reaction that occurs after vaccination may impact postpartum depressive symptoms as proposed by the neuroinflammatory hypothesis of depression. This investigation aims to explore the safety of the SARS-CoV-2 vaccine elucidating connections between SARS-CoV-2 vaccination and postpartum depression. **Methods:** 627 participants enrolled in Generation C (n=564) or Generation C-SF (n=63) prospective pregnancy cohort studies at Mount

Sinai in New York City from April 2020-October 2022 and April 2022-present respectively. Edinburgh Postnatal Depression Scale Scores (EPDS) were measured between 1-9 months postpartum. From the MSHS EMR COVID-19 vaccination status and timing were determined. The relationship between COVID-19 vaccination status/timing (categorical predictor variable) and EPDS scores (continuous outcome variable) with a quantile regression analysis was determined adjusting for gestational SARS-CoV-2 infection race/ethnicity pre-pregnancy BMI education level parity gestational age at delivery timing of EPDS assessment maternal age lifetime history of depression or anxiety insurance category and time elapsed from the start of the pandemic to delivery. Participants were categorized into 4 groups 1) COVID-19 vaccinated with at least one dose during pregnancy 2) COVID-19 vaccinated with all doses prior to pregnancy 3) COVID-19 vaccinated with at least one dose between delivery and completion of EPDS assessment but not during pregnancy and 4) no evidence of COVID-19 vaccination at the time of delivery and EPDS assessment (reference group). Results: 61 (9.7%) participants had an EPDS score of 11 or higher suggesting clinical levels of postpartum depression symptoms. For COVID-19 vaccination status 94 (15%) of participants were in group 1 100 (16%) were in group 2 57 (9%) were in group 3 and 376 (60%) were in group 4 (reference). In the quantile regression analysis the groups who received COVID-19 vaccination during pregnancy and COVID-19 vaccination prior to pregnancy were not significantly associated with EPDS scores in any quantile. The coefficients and 90% confidence intervals with COVID-19 vaccination where doses were received between delivery and completion of EPDS assessment (predictor) and EPDS scores (outcome) were: 25% quantile (Coefficient= -0.30 CI= -1.03; 0.18) 50% quantile (Coefficient= -1.16 CI= -1.85; 0.03) and 75% quantile (Coefficient= -1.41 CI= -2.46; -0.48). Conclusion: SARS-CoV-2 vaccination before and during pregnancy did not have a significant relationship with postpartum depression as measured by EPDS scores. SARS-CoV-2 vaccination between delivery and EPDS assessment was associated with slightly lower

EPDS scores in the 75% quantile. Enhanced access to health care social support physician follow up or trust of medical institutions may account for this.

Sunday May 05

### **Social Factors Associated with Involuntary Psychiatric Admissions among Substance Use Disorder Patients in Ontario Canada**

Soyeon Kim; Kenneth Fung M.D.

Background: Treatments for substance use disorder (SUD) are often challenging as patients may be in a pre-contemplative or contemplative phase of change refusing treatment or having ambivalence around treatment (1). Most countries have legislation mandating involuntary admissions when there is a perceived imminent danger to the individual or others due to mental health disorders or substance use (2). In the long term resorting to coercive admissions may disrupt patient-provider relationships and negatively affect treatment outcomes. Unfortunately information on involuntary admissions among SUD patients in Canada is limited (34). Accordingly this study investigated the prevalence and factors associated with involuntary admissions among SUD patients in Ontario Canada. Methods: Binary logistic regression models were conducted to examine associations between social factors (i.e. housing indigenous status rurality) and involuntary admissions for SUD patients controlling for age sex and education. Cross-sectional data from March 2019 to March 2021 was extracted from the Ontario Mental Health Reporting System admission dataset. A sample of 3726 SUD patients admitted to eight psychiatric hospitals in Ontario was included in the analysis. Odds ratios (ORs) and 95% confidence intervals (95% CI) are reported. Results: From 2020 to 2021 the proportion and the total number of involuntary patients increased by 8.4 percentage points (n = 291) compared to the



previous year among SUD patients [1.64 (1.38-1.95)\*\*]. Among SUD patients factors such as living in rural areas [5.18 (4.18-6.44)] less than high school education [2.07 (1.71-2.52)\*\*] living in assisted residence [2.45 (1.75-3.44)\*\*] homeless [1.54 (1.20-1.97)\*\*] male sex [1.55 (1.29-1.85)\*\*] and younger age [0.97 (0.96-0.98)\*\*] were associated with involuntary admissions. Further the interaction (rurality by indigenous status) was positively and significantly associated with involuntary admission [3.07 (1.29-7.28)\*] suggesting increased odds of involuntary admission for indigenous individuals with SUD living in rural areas. Conclusion: Consistent with previous findings involuntary psychiatric hospital admissions have continued to increase in recent years among SUD patients in ON Canada. Further studies are needed to examine the potential impact of the pandemic. Several social factors associated with involuntary admissions have been identified. The study findings support the need for preventive and intervention strategies to better serve vulnerable SUD patients such as addressing the social determinants of health and increasing access to culturally competent and safe addiction services.

Sunday May 05

### **Efficacy and safety of Ketamine versus electroconvulsive therapy: A systematic review and meta-analysis of randomized controlled trials**

Mohammad Umer; Noor Atiq MD

Title: Efficacy and safety of Ketamine versus electroconvulsive therapy: A systematic review and meta-analysis of randomized controlled trials  
Background and Objective: Major Depressive Disorder (MDD) is a debilitating mental health condition marked by persistent feelings of sadness poor concentration loss of interest and a range of physical and somatic symptoms as well as significant rates of treatment resistance. Both electroconvulsive therapy (ECT) and sub-anesthetic ketamine are effective treatments for

resistant forms of MDD. This meta-analysis was conducted to compare the relative efficacy and safety of ketamine and ECT for the treatment of MDD by pooling results from published RCTs. Methodology: Randomized control trials that directly compared ECT and ketamine treatment groups were identified by systematic search of databases and clinical trial registries. We extracted data pertaining to primary outcomes including change in depression severity score from baseline to the post-treatment time point and study-defined symptomatic response and remission rates. We also extracted data pertaining to secondary outcomes including adverse events and common side effects. Risk of bias was evaluated using Cochrane Collaboration Risk of Bias tool version (ROB-2). Meta-analysis was carried out with Review Manager 5.4 using a random-effects model to account for heterogeneity. Results: The meta-analysis evaluated data from six RCTs four of which were conducted in an inpatient setting one in outpatient and one in an unspecified setting. These studies used unilateral ECT bilateral ECT or both and included participants that had depression with or without psychotic symptoms. There was no significant difference in the overall change in depression severity between ketamine and ECT groups assessed immediately after the treatment period (SMD = 0.18 95% CI = -1.65 to 2.01). There were no statistically significant differences in response rates (RR = 0.94; 95% CI = 0.72 to 1.23) or remission rates (RR = 0.91; 95% CI = 0.47 to 1.78) between treatment groups. Subgroup analysis for response and remission rates favored ECT in patients having depression with psychotic features. Compared to ECT ketamine was associated with a lower risk of muscle pain or weakness (RR = 0.23 95% CI = 0.14 to 0.39) and a higher risk of dissociation or depersonalization (RR = 5.17 95% CI = 2.17 to 12.31). There were no significant differences between the two groups in the risk of experiencing 1 or more adverse events (RR = 0.93 95% CI = 0.36 to 2.44). Conclusion: The meta-analysis indicated that both ECT and ketamine have comparable efficacy for the treatment of MDD with tolerable safety profiles. In light of these findings further large-scale RCTs should be

conducted to investigate the side effect profile of ECT compared to ketamine as well as the efficacy of these two interventions in the treatment of depression with and without psychotic features to establish a clearer picture.

**Sunday May 05**

### **Tolerability and Effectiveness of Sublingual Ketamine in Adults with Treatment-Resistant Depression: A Case Series**

Sabrina Agnihotri PhD;MD; Nelson Rodrigues; Shakila Meshkat; JOSHUA ROSENBLAT

Background: Major depressive disorder continues to have high rates of treatment resistance (e.g. treatment resistant depression [TRD]) with many patients experiencing chronic and persistent depressive symptoms after numerous treatment trials. Growing attention has been paid to the assessment of ketamine an N-methyl-d-aspartate receptor antagonist that has shown rapid and robust antidepressive effects in TRD. Although IV administration of ketamine remains the gold standard sublingual (SL) ketamine may offer a less invasive and more accessible form of treatment; however there is a paucity of data regarding the tolerability and effectiveness of SL ketamine in patients with TRD. Methods: In this retrospective case series 46 adults with TRD (M age = 44 years SD = 13 years; 39% female) received 6 SL rapid dissolve ketamine tablets administered over 4 weeks (twice per week for two weeks then two more doses 1 week apart). Tolerability was assessed via systematic reporting of treatment-emergent adverse events during and after SL ketamine delivery in addition to symptoms of dissociation measured using the Clinician Administered Dissociative States Scale. Effectiveness was measured using the Quick Inventory for Depressive Symptomatology?Self Report 16 (QIDS-SR16) at baseline after each session and 1?2 weeks after the final dose. These data were evaluated using a mixed model with an

autoregressive (AR1) matrix and were fit using a Restricted Maximum Likelihood. Partial response (25%?50% symptomatic improvement from baseline) response (?50% symptomatic improvement from baseline) clinically significant improvements (?25% symptomatic improvement from baseline) and remission rates (QIDS-SR16 ?5) were also calculated. Results: Drowsiness and dizziness were the most reported treatment-emergent tolerability concerns (42% and 40% of all sessions respectively). Following SL ketamine administration depersonalization and derealization were reported in only 24% and 18% of all sessions respectively. For effectiveness participants reported significant decreases in depressive symptoms (i.e. as measured by the QIDS-SR16) with repeated SL ketamine doses. The mean QIDS-SR16 score was 16.05 (SD = 0.81) at baseline and decreased to 11.51 (SD = 0.97) following 6 treatments ( $p < 0.001$ ). Data from a total of 31/46 participants was available to assess response to SL ketamine post-treatment protocol revealing that 19% ( $n = 6$ ) of these participants partially responded to SL ketamine 26% ( $n = 8$ ) responded 45% ( $n = 14$ ) experienced clinically significant improvements and 10% ( $n = 3$ ) met remission criteria. Conclusion: Results from this case series support the promising role for SL ketamine as a more tolerable cost-effective and accessible treatment for patients with TRD though further clinical trials with larger sample sizes are warranted.

**Sunday May 05**

### **Training the Next Generation of Psychiatrist Advocates**

Matthew Kelly; Alena Balasanova M.D.; Sherry Nykiel M.D.

Background: Physicians have a professional responsibility to advocate for social economic educational and political changes that ameliorate suffering and contribute to human well-being. Psychiatrists have the additional burden of

challenging stigma prejudice and discrimination against those living with psychiatric disorders including substance use disorders. With legislative bodies moving to restrict medical practices directly impacting psychiatric patients it is imperative to develop the next generation of psychiatrist advocates. Purpose: To raise awareness of the need to develop physician advocates in psychiatry and to describe one practical method of engaging trainees in advocacy training beginning as early as medical school. Methods: We describe an innovative strategy to engage medical students in mental health advocacy through a casual extra-curricular activity entitled “Dine and Debate” whereby students are provided a topic to research and are hosted at a faculty member’s home for dinner where they debate the policy issues involved; faculty with expertise in mental health advocacy facilitate the activity. We describe the components of this activity including necessary supervision teaching methods time commitment and highlight student perceptions and feedback. Results: Through participating in this low-stakes extra-curricular activity students learned how to conceptualize and frame issues to create a clear message to advocate for or against policies impacting mental healthcare. They also learned how to find common ground with those who may not agree with them which is a valuable that will serve them into residency training and professional practice. Discussion: We discuss how to foster an inclusive environment to engage students to learn about policies around systems of care how to navigate controversial topics and practice oral communication skills in a low stakes setting. Conclusions: The health and illness of individuals is affected by federal and state laws and regulations structural and social determinants of health economics of healthcare and individual health care system policies and procedures. A 21st century psychiatrist recognizes that understanding systems of care is necessary for comprehensive treatment of the patient. We must engage learners at all levels of training in developing and practicing key advocacy skills to shape these systems and to address the myriad factors that both directly and indirectly impact mental healthcare today.

Sunday May 05

## **Trend of blood pressure changes during ketamine infusion for the treatment of depression and its associated factors**

Mina Ansari; Sina Nikayin

Ketamine has been shown to be effective in the treatment of depressive symptoms and suicidal ideation in major depressive disorder and bipolar depression [1 2]. Given the high burden of mood disorders and the limited efficacy of monoaminergic antidepressants ketamine has gained special attention in recent years. However there are still some concerns about the safety and tolerability of ketamine [3]. Blood pressure changes are among the most common adverse events associated with ketamine [1]. In this study we aimed to examine blood pressure changes during ketamine infusion for the treatment of depression and explore the factors associated with these changes. We conducted a retrospective chart review of all adult patients with a depressive episode receiving ketamine infusion between January 2015 to December 2021 at IPS Yale Interventional Psychiatry Service (IPS). Blood pressure measurements were collected at baseline and every 10 minutes for a minimum of 70 minutes after the start of the infusion. We identified patients and encounters where a surge in blood pressure (BP) (defined as an increase of more than 19mmHg in systolic blood pressure (SBP) or more than 9 mmHg in diastolic blood pressure (DBP) or severe hypertension (defined as SBP more than 179 and DBP more than 119) occurred. In addition we looked for factors associated with a surge in blood pressure among pre-specified variables. All statistical analyses and graphs were performed using R version 4.2.1. A total of 138 patients and 2342 infusions were included in this study. Fourteen subjects (10%) had a past medical history of hypertension. Patients were 64% female 89% White and 90% non-Hispanic with a mean age of 46 years (SD: 16.5). Mean BMI was 27.6 (SD: 5.7). Maximum elevations of blood pressure were observed during

first infusion at 40?minutes after the start of the infusion for both SBP and DBP with an increase of 16.0 (SD: 11.2) and 11.0 mmHg (SD: 8.45) respectively. Severe hypertension was observed in 17 patients (12.5%) and 23 infusion sessions (0.98%) occurred more frequently in the first three infusions (43.4%) and in patients 50 years or older (82.6%). Age (OR adjusted: 1.04 (95%CI:1.02-1.05) p-value <0.001) was significantly associated with experiencing a surge in SBP and all patients with a past medical history of hypertension experienced at least one surge during their infusions. Based on the results of this study all patients receiving subanesthetic ketamine for the treatment of depression would benefit from BP monitoring during the infusion to ensure patient safety and optimize the benefits of ketamine infusion therapy. Older patients especially those with a history of hypertension and a surge in their blood pressure early in their treatment should be monitored more closely.

Sunday May 05

### **Trends in antidepressant treatment after acute/induction phase of IV ketamine/IN esketamine in patients with treatment resistant depression**

Edith Liliana Patarroyo Rodriguez M.D.; Balwinder Singh M.D. M.S.; Jennifer Vande Voort

Background: The rapid antidepressant effects of intravenous (IV) ketamine and intranasal (IN) esketamine have been well studied for Treatment-Resistant Depression (TRD) with increasing use as augmentation agents. Little is known about the modifications to the antidepressant treatment after the use of IV ketamine/ IN esketamine in patients with TRD. Such information would be helpful to refine treatment strategies. We investigated changes in the pharmacotherapeutic treatments and outcomes in patients with TRD who initiated ketamine/esketamine treatment. Methods: Using a mirror image study design

spanning six months we performed a retrospective cohort study of adult patients with TRD who received IV ketamine or IN esketamine treatments in the acute/induction phase and had available clinical and pharmacologic data for the six months (pre-post ketamine initiation). TRD was defined as failure to respond to at least two adequate depression treatments. We reviewed clinical information of the six months following the acute phase of IV ketamine/IN esketamine and examined data related to pharmacological treatment at the beginning of the acute phase and during the six months post-completion of the acute phase. We identified occurrences of medication discontinuation addition or switch across various categories of psychotropics. A descriptive analysis was performed Results: We analyzed data from 52 adults (37 IV ketamine 15 IN esketamine). Mean age was 47 years and 69% were female. The mean number of psychotropics at the beginning of the acute treatment phase was 3.5 (SD 1.4). 30% of patients were treated with an SSRI and 29% with an SNRI. Additionally 36% of patients were on augmentation with 68% on an antipsychotic and 26% on lamotrigine. After completing the acute phase 31(60%) patients achieved response and of those 30 (96%) underwent at least one maintenance treatment. Regarding pharmacological changes 19 (36.5%) patients underwent the addition of a medication of those 9 (47%) an augmentation agent. In addition 16 (31%) patients switched at least one medication most frequently an antidepressant (93%) and of these 33% switched to a SNRI. 19% of patients discontinued at least one medication with antidepressants and anxiolytics the most frequent (30% for each). Conclusion: Most patients who received an acute course of IV ketamine/IN esketamine transitioned to maintenance treatments and more than a third had a medication added while almost 20% had discontinuation of one agent. The most frequently switched medication class were antidepressants. Larger studies are needed to understand the patterns of medication regimen changes in patients receiving ketamine/esketamine for TRD.

Sunday May 05

### **Words Matter: Use of Stigmatizing Language in Clinical Notes of Patients with Opioid Use Disorder**

Prakash Adekkanattu PhD; Braja Patra Ph.D.; Marianne Sharko MD; Jyotishman Pathak PhD

Background: Structural bias and stigma are highly prevalent in the US healthcare system. Patients from racial and ethnic minority backgrounds and those with obesity and substance use disorders (SUDs) have been impacted by conscious and unconscious biases among healthcare professionals. Stigma can be experienced and communicated in many ways including the language used by clinicians in encounter notes in the electronic health record (EHR). Objectives: This study aimed to investigate the use of stigmatizing language (SL) in clinical notes among patients with an opioid use disorder (OUD) diagnosis. Methods: The National Institute on Drug Abuse (NIDA) identifies a list of terms and phrases that assign negative labels stereotypes and judgement to individuals. Such language may discourage individuals from seeking help and it is recommended to use people-first language (PFL) when interacting with patients and documenting encounters. We developed appropriate lexicon for each of the SL terms in the NIDA list and implemented a simple rule-based natural language processing (NLP) algorithm to extract these terms from clinical notes. We processed 980194 notes for 2700 patients with an OUD diagnosis between 2010 and 2023 at a major academic medical center in New York City. We analyzed the incidence rates of SL in notes and demographic characteristics of patients with SL compared to those without SL found in their encounter notes. Results: The NLP system identified 2279 (84.4%) patients with one or more SL term(s) in their notes and 421(15.6%) patients with no SL. Terms such as "abuse" "opioid abuse" "addict" and "substance dependence" were the most frequent ones found in clinical notes. We found significant differences by age gender race and ethnicity across these cohorts. Patients with

SL tended to be older and female. Patients in the age group 18-32 had a lower incidence of SL in their notes compared to other age groups. Patients who identify as Black had higher incidence of SL (18.2% in SL cohort vs. 15.0% in no SL cohort) compared to those who identify as White. Similarly patients who identify as Hispanic had higher incidence of SL (22.5% in SL cohort vs. 16.9% in no SL cohort) compared to those who identify as non-Hispanic. We also found that notes authored by female providers use SL terms more frequently (50.0% in SL cohort vs. 42.4% in no SL cohort) than those authored by male providers. Additionally notes authored by mental health providers have a lower incidence of SL (11.6% in SL cohort vs. 25.6% in no SL cohort) compared to other specialties. In particular notes authored by social workers had higher incidence of SL (6.0% in SL cohort vs. 0.2% in no SL cohort) in their notes. Conclusions: These observations highlight the need for modeling best practices to decrease stigma and bias and further a need for provider education on what constitutes stigmatizing language in clinical documentation practices."

Sunday May 05

### **Poster Session 5**

Sunday May 05

### **A Case of Excited Catatonia Precipitated by Olanzapine**

Vedang Uttarwar M.D.; elisabeth mccallum; Bryan Shapiro

A Case of Excited Catatonia Precipitated by Olanzapine Vedang Uttarwar M.D; Elisabeth McCallum B.S; Bryan Shapiro M.D. Background: This case study discusses an instance of excited catatonia triggered by the use of olanzapine. There



are case reports of delirium induced by olanzapine however there is a scarcity of data surrounding catatonia in response to olanzapine and its associated management. We present a unique case of excited catatonia and delirium precipitated by olanzapine in a patient with a known history of prolonged confusion in response to anticholinergics. Case: A 70-year-old male with a history of gallstone necrotizing pancreatitis post-cystogastrostomy presented to the outpatient clinic with four days of decreased sleep confusion and disorganized thought process after starting olanzapine initially 5mg for two days and increased to 10mg for two days. He had a similar episode last year lasting for weeks after having a cystogastrostomy procedure suspected to be precipitated by anticholinergic properties of the anesthesia used (neostigmine) per his anesthesiologist. He also had a similar episode around 20 years prior after taking unknown medications for allergies. The patient was sent to the emergency room (ER) and subsequently had a suspected tonic-clonic seizure event. In the ER he was afebrile initially tachycardic to 102 blood pressure 122/67 and saturating well on room air. CT head was unremarkable. Medical workup including CMP CBC TSH and autoimmune panel was unremarkable. He was started on lacosamide 100mg BID per neurology. His other medications were held and delirium precautions were initiated. His symptoms persisted and he was noted to have prolonged psychomotor agitation repeating phrases while singing making odd purposeless movements and exhibiting catalepsy negativism stereotypy grimacing and gegenhalten concerning for excited catatonia. A Bush-Francis score was completed nine days into hospitalization with a score of 28. A lorazepam challenge of 2mg IV was performed which was positive resulting in a subsequent decrease in score to 18. He was stabilized on lorazepam 1mg TID with a final score of 1 with a plan for gradual taper in the outpatient setting. Discussion: We suspect that olanzapine precipitated excited catatonia in this patient with a known history of episodes of confusion following the administration of anticholinergic medications. Catatonia is known to be underdiagnosed in the hospital setting and studies show a notable percentage of patients with delirium have co-

morbid catatonia. Prompt identification of catatonia can result in decreased length of hospitalization in patients with delirium and atypical antipsychotic medications such as olanzapine which often can be used to treat symptoms of delirium should also be considered as potential precipitants of catatonia particularly in patients with a history of adverse reactions to anticholinergic medication.

**Sunday May 05**

### **A Case Series of Unexplained Resolution of Neuropsychiatric Symptoms following Administration of Dexmedetomidine**

Mitchell McDaniel; Mohammad Lesanpezeshki; Priyansha Acharya M.B.B.S.; Madison Jupina; Garima Garg

Background: Dexmedetomidine (DEX) is a well-known efficacious  $\alpha_2$ -adrenergic receptor agonist. Recently there has been a growing body of evidence to support DEX's utility for multiple psychiatric conditions due to its sedative anxiolytic analgesic and multi-organ protective effects by reducing inflammation activating antiapoptotic signaling pathways. We present 2 cases where DEX may have played a role in the resolution of severe neuropsychiatric syndromes where traditional interventions either failed or were contraindicated. Case 1: A 79yo female with h/o of HTN HLD RA BPD initially presented following MVC and excited catatonia not responding to IV BZD IV VPA. c/b pneumonia sepsis fall PE and two transfers to MICU for decreasing sensorium. During second transfer to MICU she received DEX for approximately 89 hours while intubated. She was palliatively extubated on hospital day 46 with plan for hospice care but awoke from sedation with unexpected and complete resolution of neuropsychiatric symptoms. She was discharged to SNF without known relapse in symptoms. Case 2: A 50yo AAM with PMH of HLD HIV DM II CKD4 HFrEF s/p

ICD RCC s/p partial nephrectomy MDD and cannabis use presented with new onset VH and rapidly declining memory for 3 days concerning for Lewy Body Dementia (LBD). EEG showed generalized slowing MRI LP blood and CSF cultures blood counts and serum chemistries were inconclusive. Patient was transferred to MICU for management of severe agitation not responding to standard agents due to concerns for LBD and delirium; and placed on IV DEX drip for ~ 44 hours. Delirium agitation and cognitive decline resolved spontaneously and the patient was discharged 2 days later with no definitive diagnostic explanation and referral for neuropsychiatric testing. Discussion: The 2 cases have multiple complex confounding variables regarding the unclear etiologies of their neuropsychiatric symptoms and subsequent resolution. DEX may have played a role in this recovery considering the growing evidence of anti-inflammatory cellular protective factors and CNS depression effects of DEX. If further investigation continues to support DEX's efficacy it may become a less invasive alternative to current interventional psychiatry modalities. There are also some clinical trials demonstrating efficacy of alternate formulations of DEX in the management of agitation. Conclusion: The neuropsychiatric benefits of DEX should continue to be investigated. It could become a valuable pharmacologic agent for multiple psychiatric conditions including delirium agitation insomnia and anxiety. The growing body of research is promising that this medication may become a first line agent due to its safety profile anti-inflammatory and cellular protective properties and anticipated efficacy but this is yet to be determined.

Sunday May 05

### **A Survey Study Investigating Impact of Racism During COVID-19 on the Mental Health of Asian Undergraduates in the U.S.**

Kai Huang; Mara Xiong; Ying Sun; Huiqiong Deng

**Background** Although Asian minorities have historically experienced discrimination and racism in the United States these issues were often overlooked due to being a “model minority.” Asian college students have been previously identified as a population at high risk for depression and anxiety but have low rates of reaching out for mental health care. During the COVID-19 pandemic younger adults and ethnic minorities have reported disproportionately worse mental health outcomes increased substance use and increased suicidal ideation. Asian college students additionally faced an unprecedented rise in anti-Asian racism and violence during the pandemic including first-hand experiences of racism and secondary trauma from learning about attacks and deaths in the Asian community. This study investigates the mental health issues and racial discrimination experienced by Asian college students during the COVID-19 pandemic. **Methods** A national online survey was distributed to Asian college students. The survey included questions of demographics and standardized measures of depression anxiety and perceived racism and ethnic discrimination i.e. the Patient Health Questionnaire-9 (PHQ-9) the General Anxiety Disorder-7 (GAD-7) and the Brief Perceived Ethnic Discrimination Questionnaire - Community Version (Brief PEDQ-CV) respectively. **Results** Among the 1059 participants 48.3% (n=511) participants reported moderate to severe level of depression 38.8% (n=411) of participants reported moderate to severe level of anxiety and 42.0% (n=445) reported having suicidal thoughts. Multivariate linear regression test showed that a greater PEDQ-CV score predicted greater PHQ-9 and GAD-7 scores. In addition 19.5% (n=206) participants reported that they started or increased substance use during the COVID-19 pandemic to cope with pandemic-related stress or emotions. **Conclusions** Increased anti-Asian racism during the COVID-19 pandemic is shown to be associated with exacerbated mental health status in Asian college students. Levels of depression anxiety substance use and suicidal thoughts are alarmingly high underscoring the urgent necessity to enhance support for this marginalized population by implementing

proactive advocacy educational initiatives and outreach programs.

**Sunday May 05**

### **Acute safety and efficacy of intranasal esketamine spray in patient with treatment-resistant depression from a University Hospital in Korea.**

Chanmo Yang; suwoo lee; Dongjoon Ahn; Chan Kyu Jeong; Sang-Yeol Lee

Acute safety and efficacy of intranasal esketamine spray in patient with treatment-resistant depression from a University Hospital in Korea. Abstract Aim: There is limited real-world evidence for patient with treatment-resistant depression (TRD) receiving esketamine nasal spray in Korea. This study is aimed to evaluate the acute safety and efficacy of intranasal esketamine in patients with TRD from a university hospital in Korea. Methods: This open-label and prospective study used data collected from a Wonkwang University Hospital. Patients with TRD received esketamine plus an oral antidepressant during the treatment period. This study was comprising a 4-week screening 2-week induction and 2-week follow-up. Results: A total of 24 TRD patients received esketamine April 2021 – April 2023. This predominantly female and have several psychiatric comorbidities and high exposure to psychiatric medications. We observed significant reductions ( $p < 0.001$ ) in average Hamilton Depression Rating Scale (HAM-D) and Clinical Global Impression severity (CGI-S) from baseline (HAM-D : 25.1+6.2 CGI-S : 5.1+0.7) to last available treatment (HAM-D : 19.7+6.6 CGI-S : 3.0+0.8). Suicidal thought also significantly reduced from baseline (2.33+0.7) to last treatment (1.37+0.6) ( $p < .001$ ). Compare to the baseline 23% of HAM-D 43% of CGI-S and 42% of suicidal thought of TRD patients reduced in the 4 weeks. There were no reports of serious adverse events. Conclusion: The acute safety and efficacy

of esketamine in the Korean patients was generally consistent with the international studies. There was no new safety signal and no indication for abuse. Acute efficacy occurred early during the induction phase.

**Sunday May 05**

### **Additive Effects of Major Depressive Disorder on Gait Impairment in Patients with Peripheral Neuropathy**

Mana Sheykholtan; Holly Shan; Thomas Pacheco M.D.; Luke Lluardo; Jayson Atves

Background: It has been established that major depressive disorder (MDD) can be recognized through motor symptoms such as through gait analysis. However no study to our knowledge has assessed the impact of MDD on walking-patterns in patients with peripheral neuropathy (PN). We aim to determine how MDD may influence gait in patients with PN. Methods: Adult participants with PN presenting to the Center for Wound Healing at Georgetown MedStar University Hospital who could ambulate independently were recruited and evaluated with wearable Opal sensors (APDM Portland Oregon). Patients completed a 120-second walk test at a self-selected pace and a 30-second Romberg (sway) test. Data provided by the Motility Lab software (Hamilton Thorne) which also provided normative values for gait in healthy adults was analyzed. MDD was documented from an official Diagnostic and Statistical Manual of Mental Disorders diagnosis noted in the patient chart. Data was analyzed with STATA VSN 7.0 with significance defined as  $p < 0.05$ . Results: Out of 85 patients with PN presenting to a single tertiary wound care center 13 had comorbid MDD while 72 served as a control. MDD and control groups both displayed gait impairments specifically in gait speed (0.81 m/s in control and 0.78 m/s in MDD group  $p=0.31$ ) double limb support (28.91% in control and 29.24% in MDD group  $p=0.81$ )

cadence (97.80 steps/min in control and 94.17 steps/min in MDD group  $p=0.14$ ) and RMS sway (0.40 m/s<sup>2</sup> in control and 0.64 m/s<sup>2</sup> in MDD group  $p = 0.07$ ) that were out of range from its normative values (1.04-1.64 m/s 12.4-24.6% 103-133 steps/min and 0.040-0.11 m/s<sup>2</sup> respectively). Conclusion: Although there were no significant differences in gait parameters in our patient populations patients with comorbid PN and MDD displayed walking patterns out of the normative gait values. These values may highlight the somatic manifestations of MDD in patients with PN. We encourage clinicians to continue screening patients for psychiatric illnesses. The implications of psychiatric illnesses are important in the holistic care of patients.

**Sunday May 05**

### **Atypical presentation of Catatonia: A Case Report and a Literature Review of on Autobiographical Memory Loss without Motor Symptoms**

Sheena Glover D.O.; Romi Shah; Sheena Glover D.O.

Introduction: Catatonia is a neuropsychiatric syndrome characterized by motor abnormalities including immobility posturing and mutism. However there have been reports of catatonic patients presenting with cognitive impairments specifically autobiographical memory loss without prominent motor symptoms. This research abstract aims to present a case report of a patient with anxiety disorder and major depressive disorder who developed catatonia with autobiographical memory loss and to review the existing literature on this unique presentation. Case Report: A 27-year-old male with a history of anxiety disorder and major depressive disorder presented to the emergency department with difficulty recalling his name and his job description. Initial investigations including laboratory tests and neuroimaging yielded negative results. However within the next 10 days the patient's condition deteriorated and he

developed catatonia characterized by immobility negativism and echolalia. He was subsequently admitted to the psychiatric ward for further evaluation and management. Treatment with benzodiazepines resulted in a significant improvement in his catatonic symptoms including the restoration of autobiographical memory. Methods: A comprehensive review of the existing literature was conducted utilizing electronic databases such as PubMed PsycINFO and Google Scholar. Results: The literature review highlights the limited understanding of autobiographical memory loss without prominent motor symptoms in catatonia. Several case reports have described similar presentations with patients experiencing profound deficits in recalling personal memories and autobiographical information. These memory impairments appear to be dissociated from the motor symptoms typically associated with catatonia. The underlying neurobiological mechanisms and the specific brain regions involved in this phenomenon remain unclear. Further research is needed to elucidate the pathophysiology and develop targeted interventions for this unique manifestation of catatonia. Conclusion: This case report underscores the importance of considering catatonia as a potential diagnosis in patients presenting with confusion and memory impairments even in the absence of prominent motor symptoms. The successful treatment of the patient's catatonic symptoms with benzodiazepines highlights the potential therapeutic role of these medications in managing catatonia with autobiographical memory loss. Further research is warranted to better understand the underlying mechanisms and develop evidence-based interventions for this distinct presentation of catatonia.

**Sunday May 05**

### **Baclofen Counteracts ECT and Lorazepam in Catatonia Treatment: A Case Series**

Sabrina Mendez-Contreras; Eva Ihle MD PhD;  
Ramtse Saunders

Introduction: Treatment with benzodiazepines particularly lorazepam is the first-line treatment for catatonia. Benzodiazepines are positive allosteric modulators of the GABA-A receptor. Baclofen commonly prescribed for spasticity and muscle spasm is an agonist of the GABA-B receptor. There have been case reports where starting or increasing baclofen dosage led to new catatonia symptoms and treatment was only successful after baclofen discontinuation. However there has not been any exploration of the effect of baclofen on individuals already being treated for catatonia. Case 1: A 67 year old F with a history of bipolar disorder was admitted following a 1 year period of functional decline motor weakness and gait instability. She had acute-on-chronic altered mental status waxy rigidity in the lower extremities and aphonia. Catatonia was deemed most likely after a negative neurology workup and a positive response to a lorazepam challenge [Bush-Francis Catatonia Rating Scale (BF) score decreased from 20 to 12]. She was started on scheduled IV lorazepam but after 6 days on a dose of 1.5 mg IV q6hrs she went into hypoxemic respiratory failure due to aspiration. The lorazepam dose was reduced and further increase was not possible due to sedation and concern for aspiration. As the lower dose of lorazepam was insufficient to treat her catatonia electroconvulsive therapy (ECT) was pursued. She eventually began receiving ECT 3 times per week and there was a notable improvement in catatonia (BF decreased from 11 to 4 after 5 ECT treatments). At this point to treat the pain due to contractures from prolonged immobility her primary team started baclofen 5 mg BID. When she was re-evaluated 3 days later BF had increased to 13. Baclofen was discontinued and 2 days later her BF score was 5. Case 2: A 27 year old M with a history of neurodevelopmental disability was hospitalized for muscle spasms. A previous workup at another hospital led to a diagnosis of catatonia and the patient had responded to lorazepam. He was also discharged on baclofen 10 mg BID to treat his muscle spasms. He was brought in as his parent felt that

the lorazepam was no longer effective. He responded positively to an IV lorazepam challenge and began receiving scheduled IV lorazepam. There was no improvement in his BF after 24 hours of scheduled lorazepam (BF increased from 8 to 10) so the baclofen was discontinued. Over the next two days his BF decreased from 10 to 5. Discussion: These two consult-liaison cases demonstrate that baclofen can worsen catatonia symptoms even when patients are receiving efficacious treatments like lorazepam and ECT. These cases illustrate the importance of recognizing that symptoms such as stiffness or muscle spasms can be associated with catatonia and treated accordingly (with lorazepam). These cases likewise demonstrate that it is important to be cautious with the use of GABA-B receptor agonists like baclofen in patients undergoing catatonia treatment.

Sunday May 05

### **Change in Neuropsychological Test Performance Seen in a Longitudinal Study of Patients with Post-Acute Sequelae of COVID-19: A 6-Month Follow-up Study**

Sean Lynch M.D.; Stephen Ferrando M.D.

Background: Post-acute sequelae of COVID-19 (PASC) may include physical psychiatric and neurocognitive symptoms. Few studies of cognitive symptoms have been longitudinal with many following participants briefly after infection relying on subjective complaints screening instruments or computerized testing. This group previously reported diminished neuropsychological (NP) test performance in over half of 60 individuals tested in-person 7 months post-COVID-19 particularly those seeking care for cognitive complaints. The current study describes the baseline and 6-month follow-up results of an expanded cohort of 75 participants. Methods: Participants underwent baseline NP psychiatric and medical assessments approximately 7



months after acute COVID-19 infection. Sixty-three (84%) returned approximately 6 months later for repeat evaluation. Results: At baseline 29 (38.7%) met criteria for low NP performance and 16 (21.3%) met criteria for extremely low NP performance. At 6-month follow-up there was significant overall improvement in many NP domains; however persistent deficits were noted in immediate memory language attention and psychomotor processing speed. At baseline over half experienced clinically significant fatigue and depression and nearly 1/3 had clinically significant anxiety and PTSD. Fatigue diminished at 6 months but all other neuropsychiatric symptoms were unchanged. Discussion/Conclusion: A substantial proportion of individuals recovered from acute COVID-19 infection have persistent neuropsychiatric symptoms over 1 year after infection. While the overall sample in this study showed some improvement in NP test performance and fatigue relatively few made significant clinical improvement indicating the need for serial neuropsychiatric assessment and treatment supports. Longitudinal follow-up of this cohort is in progress.

Sunday May 05

### **Comparison of Three Delirium Assessment Tools: the CAM-ICU versus the ICDSC versus the Stanford Proxy Test for Delirium (S-PTD). Which one is best?**

Derek Pipolo M.D.; Yelizaveta Sher M.D.; Vasudha Sarvagya; Benjamin Hoover MD; Jose Maldonado M.D.

Background: Delirium is the most common psychiatric disorder in general settings with an incidence of up to 87% in intensive care units. However this condition remains undiagnosed in 72% of patients. Several diagnostic tools have been developed to assist non-psychiatric clinicians with the identification of delirium. While many instruments report high sensitivities in controlled research environments these seem to

decrease in real-life conditions. Given the nature of delirium many patients who are uncooperative with the examination are considered “unable to be assessed” and often excluded from the final analysis. We aim to compare the most common delirium screening tools utilized at our institution versus the current gold standard: a blinded neuropsychiatric assessment based on DSM-5 criteria. Methods: A triple-blinded 6-week study assessed the efficacy of three delirium screening tools CAM-ICU ICDSC and S-PTD against a neuropsychiatric assessment based on DSM-5 criteria. All patients had been admitted to the adult cardiothoracic-ICU at Stanford University Medical Center. Patient data was pooled from an ongoing clinical trial intended to determine the accuracy of an EEG-based diagnosis for delirium. The DSM-5 based neuropsychiatric exam was considered the gold standard for delirium diagnosis in our study and performed by a critical-care psychiatrist; the CAM-ICU and ICDSC were performed by a general physician trained on the use of these instruments and the characteristics of delirium and the S-PTD assessments were performed by the patient’s ICU nursing staff at the end of their shift. Descriptive statistics for each screening tool were calculated with 2 x 2 tables using the neuropsychiatric assessment as the reference group. Statistical analysis was performed using IBM® SPSS® Statistics version 29.0.1. Results: A total of 105 clinical assessments utilizing the various delirium screening tools were conducted in 27 patients. Of these 51 (48.57%) yielded a positive diagnosis of delirium as per the DSM-5-based assessment; 14 CAM-ICU and 16 ICDSC exams were unable to assess due to patient uncooperativeness. The CAM-ICU displayed a sensitivity of 43.2% specificity of 100% PPV of 100% NPV of 72% and accuracy of 76.92%. The ICDSC showed a sensitivity of 73% specificity of 100% PPV of 100% NPV of 83.9% and accuracy of 88.76%. The S-PTD demonstrated a sensitivity of 94% specificity of 82% PPV of 83.9% NPV of 93.2% and accuracy of 88%. Conclusion: Delirium screening tools often suffer from low sensitivity due to patients’ lack of cooperation hampering early detection. The CAM-ICU and ICDSC are affected by this issue and may deceitfully inflate their sensitivity. Considering this

the S-PTD seems more accurate than traditional tools. It is the only validated tool against the DSM-5 criteria and demonstrated the highest sensitivity in our sample accommodating patients unable to participate in traditional clinical assessments.

**Sunday May 05**

### **Correlation between agitation and violence rating scales and emergency IM medication administration on a community adult inpatient psychiatric unit**

Ryan Berry M.D.; Olivia Plante; Christopher Reggi M.D.; Yechan Lee M.D.

**Background:** Aggression and violence against staff and peers remain a common concern in inpatient psychiatric units often leading to emergency medication administration via intramuscular (IM) antipsychotic and benzodiazepines. The use scales for agitation are common in acute care psychiatric inpatient settings to aid in assessing risk of aggression and violence. Two of the more commonly used scales include the Violence risk 10 (V-RISK-10) and the Dynamic Appraisal of Situational Aggression (DASA). While both scales have been independently validated there have been no studies that we are aware of looking at how these scores relate to frequency of administration of IM emergency medications. We hypothesize that there will be a correlation between both scales and the number of administrations of IM emergency medications. **Methods:** V-RISK-10 scores and DASA scores along with the number of any non-scheduled IM antipsychotic or benzodiazepine administrations were prospectively collected from a community hospital's adult inpatient psychiatric unit from 7/2021 through 6/2023. The V-RISK-10 scores were documented on admission for each patient. The DASA scores were documented on arrival to inpatient unit and at least daily for each patient. Each non-scheduled IM antipsychotic or benzodiazepine administered was counted as a

separate administration even if given as a single injection. All medication administered as alternatives to scheduled medications or for reasons other than agitation aggression violence or restlessness were also excluded. Results: 1179 patient encounters were included in this study. V-RISK-10 score was positively correlated with total number of IMs received ( $r=.16$   $p<.001$ ) and average DASA score ( $r=.38$   $p<.001$ ). Average DASA score was positively correlated with number of IMs total ( $r=.47$   $P<.001$ ) and number of IMs in first 10 days ( $r=.56$   $P<.001$ ). DASA average for first ten days was positively correlated with total IMs ( $r=.59$   $p<.001$ ) and number of IMs in first 10 days ( $r=.68$   $p<.001$ ). We ran a linear regression and found that the first DASA score was more predictive of total number of IMs than V-Risk score ( $R^2=.055$   $F(21176)=34.43$   $p<.001$ ). Conclusion: We found that V-RISK-10 scores average DASA scores over entire hospital stay and average DASA score from the first ten days did significantly correlate with both the total number of emergent IM antipsychotic and benzodiazepine administrations for the entire hospital stay and those administered in the first ten days. The first recorded DASA score was the most predictive of total number of emergent IM antipsychotic and benzodiazepine administrations. Patient care goals targeted at reducing the DASA scores could reduce the number of emergent medication administrations and any risks associated with those administrations. There was no funding to disclose associated with this project.

**Sunday May 05**

### **Delays in the death notification of a loved one to a patient involved in the same traumatic incident: A case report**

Diana Li; Stephen Marcoux

**Background:** The manner in which the sudden and unexpected death of a loved one is communicated to survivors is often an experience

that stays with them for the rest of their lives [1]. Poor-quality notifications often due to inadequate death notification training can contribute to grief and psychological distress and increase the risk of post-traumatic avoidance behavior in the survivor [12]. While there is growing literature and training programs on the notification of family members in the setting of a patient's death [3] there is minimal literature on the notification of a hospitalized patient of the death of a loved one in the same traumatic incident. We report a case in which delays in death notification to a survivor of a traumatic event prolonged psychiatric symptoms which highlights the need for better education on death notification to patients in hospital settings. Case Presentation: A 46-year-old undomiciled male with a past psychiatric history of opioid use disorder was admitted to the University of Chicago Medical Center Surgical Intensive Care Unit after sustaining multiple gunshot wounds to the face. Psychiatry was consulted for concerns of depressed mood. The patient reported living in an abandoned house with his longtime partner when an intruder entered the home and shot them. Uncertainty of his partner's wellbeing led to recurrent thoughts of her possible death. Evaluation of the patient revealed insomnia feelings of helplessness decreased energy flashbacks nightmares and hypervigilance. The patient was diagnosed with unspecified trauma and stressor-related disorder and prescribed Trazodone for insomnia and Doxazosin for nightmares. Shortly after psychiatric consultation it was confirmed that the patient's partner was pronounced dead by the county coroner through an online news article. Death notification was then deferred to the admitting trauma service however the information was withheld for two weeks despite discussions regarding benefit of notification due to concerns related to legality and instigation of suicidal thinking. Clinically the patient remained in distress over the uncertainty of his partner's death. Ultimately homicide police detectives communicated the death notification to the patient in the midst of an ongoing investigation. Unfortunately the nature of this notification and the delay appeared to exacerbate the patient's existing psychiatric symptoms. Conclusion: Death notifications remain a

challenging practice for physicians and can be even more difficult when notifying the survivor of a traumatic event who may be experiencing psychiatric symptoms. To assist physicians in navigating death notification to survivors formalized education on compassionate methods of notification along with guidance on ethical and legal case components is warranted to ensure patients receive the most appropriate care.

**Sunday May 05**

### **Eating Well and Feeling Well: Examining Short and Long-Term Dietary Choices Microbiome Composition and Major Depressive Disorder**

Jamie Parkerson M.D.

Background: The microbiome-gut-brain axis (MGBA) has been a subject of great interest as the nuanced connections between the brain and the GI tract as well as the interplay between gut and mental health has been explored. It has been established in recent years that dietary choices impact the microbiome with certain foods such as fish whole grains and fruits and vegetables encouraging certain genera of microbes to thrive while diets high in refined sugars can lead to dysbiosis. In this review the relationship between the composition of the microbiome and major depressive disorder (MDD) is explored as well as the reactivity of the microbiome to dietary changes. Prior evidence demonstrates that certain populations of microbes are observed more frequently in patients with depression. This review focuses on the time between dietary changes and microbiome recomposition and how patients may be encouraged to utilize dietary modifications as an adjunct to pharmacotherapy and psychotherapy for treatment of depression. Methods: A PubMed search was conducted of recent literature on the subject utilizing search terms "depression" "major depressive disorder" "microbiome" "diet" and "enterotype" with results then assessed for recent publications with full text articles available. Articles were assessed for

relevance to the subject of the MGBA and depression as well as quantitative information regarding the timing of dietary interventions and alterations in gut flora populations. Results: Varied microbial populations have been associated with MDD including reduced alpha diversity of the overall microbiome compared to control subjects. Recent research has revealed that within 24 hours of food consumption the flora of the microbiome shift in response to the micro and macro nutrients of the enteral environment. Although such changes occur rapidly in response to diet the underlying enterotype remains more stable and sustained dietary changes must be explored further to determine the long-term implications of diet on microbiome composition and mood disorders. Though long-term remodeling of the microbiome is a gradual and not fully understood process even short-term changes may potentiate the communication between the gut and the brain. Further exploration is warranted to identify what role that dietary interventions may have in the management of MDD a condition for which most pharmacologic interventions require significant time to yield clinical effect. Conclusion: Dietary changes could be a low-risk non-pharmacologic intervention that patients can pursue in conjunction with other methods of treatment for MDD. Microbiome changes occur rapidly after foods are consumed though more data is needed to determine the durability of these changes as well as to explore further the bidirectional relationships of the MGBA.

Sunday May 05

## **Examining how repetitive transcranial magnetic stimulation informs therapy and pathology of treatment resistant depression: A Literature Review**

Rishi Ramesh

Background: Treatment resistant depression (TRD) accounts for 30% of major depressive disorder

and is characterized by a failure to respond to multiple forms of treatment. This review analyzes the efficacy of repetitive transcranial magnetic stimulation (rTMS) in TRD patients as determined by a multitude of functional magnetic resonance imaging (fMRI). Methods: An online search in the PubMed database for sources between the years of 2017 and 2023 using the keywords “transcranial magnetic stimulation” “treatment resistant depression” combined with MeSH tools for TRD yielded 209 results. From here we looked at papers that indicated rTMS’s efficacy safety and how to predict if it would be effective. Addition of “functional MRI” as a search term further narrowed down the search results to 25 publications. In the end eight papers that included adequate controls that enrolled at least 20 patients were used to document the progression of rTMS and the new understanding of pathology through fMRI. Results: rTMS was shown to be safe in both healthy and elderly patients in the 3 studies that intended to monitor safety as well as all other studies. To investigate rTMS’s effectiveness fMRI imaging was taken before and after treatment. fMRI showed that a key predictor of rTMS treatment success is the interconnectivity of brain regions. Lower baseline interconnectivity between the subgenual anterior cingulate cortex (sgACC) and the dorsolateral prefrontal cortex (DLPFC) predicts rTMS response. Increased connectivity of the rostral anterior cingulate cortex and left lateral parietal cortex also predicts rTMS response. This is clinically useful because previously the size of rACC DLPFC and sgACC were thought to predict treatment response but this was not confirmed in 3 studies with a total of 500 patients. Treatment with rTMS improved this interconnectivity as shown in those 3 studies. New metrics of brain integrity such as network integrity index have been developed to describe how likely the brain is to respond to treatment. The use of fMRI has allowed for more accurate targeting of brain regions through rTMS indicating that the DLPFC is the most appropriate target for treatment. Conclusions: Studies have found that the interconnectedness of the DLPFC and sgACC and certain other regions of the brain can predict if transcranial magnetic stimulation will have an effect on treatment-resistant depression. The

response to repetitive transcranial magnetic stimulation is also specific to treatment resistant depression indicating that there are differences in pathology as compared to standard MDD. New updates to rTMS such as SAINT neuromodulation system build on this knowledge to continue to improve outcomes and hope for patients with TRD.

**Sunday May 05**

### **Exploring the Overlap: A Case Series of Pediatric Acute-Onset Neuropsychiatric Syndrome and Autism Spectrum Disorder**

Jeff Jin M.D.; Juliette Madan; Nolan Neu; Sarah Slabaugh MD; Steven Schlozman MD

Introduction: Pediatric acute-onset neuropsychiatric syndrome (PANS) is characterized by severe and abrupt onset obsessive-compulsive or food avoidant/restrictive symptoms with at least two additional concurrent neuropsychiatric symptoms (e.g. mood dysregulation sensorimotor difficulties somatic signs) that are not better explained by a known neurologic or medical disorder. Autism spectrum disorder (ASD) is characterized by persistent deficits in social communication and the presence of restricted repetitive behaviors such as highly fixated interests ritualized behavior and stereotyped behaviors. PANS and ASD share several overlapping characteristics that may be difficult to distinguish. We present a case series of PANS presenting with a concurrent ASD diagnosis to facilitate increased recognition of the frequent co-morbidity of these conditions. Case Presentation: We present two adolescent patients with a history of ASD with one-day onset of obsessive-compulsive symptoms emotional dysregulation irritability aggression and anxiety in the context of recent COVID-19 infection. One patient presented with avoidant/restrictive food intake homicidal ideation and command auditory hallucinations while the other had somatic

concerns of urinary frequency. Extensive metabolic infectious and autoimmune laboratory workup were unremarkable aside from elevated inflammatory markers such as c-reactive protein (CRP) d-dimer and antinuclear antibody (ANA). Empiric treatment with Azithromycin non-steroidal anti-inflammatory drugs (NSAIDs) and adjunctive psychotropic medications (sertraline clomipramine clonidine and risperidone) resulted in improvements in acute-onset neuropsychiatric symptoms. Although initially suspected as an exacerbation of restrictive inflexible and hyper-reactive symptoms of ASD the acuity of symptom onset presence of inflammatory lab changes response to empiric PANS-treatment and lack of better explanation by an alternative neurologic or medical disorder strongly indicated a diagnosis of PANS. Discussion: These cases of PANS illustrate the potential for overlap with neuropsychiatric manifestations of ASD. Recent immunogenetic evaluations have identified genetic conditions notable for both ASD and immune-mediated neuropsychiatric conditions such as PANS. To date one published case shows similar difficulties with misdiagnosis. Diagnostic distinction of PANS from ASD is supported through abrupt-onset obsessive-compulsive disorder (OCD) or avoidant/restrictive food intake disorder (ARFID) within 48 hours an associated autoimmune or inflammatory etiology positive inflammatory serology and improvement with empiric antibiotic and anti-inflammatory treatment. In the presence of PANS and ASD symptom overlap consider further metabolic infectious and autoimmune workup to supplement the clinical history. Identification of PANS is important given the differing evaluation and treatments strategies for ASD OCD and ARFID.

**Sunday May 05**

### **Guanfacine for Management of Delirium: A Retrospective Review**

Bernard Sarmiento M.B.A.; Shixie Jiang



**Background:** Delirium is a clinical syndrome of acute brain failure that represents a change from an individual's baseline cognitive functioning characterized by alterations in attention awareness and other aspects of cognition that fluctuate in severity over time. The clinical presentation is variable and the symptomatic management of delirium's behavioral manifestations such as agitation remains difficult. Conventional antipsychotics address the hypothesized increased level of dopamine found in delirium models. However excess glutamate or norepinephrine may be a contributory factor in hyperactive/mixed-type delirium. The alpha-2 agonists dexmedetomidine and clonidine are efficacious due to reductions in these two neurotransmitters but their potential cardiovascular adverse effects limit their utilization. Guanfacine is an oral alpha-2 agonist with a lower potential for such adverse outcomes due to higher alpha-2 receptor selectivity; however its use in delirium has not been studied outside of a case series. **Methods** A retrospective descriptive analysis of guanfacine for managing hyperactive or mixed delirium at a single tertiary academic hospital was conducted utilizing data collected from an electronic medical record database. The primary outcome was the time until a 25% reduction in acute sedative (rescue sedative) administration. Secondary outcomes included renewed participation in physical therapy or occupational therapy (PT/OT) within four days 25% reduction in opioid administration and incidence of cardiovascular adverse effects after initiation of guanfacine. **Results** One hundred forty-nine patients were identified as having received guanfacine for managing delirium during the study period. All experienced a quantitative reduction in acute sedative use after the initiation of guanfacine. In 93 patients receiving PT/OT who were unable to participate due to behavioral agitation 74% had a documented renewal of PT/OT within four days. Of 112 patients on opioids 70% experienced a 25% reduction in opioid administration within four days. No patients experienced consecutive episodes of hypotension that required a change in their clinical care. Two patients experienced a single episode of consecutive bradycardia that led

to the discontinuation of guanfacine.

**Conclusions** Based on this retrospective study guanfacine is a well-tolerated medication for the management of delirium. Even in critically ill patients cardiovascular adverse events were rare with guanfacine. Patients treated with guanfacine experienced decreased rescue sedative use for behavioral agitation. Additionally patients treated with guanfacine received less opioids and more patients were able to participate in PT/OT sooner. Limitations of the study included its descriptive retrospective analysis and lack of a control group. Future studies with prospective randomized placebo-controlled designs are needed to evaluate this promising intervention for delirium further.

**Sunday May 05**

### **Immune Checkpoint Inhibitors and Psychiatric symptoms: A Case Series**

Omar Munoz M.D.; Kamalika Roy M.D.; Maria Rueda-Lara MD

Immune Checkpoint Inhibitors (ICPI) constitute new therapies approved to treat different types of malignancies. The mechanism of action of ICPIs (Ipilimumab Pembrolizumab Nivolumab) consists of modulating the immune system which can lead to an array of immune-related side effects which includes psychiatric and neurological manifestations such as encephalitis delirium and mania. Autoimmune side effects related to ICPs are rare but might lead to severe consequences. We present four clinical scenarios: Case 1 : A 65-year-old Latinx Male with no past psychiatric history and diagnosis of cholangiocarcinoma who presented with Altered Mental Status after being started on Ipilimumab/Nivolumab due to high tumor burden medication was discontinued and patient was started on Steroids with subsequent development of manic symptoms. Resolution of symptoms were achieved with antipsychotic and discontinuation of ICPI. Case 2: A 76-year-old Male with no past psychiatric history and

diagnosis of Angiosarcoma of the nose non-responsive to radiation and chemotherapy started on Pembrolizumab and presented with altered mental status visual hallucinations and disorganized thought process. Resolution of symptoms was achieved with low dose antipsychotic and discontinuation of ICPI. Case 3: A 56-year-old male with prior alcohol use disorder was treated with nivolumab for metastatic prostate cancer. After a month of starting ICPI therapy he started exhibiting manic symptoms paranoia and grandiose delusions. He was treated in inpatient psychiatry complicated with relapse into alcohol use and subsequently attended an outpatient rehabilitation program. He remained on Quetiapine two years after the manic episode. Case 4: A 78 year old male with no previous psychiatric history was treated with Ipilimumab for metastatic melanoma. He presented with anxiety agitation confusion after two infusion doses. Initially it was treated as infusion side effects and the effects from steroids however his symptoms progressed despite spacing out the infusions leading to grandiosity mania excessive online orders altercations with friends and aggressive behavior towards his wife. He had to be placed in an assisted living facility and started on Depakote. He later decided to stop cancer treatment. We postulate that psychiatric symptomatology was secondary to ICPs as development of symptoms started while on ICPIs and resolution of symptoms was achieved by antipsychotic medication and discontinuation of cancer therapy. These cases highlight the important role Psychiatrists could play in understanding and identifying the behavioral symptoms that could be attributed to immunotoxicity secondary to ICPs in patients undergoing cancer treatment. Multidisciplinary approach including Oncology and Psychiatry is recommended when managing psychiatric symptoms associated with autoimmunity secondary to ICPs therapy.

## Incident Pain Relief with Esketamine for Depression: Sustained Benefit in Fibromyalgia and Migraine

Darian Vernon MD; Anjalie Gulati; Darren Freeman DO; Christopher Fichtner M.D.; Stephen Stahl

Intranasal esketamine has been approved for use in treatment-resistant depression (TRD) since 2019. Racemic ketamine approved for anesthetic and analgesic use for over 50 years has been used intravenously (IV) off-label for the treatment of major depressive disorder (MDD) for two decades. Study of intranasal esketamine in pain syndromes has been limited but given the co-occurrence of pain and depression in many patients reports of pain relief beyond immediate same-day anesthetic effects are of clinical interest. We previously reported on a patient whose chronic migraine headaches remitted in the course of intranasal esketamine for TRD without recurrence through six months of treatment. We have seen transient pain relief limited to the day of dosing in several esketamine-treated TRD patients with various pain syndromes including diabetic peripheral neuropathy lower back pain and sciatica. However in this poster we detail a case in which TRD treatment with intranasal esketamine 84 mg weekly was associated with MDD remission as well as sustained improvement in fibromyalgia pain through ten months of ongoing treatment and follow-up. The patient is a 40-year-old female with a history of MDD anxiety chronic fibromyalgia pain irritable bowel syndrome (IBS) and dysesthesia. She presented with depressed mood poor concentration insomnia low energy weight gain and exacerbation of pain. Multiple trials of oral antidepressants and augmentation agents had been helpful but inadequate. Her antidepressant regimen at the start of esketamine treatment was bupropion extended-release (XL) 450 mg and venlafaxine extended-release (XR) 225 mg daily. Following an initial 56 mg dose on the first day to establish tolerability esketamine 84 mg intranasal was given twice weekly for 4 weeks and then once weekly for 4 weeks. Depressive symptoms improved within days of starting esketamine heralded by much better sleep. With transition to biweekly dosing however depressive

symptoms recurred prompting a return to weekly treatment. Concurrent with the antidepressant response the patient reported consistent and lasting relief from fibromyalgia pain of 4-5 points on a 10 point scale. She rated her baseline pain as 7-8 out of 10 daily with exacerbations to 9 or 10. With esketamine she rated her pain as 2-3 out of 10 most days with breakthrough as high as 4 out of 10 on day 6 or 7 of the one-week inter-dose interval. This response has held up over a 10-month course of treatment to date. On two occasions when schedules required a longer interval of 11 and then 9 days between doses the patient rated her breakthrough pain as 6-7 out of 10 in the days beyond the usual one-week interval. Our observations in this case and in our migraine patient noted above have led us to ask whether certain comorbid pain syndromes might favor earlier use of esketamine in some TRD patients.

**Sunday May 05**

### **Mania Mystery: A Case Report of Secondary Mania in Multiple Myeloma and Neurocognitive Disorder**

William Burton; Diana Robinson M.D.

Psychiatric complications of multiple myeloma (MM) were first specifically addressed in the late 1900s in a series of case reports of delirium (1). Reports of psychiatric symptoms secondary to MM have since described mania and psychosis as well (2-3) but remain overall few in number. Secondary psychosis and manic symptoms have similarly been reported in the setting of neurocognitive disorders (4-5). There are no such reports involving patients with both MM and neurocognitive disorder and little is known regarding optimal diagnosis and management in such cases. Mr. S is a 68-year-old male with a medical history of multiple myeloma chronic kidney disease stage 3 hypertension type 2 diabetes hyperlipidemia thoracic aortic aneurysm left ICA aneurysm and neurocognitive disorder unspecified who presented to an academic

hospital under psychiatric involuntary hold with psychotic and manic features after attempting to flee the scene of a motor vehicle collision. In the emergency department he received haloperidol diphenhydramine and lorazepam due to severe agitation and was medically admitted for management of hypokalemia. Initial psychiatric evaluation was notable for grandiose delusions decreased need for sleep and impaired cognition without waxing and waning only oriented to city state and country. The patient was started on trazodone (25 mg nightly) for sleep which was subsequently increased (to 50 mg nightly). He attempted to elope on hospital day 2 but was redirectable. Due to increasingly labile mood and continued delusions divalproex (1000 mg/day) was initiated on hospital day 3 and later augmented with risperidone (2 mg nightly) on hospital day 4 with modest improvement in the patient's mood and increasingly organized behavior. Additionally his delusional and grandiose thought content became less apparent though it did easily resurface with prompting. The patient received haloperidol (5 mg once) during a second attempt to elope on hospital day 6 risperidone was increased (to 3 mg nightly) and he was then discharged home with his girlfriend on hospital day 7 in stable medical condition. This is a patient with no history of psychiatric illness prior to late adulthood presenting with manic and psychotic symptoms in the setting of newly diagnosed neurocognitive disorder and multiple myeloma. This is one of few reports of secondary mania or psychosis in a multiple myeloma patient and perhaps the first of such in the setting of both multiple myeloma and a neurocognitive disorder together. The scarce documentation of such cases and resultant lack of diagnostic clarity and management strategies suggest a need for further exploration of secondary psychiatric symptomology in patients with multiple myeloma neurocognitive disorder or both.

**Sunday May 05**

## **Metabolic Mania: A Case Report of Ozempic-Induced Psychosis and Literature Review of the Neuropsychiatric Side Effects of GLP-1 Agonists**

Jodie Nghiem BA;BS;M.B.A.; Andrew Edelstein;  
Anna Dickerman

**Background:** GLP-1 agonists such as subcutaneous semaglutide (Ozempic) are approved for the treatment of type II diabetes and obesity. Recently GLP-1 agonists have rapidly grown in popularity as a weight loss agent fueled by popular culture and enabled by direct-to-consumer telehealth companies increasing access to these drugs. GLP-1 agonists work directly on multiple areas of the brain to exert their anorexigenic effects including the hypothalamus and dopaminergic system which suggests the potential for neuropsychiatric side effects. Notably research has expanded to include patients with dementia and post-CVA. **Methods:** A patient case illustrates a possible neuropsychiatric side effect of GLP-1 agonists. A literature review was conducted to understand the current research about the neuropsychiatric effects of GLP-1 agonists both positive and negative. PubMed was searched using keywords including but not limited to GLP-1 agonists psychiatry and mental health. **Case Report:** PK is a 72 year old male who was previously highly functional until one week prior to presentation (active member in community organizations independent in all ADLs) with history significant for depression normal pressure hydrocephalus s/p VPS prolactinoma on cabergoline hypothyroidism and type II diabetes mellitus. Six weeks prior to presentation he was started on semaglutide with his wife noticing almost immediate changes in behavior and thoughts. These included increased goal-directed activities (cleaning house) and an almost nihilistic delusion that neighbors were dead. A PET/CT demonstrated nonspecific findings suggestive of Alzheimer's prompting referral to a dementia specialist who subsequently admitted the patient given the acuity of his presentation to rule out autoimmune encephalitides. Hospital workup was notable for normal prolactin thyroid hormone with functioning

VPS and unremarkable autoimmune panel. Primary psychiatric disorder was believed to be unlikely due to the patient's age. Cabergoline-induced psychosis was believed to be unlikely as the patient had been taking cabergoline for almost two years. **Discussion:** Neuropsychiatric effects of GLP-1 agonists have primarily been investigated in preclinical studies. The little research that exists on adverse neuropsychiatric effects focuses on suicidal ideation which studies suggest is not a significant risk of GLP-1 agonists. More research exists on the possible beneficial neuropsychiatric effects of GLP-1 agonists including neuroprotection in dementia and stroke and treatment of addiction and mood disorders. **Conclusion:** This case report suggests GLP-1 agonists may be implicated in adverse neuropsychiatric effects in patients with neuropsychiatric vulnerability. Providers should be familiar with these agents especially as they continue to grow in popularity. As indications for these agents expand research must be conducted to characterize the neuropsychiatric risks and benefits of GLP-1 agonists.

**Sunday May 05**

## **Missing the forest for the trees: Acute onset psychosis with MRI abnormalities**

Ralph Albert M.D.; Aashraya Ramu M.D.;M.B.B.S.

**Background:** Acute-onset psychosis especially in patients of atypical age leads to investigation of alternate etiologies for neuropsychiatric manifestations. Imaging studies often warrant further diagnostic workup. **Case Review:** This distinction came to the fore while working with a 39 year old woman with no past psychiatric history who presented to the emergency room ED for command auditory hallucinations encouraging her to push her 6 year old child off of a bridge. The broad differential diagnosis of this case required an in depth literature review. We used the search terms "neuropsychiatric manifestations of CADASIL toxic leukoencephalopathy and arsenic

exposure". In this patient CT scan of the head revealed extensive white matter hypoattenuation. Neurological assessment revealed mild weakness of left leg. MOCA scored 21/30 with deficits in visuospatial/executive functioning. Blood samples and CSF analysis were normal including autoimmune panels and testing for anti-NMDA encephalitis. MRI of the brain revealed symmetric white matter destruction concerning for a vasculitic process. Discussion with the radiology team led to consideration of cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL). CADASIL is an autosomal dominant vasculopathy caused by mutation in the NOTCH2 gene that presents with stroke cognitive deficits and behavioral disturbances or psychosis. It often presents with symmetric T2 hyperintense lesions. Angiography did not reveal evidence of vasculitis and NOTCH3 testing is pending. A heavy metal screen revealed elevated arsenic levels with the patient disclosing significant nicotine use via homemade cigarettes. These revelations were suggestive of toxic leukoencephalopathy. Toxic leukoencephalopathy is white matter destruction precipitated by neurotoxic medications substances or other sources of insults and presents with similar MRI findings. Discussion: Arsenic exposure particularly the chronic type can lead to poisoning with manifestations presenting in multiple organ systems. However acute psychosis is not a commonly described manifestation of arsenic exposure. In this case the patient developed acute psychosis with hallucinations disorganized thinking and homicidal ideation following chronic occupational arsenic exposure. MRI was suggestive of toxic leukoencephalopathy. The patient was treated with an atypical antipsychotic and responded well with significant improvement in both the acute psychosis and mood symptoms. Conclusion: This investigation highlights the importance of an interdisciplinary approach to investigating psychotic symptoms.

Sunday May 05

## Olfactory Reference Syndrome

Marshall Johnson D.O.;M.Sc.

Olfactory Reference Syndrome (ORS) is an understudied neuropsychiatric illness previously thought to be a culture-bound syndrome within Japan. ORS is the newest diagnosis into the DSM-V-TR added in 2022 and epidemiological data is not currently available due to its scarcity. Further epidemiological research is needed to provide insight into how often ORS occurs and where this illness is occurring. This study summarizes a single patient's hospital course occurring in Jacksonville Florida and provides insight into a potential clinical treatment course for the illness. A 46 year old Caucasian female presented with suicidal ideations after perceiving herself as having severe body odor. The patient noted a foul body odor was consistently omitting from her body for over ten years however over the last couple months the odor became significantly worse. The patient perceived this body odor to omit from multiple sites on her body including her armpits her sweat and from her mouth. This odor was perceived by herself and she believed other people around her would smell this odor however there was no factual evidence of people around her smelling any type of foul odor. The patient stated she showers as much as 7 times a day uses deodorant over 20 times a day with no relief and brushes her teeth around 14 times a day. While bathing a day before admission the patient had the urge to drown herself in her bathtub due to increasing anxiety and depression related to the ORS. The medication plan for this patient began in the ED with lorazepam 2mg PO ketorolac 100mg PO and acetaminophen 600mg PO. In the ED the patient was also started on Fluvoxamine 50mg PO to target OCD and Aripiprazole 5mg Daily PO. Upon admission the patient was started on Sodium Valproate 250mg BID PO as a mood stabilizer to target her OCD and related depression. The patient was given a low dose Clonazepam 0.5mg BID PO for her anxiety and Benadryl 25mg PO at bedtime for sleep. The Aripiprazole 5mg PO QD was continued and Fluvoxamine discontinued until bipolar disorder could be ruled out given her random periods of



energy bursts and impulsive behaviors. Over the course of her hospital stay the patient gradually decreased the occurrence of showering brushing her teeth and applying deodorant. Upon discharge the patient was maintaining more of a normal hygiene routine by showering brushing her teeth and applying deodorant once daily. With the inclusion of ORS in the DSM-V-TR physicians should be aware of an ORS diagnosis and cases of ORS should be documented for further research. Physicians should consider ORS in patients presenting for genetic testing of TMAU and patients who compulsively or excessively shower.

**Sunday May 05**

### **Opioid overdose mortality rates and cannabis dispensary counts in SoCal's Inland Empire: Are they related?**

Christopher Fichtner M.D.; Sameer Shah B.S.; Tony Grubestic PhD; Edward Helderop PhD; Howard Moss MD

The reform of cannabis laws to permit medical and/or adult personal use in most U.S. states provides many patients with an alternative to standard medicines for pain management. Surveys documenting pain relief as a common justification for medical cannabis access also find patients reporting decreased opioid analgesic use and cannabis substitution for prescription opioid medications. Such patient accounts establish a context for asking whether legal cannabis access may be associated with changes in opioid use measurable at a population level. In fact studies of multi-state data over the past decade have found both medical and recreational adult-use cannabis laws to be associated with lower state-level opioid overdose (OD) mortality (ODM) rates decreased opioid-related hospitalizations and even decreased opioid prescribing. Although not all studies agree those finding an inverse relationship between cannabis access and opioid ODM rate emphasize policy implementation and

better operationalized measures of cannabis access. Several studies have now modeled the predictive power of higher cannabis dispensary counts for lower opioid ODM rates within a geographic region focusing on variations in county data across state and multi-state populations. We sought to corroborate this finding locally and previously reported a cross-sectional analysis of cannabis dispensary density and opioid ODM rate by ZIP code within California's Inland Empire (IE) comprising Riverside and San Bernardino Counties (Poster Presentation APA Mental Health Services Meeting October 2022 Washington DC). Our analysis of variance (ANOVA) did not reveal a relationship between dispensary number and opioid ODM rate by ZIP code. Non-parametric sorting of data limited to ZIP codes hosting dispensaries was suggestive: those with only a single dispensary all had opioid ODM rates above the statewide mean whereas ZIP codes with two or more dispensaries were divided evenly between those below and those above the state mean. In the current report we studied the same cross-sectional data utilizing exploratory spatial data analysis and confirmatory statistical modeling approaches as well as census-based ZIP code tabulation areas (ZCTAs) as the administrative units for analysis. Although our model did not demonstrate a significant relationship between cannabis dispensary density and opioid ODM rate it did identify several demographic variables accounting for a portion of the variance in opioid ODM rate by ZCTA. In addition the distribution of the variables studied is sufficiently skewed (non-normal) to be compatible with such a relationship though not clearly indicative of it. Data from the limited geographic region we studied are not adequately powered to rule out a relationship which might be demonstrable with the same methods applied to a larger sample and multiyear data.

**Sunday May 05**

## Prevalence of Perinatal Paternal Depression in Low and Middle Income Countries: A Systematic Review

Isabelle Duerr M.D.; John Keku M.D.

**Introduction:** There is currently no review of the prevalence of paternal perinatal depression associated risk factors and impact on infants restricted only to low and middle-income countries (LMICs). This review aims to examine these factors by focusing on paternal depression in LMICs. **Methods:** Literature search was conducted in five different databases (PubMed CINAHL PsychINFO Web of Science and Scopus). Databases were searched from their start date to April 2023. All articles reviewed were in English. Analysis of prevalence was conducted in Excel. **Results:** Twenty nine studies met inclusion criteria with an overall sample size of 13308 fathers and were included in this review. Overall pooled prevalence of perinatal depression (onset in pregnancy or postpartum) from all twenty nine studies was 10.4% [95% CI 8.9-11.9%]. Pooled prevalence of antenatal depression from eight studies was 9.6% [95% CI 6.7-12.5%]. Pooled prevalence of postnatal depression from twenty two studies was 11.2% [95% CI 9.3-13.1%]. Major risk factors associated with antenatal depression were low household income unwanted pregnancy having a daughter when the father preferred having a son unemployment COVID-19 pandemic fear of childbirth and history of antenatal depression. Major risk factors associated with postnatal depression were low household income unwanted pregnancy having a daughter when the father preferred having a son unemployment partner with maternal perinatal depression lack of social support perceived stress low education emotional or physical abuse alcohol use paternal marital satisfaction parental sense of confidence sleep disturbance partner's child birth via Cesarean section still-birth older fathers younger fathers and first time fathers. **Conclusion:** LMICs have similar prevalence and risk factors to high-income countries. Preference for a son by fathers exists as a relatively unique risk factor of paternal depression in Asian middle-income countries. As a whole paternal perinatal depression in low and

middle income is grossly underrepresented in the literature. There is a great need for further research in this area conducted in LMICs particularly in Africa.

Sunday May 05

## Psychiatric Consultations in the Initial Weeks of the COVID-19 Pandemic: A Comparison of COVID-Positive and COVID-Negative Consultations

Emily Groenendaal M.D.; Sivan Shahar

**Background:** During the initial weeks of the COVID-19 pandemic the overall number of psychiatric consultations decreased; however the consultations that were placed appeared to be heavily related to either COVID-19 infection or a stressor secondary to the pandemic. New onset neuropsychiatric symptoms have been seen and described in prior reports among patients with acute COVID-19 infection. This study aimed to examine the sociodemographic and clinical characteristics of psychiatric consultations in the early portion of the pandemic and compare patients who were COVID-19-positive with those who were negative. **Methods:** This IRB-approved retrospective chart review involved all psychiatric consultations for COVID-19-positive patients admitted to a medical floor at an academic medical center from March 1 2020 until May 31 2020. Sociodemographic medical (including diagnoses and laboratory values) and psychiatric information was collected from all consultations and patients who were COVID-19 positive were matched with a COVID-negative comparison group by age (+/- 3 years) and gender. Statistical analyses to compare these groups were performed. **Results:** There were 80 consultations for COVID-positive patients identified in the given time period. These were matched with a comparison group of 80 patients who had been listed as COVID-negative; however on review of medical records only 64 were truly negative so 16 were excluded. Significant differences existed between groups in terms of

reason for psychiatric consultation ( $p=0.04$ ) and billing diagnosis ( $p<0.01$ ) with COVID-positive patients appearing to have a greater likelihood of presenting with psychosis or delirium and less likelihood for mood anxiety or substance use. D-dimer levels were higher in COVID-positive patients and patients with COVID had a higher mortality rate. COVID-positive patients were more likely to receive a “second-generation antipsychotic”. Differences between groups in terms of specific psychiatric symptoms were explored. No other sociodemographic or medical differences were found between groups. Discussion/Conclusion: Patients with COVID-19 infection may be at an increased rate for delirium and for symptoms of psychosis. Multiple studies have speculated on mechanisms for such symptoms though findings are inconclusive. This study suggests that simply increased stress during the pandemic is not the driving factor for these symptoms. Patients admitted to medical floors with COVID-19 infection should be screened for delirium and for new-onset neuropsychiatric symptoms.

**Sunday May 05**

### **Psychodynamic Considerations in Long COVID and Functional Neurological System Disorder**

Farah Tan M.B.B.S; Arvind Rajagopalan; Vanessa Mok M.B.B.S MMed (Psych) MRCPsych; David Choon Liang Teo M.B.B.S MRCPsych FAMS (Psychiatry)

Background/Aims: The COVID-19 pandemic shook the world at its outset causing waves of anxiety to ripple through individuals relationships and systems. The syndrome of long COVID later emerged as a sequela comprising a myriad of physical and psychological symptoms. Functional Neurological System Disorder (FNSD) occurring in the context of long COVID is a rare condition that is still being studied. Psychodynamic factors may

predispose precipitate and perpetuate FNSD and may similarly play an etiological role in long COVID. Overemphasizing the neurobiological etiological perspective of long COVID may perpetuate symptoms as clinicians neglect to attend to the psychological contributors to illness. We overview the psychodynamic considerations in FNSD in the context of long COVID. Using an illustrative case of conversion quadriplegia we discuss how psychodynamically-informed interventions may be effective in treating long COVID. Case discussion: A 24-year-old Chinese lady suffered persistent fatigue and exertional dyspnea more than a year after an episode of COVID infection. She had just ended an abusive romantic relationship prior to falling ill. Her physician diagnosed her with long COVID and enrolled her in a clinical trial. However her symptoms persisted despite various trials of medications. She presented to hospital with acute quadriplegia a day after she was informed that she could not undergo a Magnetic Resonance Imaging (MRI) brain scan due to a contraindication dashing her hopes that the scan would reveal a panacea for her illness. She was diagnosed with FNSD following an unyielding organic work-up. She had an anxious predisposition with unconscious psychological conflicts from her upbringing. With long COVID she struggled to function at work. Frustration with her protracted illness precipitated a depressive episode. Losing her last vestige of hope for recovery she presented with conversion quadriplegia her weakness being a visceral manifestation of her helplessness and powerlessness. In the ward she experienced her internist’s proclamation that her weakness was functional as invalidating. The consultation-liaison psychiatry team adopted a non-judgmental and supportive stance seeking to facilitate expression of her emotional struggles and provide her with a validating and secure object to internalize in her fight to regain control of a life that was derailed by COVID and failed relationships. Escitalopram was prescribed to treat her concomitant depressive episode. She made a marked improvement going from being bed-bound to being able to ambulate with assistance during her week-long inpatient stay. After 3 months of outpatient treatment she

returned to her baseline functioning prior to her COVID-19 infection. Conclusions: Psychodynamic factors may play a role in the pathogenesis of FNSD in the context of long COVID. Identifying and addressing these factors may facilitate optimal psychological and physical recovery.

**Sunday May 05**

### **Psychotherapeutic considerations for Alstrom Syndrome with neuropsychiatric manifestations: a case report**

Thanita Pilunthanakul Psychiatry Resident; Arvind Rajagopalan; Lay Ling Tan

Alstrom Syndrome (AS) is a rare autosomal recessive genetic disorder with progressive multi-organ involvement and a life expectancy of around 50 years old. There is currently no available cure or treatment. Psychiatric manifestations of this life-limiting disorder include sleep disturbances major depressive disorder obsessive-compulsive disorder psychotic behavior attention deficit-hyperactivity disorder (ADHD) and/or traits suggestive of autism spectrum disorder (ASD). There is currently limited literature on the management of psychiatric manifestations in AS. We present a case of an increasingly vision-impaired 20-year-old female with AS. She was referred to the psychiatry consultation-liaison team for self-harming thoughts and multiple sensory issues. Overstimulation from specific sensations and traumatic memories has resulted in recurrent difficulties leaving the house and regular emotional meltdowns 2-3 times a week for which she copes by banging cupboards and occasional self-harm. She was found to have neuropsychiatric sequelae to AS with behavioral and psychological disturbances: anxiety and depressive symptoms irritability sensory hypersensitivity and possible ASD features. In the management of this patient we identified significant psychodynamic issues between the

patient and her mother the transference-countertransference matrix between the patient and male and female psychiatrists and the nursing and primary medical team. These issues posed significant challenges in treating the patient. Specifically psychodynamic therapy would have been challenging due to the possible social communication deficits lack of understanding of self and repeated meltdowns triggered by hypersensitivity issues. Other psychotherapeutic needs include addressing core emotional conflicts relational issues possible grief over the progressive loss of function emotional regulation and building distress tolerance for sensory hypersensitivity. Acceptance and Commitment Therapy and Family Therapy as alternatives to psychodynamic psychotherapy could be considered in the context of a patient with a life-limiting disease such as AS with neuropsychiatric manifestations.

**Sunday May 05**

### **Relationship between negative cognitive styles and diet quality in patients diagnosed with depression**

Diana Aguilar MSc; Sarai Gonzalez

Background: Major depressive disorder (MDD) is associated with weight gain difficulty to lose weight and poor diet quality. However the mediators for this association are widely unknown. Negative cognitive styles associated with depression could impair an individual's capacity to select healthy foods. We aim to study the association between negative cognitive styles and diet quality in patients with MDD compared to mentally healthy controls. Methods: We performed a cross-sectional comparative descriptive study at the Center for Affective Health of the Department of Psychiatry at the University Hospital Dr. José Eleuterio González" in Monterrey Mexico. Subjects were divided into cases and controls matched by age and sex. MDD was confirmed using the Mini International Neuropsychiatric Structured Interview.

Furthermore the control group was sex and age-matched and taken from the general population. Sociodemographic clinical and dietary variables were evaluated in both groups. Negative cognitive styles were measured using Cognitive Style Questionnaire-Short Form (CSQ-SF) depressive symptoms using the Beck's depression inventory (BDI) dysfunctional attitudes using the Dysfunctional Attitudes Scale (DAS-SF1 and DAS-SF2) and dietary variables using the Nutricloud software that allows obtaining a diet quality index and the subindices of each subject. Categorical data are summarized in frequencies and percentages and numerical data in mean and standard deviation. Student's T-tests were performed to compare means in quantitative variables; a value of  $<0.05$  was considered statistically significant SPSS version 21 (IBM Armonk NY USA) for Windows 7 was used. Results: Seventy-six subjects were included the majority female (76.32%) with a mean age of 30.34 ( $\pm 10.6$ ) with no statistically significant differences between groups. No statistical significance was observed in the quality of diet between cases and controls however the distribution of food was significantly different there were differences between consumption of carbohydrates ( $44.774 \pm 9.401$   $39.414 \pm 6.939$   $p = .006$   $OR = 1.5839$ .137) and proteins ( $15.521 \pm 3.930$   $18.360 \pm 4.579$   $p = .005$   $OR = -4.789$ -.888). Additionally MDD showed more dysfunctional attitudes ( $41.92 \pm 10.68$   $29.61 \pm 6.508$   $p < .001$   $OR = 8.2516$ .34) and more negative cognitive styles ( $204.05 \pm 27.928$   $167.71 \pm 28.594$   $p < .001$   $OR = 23.4249$ .26). Conclusion: Our findings showed that patients with MDD present dysfunctional attitudes negative cognitive styles and an increased consumption of carbohydrates. These in turn could be mediators of the association between MDD and weight gain. These results need to be further investigated for instance to integrate psychiatric nutrition as part of the therapeutic approach."

## Semaglutide: An opportunity or an obstacle? A literature review and case report exploring the relationship between the popular drug and depression.

Gagandeep Bhatia M.D.; Sruti Patel; Gerardo Ferrer

Background: Semaglutide is a glucagon-like peptide-1 (GLP-1) analog approved for the treatment of type 2 diabetes. The once-weekly subcutaneous semaglutide was approved in the US Europe the UK and Canada for weight management in overweight adults with at least one weight-related comorbidity and obesity. Liraglutide the only other GLP-1 analog approved for obesity by the FDA in 2014 is known to regulate appetite by acting on the hypothalamus in the brain. The most commonly reported side effects are gastrointestinal (GI) discomfort including nausea vomiting diarrhea and decreased appetite with potentially severe adverse events including hepatobiliary disorders and acute pancreatitis. So far no significant psychiatric adverse effects have been reported with semaglutide compared with placebo. However psychiatric adverse effects such as suicidal ideation have been reported in studies on other GLP-1 receptor agonists. Methods: A comprehensive literature search was conducted using PubMed Cochrane and MEDLINE with keywords "Semaglutide" "GLP-1 analogs" "Depression" and "Psychiatric effects". Case presentation: We report a case of semaglutide-associated worsening depression in a 57-year-old female with a psychiatric history of recurrent major depressive disorder and a medical history of obesity. At initial evaluation she endorsed a six-month duration of depressive symptoms including poor appetite which she attributed to being on semaglutide for four months having successfully lost 20 lbs. Since starting treatment with semaglutide she also reported symptoms of decreased gastric motility including nausea and constipation further contributing to the low mood. Vortioxetine was added to her ongoing treatment regimen to target depressive symptomatology. On her 4-week follow-up only mild improvement was reported in her mood with GI symptoms persisting and interfering with her emotional well-being.



Discussion: Although current studies do not incriminate semaglutide for psychiatric adverse effects liraglutide has been associated with depression and suicidality. The majority of these studies exclude people with neuropsychiatric conditions. Historically many anti-obesity agents initially approved for clinical use were subsequently withdrawn from global and regional distribution for side effects including psychiatric disturbances cardiotoxicity and dependency. This suggests a link between appetite suppression and mood through the possible involvement of shared brain regions. Considering the higher prevalence of neuropsychiatric disorders in the obese population compared to the general population it is imperative to assess the drug's neuropsychiatric safety to prevent detrimental effects on a patient's mental health. Further research is warranted to explore the relationship between semaglutide and depression to identify and limit the long-term consequences and impact of anti-obesity medications on social mental and physical health.

**Sunday May 05**

### **Stimulating Response: Methylphenidate use in Patients with Depression**

Christina Spoleti D.O.; Christine Marchionni MD; Gabriel Herbst

Background: Major depressive disorder (MDD) in the older adult population is refractory to many first-line treatments for depression and often requires longer treatment duration and additional therapies. Augmentation of selective serotonin receptor inhibitors (SSRIs) with stimulants has demonstrated efficacy in treating apathy in medically ill cognitively impaired and depressed patients. As such stimulants may prove useful to treat apathetic symptoms in depression. Case Presentations: An 84-year-old female with history of hypertension atrial fibrillation antiphospholipid antibody syndrome chronic obstructive pulmonary disease osteoporosis hypothyroidism and past psychiatric history of anxiety presented

with failure to thrive. Following the death of a family member the patient developed decreased appetite sleep energy and motivation. On psychiatric consultation the patient met criteria for MDD complicated by bereavement. After minimal improvement to augmenting agents of mirtazapine and aripiprazole to previously prescribed sertraline 50 mg daily a risk-benefit analysis was completed with multidisciplinary collaboration between psychiatry internal medicine cardiology and the patient's family. Methylphenidate 5 mg twice daily was started to augment SSRI and address symptoms of apathy. On day 1 of stimulant therapy the patient was more responsive accepting of food and able to sit unassisted. On day 3 she was participating in hospital-based therapies feeding herself and verbalizing needs. On day 7 she was discharged to a skilled nursing facility with plan to taper methylphenidate. A 51-year-old female with history of type 2 diabetes cirrhosis choriocarcinoma in remission and past psychiatric history of MDD presented with failure to thrive. The patient separated from her spouse 2 years prior and developed depressive symptoms including apathy decreased appetite energy and concentration and increased sleep. In the 2 weeks preceding admission she became more withdrawn and neglected daily hygiene needs. On psychiatric consultation she demonstrated poverty of thought scant speech flat affect and psychomotor slowing. The patient was started on sertraline 50 mg daily and a 3 day course of methylphenidate 5 mg daily to address apathetic symptoms and psychomotor slowing. On day 1 of stimulant therapy she was more reactive in affect engaged and spontaneous in speech. On day 3 she participated in hospital-based therapies. The patient was discharged to a short-term rehabilitation facility 1 day after completing the methylphenidate course. Discussion: These cases demonstrate the utility of methylphenidate in depression complicated by apathetic symptoms and medical comorbidities. These cases also highlight the challenging and multifaceted aspects of treating depression in the older adult as it often requires multiple medications and behavioral therapies to return patients to baseline functioning.

Sunday May 05

## The Dual Influence of Sleep and Cognition on rTMS Outcomes in Treatment-Resistant Depression

Ayan Dey M.D.;Ph.D.

Background: Cognitive dysfunction is a key pathological feature of major depression and bipolar disorder that is often overlooked in the diagnosis and treatment of these conditions [1]. Persistent deficits in cognition are common and serve as a mediator of psychosocial and functional outcomes with implications in terms of decreased productivity and delayed return to work further contributing to the economic burden of these mood disorders. Such deficits are associated with reduced quality of life [2] and increased likelihood of relapsing [3]. Purpose: To investigate how the presence of patient reported cognitive deficits and sleep disturbance impacts antidepressant response to rTMS among adults with treatment-resistant major depressive disorder. Methods: Participants completed a course of rTMS with completion of validated measurement scales at baseline 2 weeks 4 weeks and 6 weeks. Results: In our sample of 349 adults referred for rTMS 78.9% and 40.4% of patients reported having moderate or severe attentional deficits and memory complaints respectively. Whereas 25.4 and 41.1% reported moderate or severe sleep disturbance respectively. The presence of subjective cognitive impairment was associated with worse self-reported functional impairment as measured by the WHODAS ( $p < 0.001$ ). Severity of residual perceived attentional deficits was the only significant predictor of disability ( $\beta = 0.379$   $p = 0.005$ ) in a model factoring in age medical comorbidity depression severity and self-reported sleep quality following rTMS. Moreover those without persistent subjective attentional deficits were 3 times more likely to achieve remission following rTMS relative those with such complaints (35.9% vs. 12.8%;  $p = 0.012$ ). Interestingly logistic regression revealed that self-reported sleep quality was a stronger

predictor of remission ( $\beta = 0.373$   $p < 0.001$ ) following rTMS than self-reported attentional deficits. Patients who responded to rTMS reported on average 58.7% improvement in insomnia scores on the HAMD versus 13.7% among non-responders. Conclusions: Overall our results suggest that while improvements in sleep quality are associated rTMS treatment response residual functional impairment and perceived disability following rTMS are more closely tied to residual subjective cognitive deficits.

Sunday May 05

## The heart and its reasons: A Dipex study

Juliano Luna M.D.;M.Sc.; Alicia Navarro de Souza; Maria Luiza Nunes; Antonio Ledo Alves da Cunha

Introduction: Cardiovascular diseases are a major cause of death and incapacity worldwide. In cases of terminal heart failure heart transplantation is the most effective treatment available and a lifesaver one. However experiencing a heart transplantation is a complex process with many impacts in both mental health and quality of life. Although many quantitative studies have been conducted to investigate mental health issues and quality of life among heart transplant patients little attention has been paid so far to illness experiences among this group of subjects. DIPEX International is a unique global collaboration of scholars clinicians and patients committed to enriching our understanding of people's experiences of health healthcare and illness. Since 2019 Brazil is a member of the Dipex collaboration. The Brazilian Healthcare System(SUS) is universal and state funded. It provides access to all sort of high complexity procedures and healthcare intervention to all social classes in spite of Brazil's massive inequality. In this study of Dipex Brazil we conducted a qualitative investigation of illness experiences of heart transplant patients in Brazil's northeast region which at the same time is our country's poorest region but is home of our

second largest medical center. Methods: We did in depth interviews with forty adult heart transplant patients which had been transplanted for at least one year. The sample was constructed according to Dipex guidelines of maximum diversity. All interviews were recorded on video in order to prepare a Dipex module on the topic. All patients have signed a consent form and this study is registered at UFRJ's ethical committee under registration 3.793.751. The data were compiled through reflexive thematic analysis (RTA). Results: The sample obtained was diversely saturated and contained men and women whose ages at transplantation varied from seven to sixty years. There were also a multitude of heart failure causes from lupus to Chagas Disease (endemic in Brazil). After the RTA the key themes identified were: 1. Life and health before the transplant 2. Waiting for the donation 3. Being alive or not tomorrow 4. Medical issues around and after the transplant 5. Becoming a different person after the transplant 6. Coping with permanent health limitations 7. Work and incapacity 8. Religion and Spirituality in the process of recovery 9. Mental health before and after the transplant 10. Life perspectives and second chances Discussion: To our knowledge our study is the first one in Latin America to use this method and this sample size. Some important issues were unveiled by listening to the patients narratives such as dwelling with social vulnerability and having access to good standard healthcare. As with other aspects in Brazilian social relations examples of resilience bonding and community support were also revealed and in some cases they could be called staggering.

Sunday May 05

### **The influence of Parity on Depression in Victims of Intimate Partner Violence: A Descriptive Observational Study in Guayaquil-Ecuador**

Boris Vargas M.D.

Background: Intimate partner violence (IPV) is a significant public health issue that is often linked to depression. Previous research has suggested that parity may act as a protective factor against depression and suicide attempts. However this study aimed to determine the impact of parity on victims of IPV and depression in Guayaquil-Ecuador where the stress of caring for children may act as a burden and worsen symptoms of depression for victims. Methods A descriptive observational study was conducted at the main Gender Violence Prosecutor's office in Florida Guayaquil Ecuador. The sample consisted of 239 individuals (195 women 44 men) who were assessed for depression using the Beck test. The sample was divided into groups based on gender marital status number of children and severity of depression. Results The data analysis revealed that a higher percentage of depression was present in IPV victims with parity. Specifically among those with severe depression 29% of women with children and 18% of men with children were affected compared to 11% of women without children and 14% of men without children. Similarly among those with moderate depression 14% of women with children and 9% of men with children were affected compared to 3% of women without children and 5% of men without children. Finally among those with mild depression 13% of women with children and 16% of men with children were affected compared to 3% of women without children and 5% of men without children. Conclusion While some studies have found that having children can act as a protective factor against depression this was not the case in this study. Financial violence is common in Ecuador and many mothers do not receive economic support from the fathers of their children leading to increased stress and burden. Hormonal and social factors may also play a role in the higher prevalence of depression among women with children. These findings suggest that mental health clinicians should pay particular attention to victims of IPV with multiple children particularly in Latin America.

Sunday May 05

## Using Machine Learning to Optimize Triage of Patients Evaluated by a Telepsychiatry Consultation-Liaison Service

Sam Rashkovich MD student; Wenna Xi PhD; Mohit Manoj Sharma MS; Jyotishman Pathak PhD; Christina Shayevitz M.D.

Background: Telepsychiatry is vital to mental health care delivery in acute care settings especially in the COVID-19 era. The NewYork-Presbyterian (NYP) Telepsychiatry Service is a multi-hospital telepsychiatry consultation hub servicing several NYP hospitals across New York City with traditionally poor psychiatric coverage; it deploys a hybrid model wherein inpatient and Emergency Department patients are assessed by telepsychiatrists or when necessary in-person psychiatric nurse practitioners. Patients may be allocated to in-person evaluation for various clinical and demographic reasons. However the triaging decision making is done manually and hence prone to subjectivity and clinician bias. Developing a data-driven triage algorithm can help improve our understanding of factors associated with reassignment as well as the operating efficiency of the service. Methods: We used data from patients evaluated through the NYP Telepsychiatry Service from 2018 to 2021 at two participating sites (N=3303 visits) to predict having a successful telepsychiatry encounter(primary outcome). Various demographic and clinical predictors including age sex race primary language consult reason consult diagnosis Richmond Agitation-Sedation Scale (RASS) score and historical and acute psychiatric and medical diagnoses were extracted from the electronic health record. We employed multiple machine learning algorithms including logistic regression logistic regression with least absolute shrinkage and selection operator (LASSO) penalty random forest (RF) and extreme gradient boosting (XGBoost) to predict whether patients would require assignment to an in-person provider. The data was split into training and test sets in a 3:1 ratio and all models were trained using five-fold cross-validation on the training set and evaluated

on the test set using the following metrics: area under the ROC curve (AUC) accuracy sensitivity specificity positive predictive value (PPV) and negative predictive value (NPV). Results: The RF model had the highest AUC (0.82 95% CI: (0.77 0.87)) and accuracy (0.91) and was selected as the final model. The most significant predictors included age first psychiatric consult evaluation RASS score schizophrenia spectrum diagnosis acute suicidal ideation/attempt/intentional self-harm and agitation. Conclusion: We developed a clinical decision support algorithm to identify patients that might require triage to in-person psychiatric evaluation. The final RF model achieved good discrimination and excellent specificity (0.99) and NPV (0.91). The algorithm's ability to efficiently identify patients that require in-person evaluation is particularly vital to the triage process. RASS score also emerged as a particularly notable predictive parameter suggesting a broader role for this scale in the future triage and evaluation of psychiatric patients in acute care settings.

Sunday May 05

## Vortioxetine: A Safe Treatment for Depression in a Medically Complex Patient with QTc Prolongation

Sean Lynch M.D.; Seema Quraishi M.D.; Chelsea Boydston M.D.

Background: Depression is a common psychiatric illness with a lifetime risk of 15% in the general population. This risk is elevated in patients with medical illnesses for which the risk is increased as high as 27%. The gold standard medication treatment for depression is classically thought to be serotonergic agents such as SSRIs or SNRIs which have the potential to prolong the corrected QT interval. This can increase the risk for sudden cardiac death- though the risk does vary significantly between agents. Novel agents for depression have been FDA-approved over the past

decade; however there is limited cardiac safety data. This case describes the successful and safe treatment of depression with vortioxetine for a patient with a high cardiac risk and significant QTc prolongation. Case: Our patient is a 30-year-old woman with a medical history of hypertension type 2 diabetes mellitus and chronic kidney disease. She presented to the emergency department with flash pulmonary edema hypertensive emergency and new-onset heart failure. She was admitted to the internal medicine service and psychiatry was consulted to evaluate for depressive symptoms. Her initial score on the Montgomery-Åsberg Depression Rating Scale (MADRS) was 21 consistent with moderate depression. A baseline electrocardiogram (ECG) showed a QTc of 473ms. She was initiated on sertraline 25mg daily; after two doses a repeat ECG showed a QTc of 522ms and sertraline was discontinued. She had a complicated hospital course including a cerebrovascular accident and hypotensive cardiac arrest. After careful discussion with the electrophysiologist a second trial of sertraline was attempted; however repeat ECG showed QTc prolongation. Based on the limited available safety data psychiatry and the electrophysiologist agreed to trial vortioxetine 5mg daily with continuous telemetry monitoring. Her QTc decreased to 481ms and remained below 500ms throughout the remainder of her hospitalization. The patient experienced remission of depressive symptoms prior to discharge (MADRS score at this time decreased to 4). Discussion: Vortioxetine was approved in 2013 for the treatment of major depressive disorder and has a unique mechanism of action via antagonism of the 5HT<sub>3</sub> and 5HT<sub>7</sub> receptors agonism of the 5HT<sub>1A</sub> receptor and weak partial agonism/antagonism of the 5HT<sub>1B</sub> and 5HT<sub>1D</sub> receptors in addition to inhibition of the serotonin reuptake pump. Some studies suggest that vortioxetine does not prolong the QTc interval; however the major studies related to the cardiac safety of vortioxetine were financially sponsored by the pharmaceutical company manufacturing the drug. Prior studies only included healthy adult male subjects limiting the study's generalizability. Despite our patient's sensitivity to QTc prolongation with low doses of sertraline she did

not have any meaningful ECG changes with vortioxetine and responded well to treatment.

Sunday May 05

### **When a suicide attempt results in medical hospitalization: Searching for an evidence-base for decisions about psychiatric admission post-attempt**

Omid Cohensedgh; Breanna Keepers; Peter Shapiro

Background: When patients are hospitalized and medically stabilized on medical services after a suicide attempt their care providers and psychiatric consultants must decide whether to arrange their admission to inpatient psychiatric care perhaps on an involuntary basis. Although the decision to admit the patient seems clear-cut in many cases difficulty may arise when harmful behavior might have occurred as an accident while intoxicated or impulsively or when the patient once hospitalized consistently denies suicidal ideation and opposes psychiatric admission. Bearing in mind the scarcity of psychiatric inpatient beds and respect for patient autonomy we should seek to reduce admissions that will not improve patient outcomes. We conducted a literature search and narrative review aiming to (1) characterize patients seen by psychiatry consultants in the general hospital after a suicide attempt (2) identify existing guidelines for decisions about their psychiatric disposition and (3) review evidence for the appropriateness of these decisions. Methods: We searched the literature for original research studies using PubMed and SCOPUS from inception to January 2023 to conduct a narrative review. Keywords included "suicide attempt" and "consultation-liaison." Inclusion criteria included 1) original research; 2) published in English or available as an English language translation; 3) patients aged 18 and older and admitted to the hospital after a suicide attempt; 4) general



inpatient medicine setting; and 5) management was recommended by CL psychiatrists. Results: 44 papers were screened and 24 papers meeting the inclusion criteria were included in the review. Risk factors for suicide attempt included older age; male gender; living alone; single divorced or widowed; history of suicidal ideation; prior suicide attempt; functional impairment; stressful life events; substance use (especially alcohol); lower socioeconomic status; and physical illness especially malignancies with poor prognosis. Various studies highlighted risk associated with major depressive disorder dysthymia personality disorders schizophrenia and mood disorders in general. There is no consensus on preferred suicide risk rating instruments and no current standard of care for psychiatric consultants' management of patients after a suicide attempt though a few interventions were explored. Discussion: Extant literature on psychiatric consultation in the general hospital for patients admitted after a suicide attempt is congruent with findings about risk factors for suicide in the general population including demographics precipitating factors and psychiatric diagnoses. However for this specific population the literature provides little guidance for decisions about admission to inpatient psychiatry vs recommendation of outpatient follow-up and almost no evidence that psychiatric admission influences their risk of subsequent suicide attempt or suicide mortality.

**Sunday May 05**

### **2024 Medical Student/Resident Poster Competition Award Ceremony (Not for CME)**

The 2024 Annual Meeting medical student poster competition award ceremony. The poster competition is judged across five categories with one winner from each category - community psychiatry clinical case studies curriculum development patient-oriented care and epidemiology and psychosocial and biomedical research. Community Psychiatry: Kai Y. Huang

from the University of Alberta Clinical Case Studies: David Eckles M.D. from Tripler Army Medical Center Curriculum Development: Kaitlin Hanss M.D. M.P.H. Patient-Oriented Care and Epidemiology: Ezra Smith B.S. from Texas Tech University Health Sciences Center School of Medicine Psychosocial and Biomedical Research: Kevin Yang from the University of California San Diego

**Sunday May 05**

### **1-year Psychiatric Risks in Eating Disorders Among Young People: A Real-World Analysis**

Angela Liu M.D.

**INTRODUCTION:** Eating disorders (EDs) are surging in the U.S. and worldwide. The prevalence of co-occurring mental health problems in youths with EDs are not well understood even as undertreated mental health comorbidities are known to portend worse ED outcomes. To address this critical gap in research we used real-time electronic health records (EHRs) to estimate the rates of psychiatric comorbidity in children adolescents and young adults with ED. **METHODS:** We conducted a retrospective cohort study using the TriNetX databases a large deidentified federated multi-country network of healthcare organizations with access to real-time EHR dataset. We curated a 1:1 propensity score matched cohort of people with EDs (study cohort n=14554) identified by International Classification of Diseases-10 Clinical Modification (F50) and randomly selected peers in the database (control cohort n=7850961) between 1/1/2022 and 12/31/2022. The propensity score was estimated on the basis of age sex and ethnoracial covariates. Our primary outcomes were 1-year risk of psychiatric comorbidities represented by the odds of 18 co-occurring psychiatric diagnoses in the 365 days following the date of first ED diagnosis. Adjusted odds ratio (aOR) and 95% confidence

interval (CI) of co-occurring psychiatric conditions in the ED cohort compared to controls were estimated using multinomial logistic regression. RESULTS: Our sample encompassed 14554 people with EDs (11555 females mean age 15.9 years; 68.6% White) and 14554 matched controls. In the past 365 days of ED diagnosis co-occurring psychiatric illnesses were prevalent in people with EDs among which mood disorders (51.4%) generalized anxiety disorder (GAD 30.4%) and attention-deficit/hyperactivity disorder (ADHD 17.2%) are the highest. After propensity score matching people with ED with peers without ED we found that EDs were consistently associated with mood disorders aOR [95% CI] 4.86 [4.61 5.13]; GAD 4.66 [4.37 4.98]; OCD 5.74 [4.98 6.62]; panic disorders 1.50 [1.34 1.67]; specific phobia 1.59 [1.45 1.74]; PTSD 1.51 [1.39 1.63]; adjustment disorder 1.29 [1.14 1.45]; personality disorders 3.73 [3.18 4.39]; borderline personality disorder 3.71 [3.11 4.42]; gender dysphoria 2.80 [2.39 3.27]; ADHD 2.58 [2.39 2.77]; autism spectrum disorder 4.68 [4.10 5.33]; substance use disorder 2.04 [1.84 2.25]; cannabis use disorders 2.33 [2.03 2.67]; alcohol use disorders 2.34 [1.88 2.91]; nicotine use disorders 1.48 [1.28 1.70]; and other stimulant use disorders 1.95 [1.29 2.94]. DISCUSSION: This large population-based analysis of real-world administrative claims suggests psychiatric comorbidities are highly prevalent in people with EDs and may indicate a treatment gap in this understudied population. Results from this study may help inform more comprehensive interventions by clinicians and policy makers to better serve individuals with ED.

Sunday May 05

## **A cross-sectional study of dementia disability and health service utilization in China**

Yueqin Huang M.D.; WU Wenlei; Zhaorui Liu;  
TINGTING ZHANG

Objectives: To describe the disability rates of dementia in population and in patients and explore psychosocial risk factors of disability in community residents aged 65 and over in China. Methods: The study calculated the weighted coefficients based on a complex sampling design of stratified multistage unequal probabilities. Disability rates of dementia in population and in patients for different comorbidities groups were calculated. And the treatment and admission rates of dementia patients with disability in the last 12 months were also calculated. A comparison of WHODAS 2.0 scores among comorbidities groups was made by ANOVA. Chi-square tests were used to describe the distribution of disability rates of dementia in the last 12 months of dementia patients with disability. Results: 1. The weighted disability rate of dementia was 2.15% in population and 38.64% in patients. The disability rates of comorbid dementia in population and patients were higher than those of patients with only dementia. 2. The scores of WHODAS 2.0 for the 7 comorbidity groups were as follows: other mental disorders comorbid physical diseases (23.11±9.90) dementia comorbid other mental disorders and physical diseases (22.85±11.06) dementia comorbid physical diseases (19.76±9.47) other mental disorders (18.00±8.34) physical diseases (17.27±8.12) dementia (14.78±7.86) and healthy group (13.52±4.22). 3. For dementia disability in population multivariate linear regression analysis of WHODAS 2.0 scores showed that economic status gender age and treatment in the last 12 months were statistically significant with standardized regression coefficients of 0.12 0.12 0.10 and -0.19 respectively. Multivariate logistic regression analysis of risk factors for dementia disability in population showed that female (OR=2.81) and treatment in the last 12 months (OR=2.38) were statistically significant. 4. For dementia disability in patients multivariate linear regression analysis of WHODAS 2.0 scores showed that residential area gender and treatment in the last 12 months had statistical significance with standardized regression coefficients of 0.22 0.20 and -0.24 respectively. Multivariate logistic regression analysis of risk factors for dementia disability in patients showed

that female (OR=4.88) urban resident (OR=4.03) and treatment in the last 12 months (OR=2.93) were statistically significant. Conclusions: The disability rates of comorbid dementia in population and patients were higher than those of patients with only dementia. Economic status gender age and treatment in the last 12 months are factors that influenced the severity of dementia disability in population; female and having treatment in the last 12 months were associated with the occurrence of dementia disability in population.

**Sunday May 05**

### **A Prediction of Time to Competency Restoration with BPRS Evaluations in Patients with Schizophrenia**

Aderonke Oyetunji MD MBA; Jared Bruce; Jianwei Jiao; Alexis Humenik

**Introduction** Psychotic disorders are the most common diagnoses amongst individuals adjudicated incompetent to proceed in state hospital facilities. The Brief Psychiatric Rating Scale (BPRS) is a clinician-rated assessment for quantifying psychotic symptoms within different domains. It has been validated as a transdiagnostic tool that effectively measures symptom severity and change in symptom status. This project aims to determine what BPRS domains are useful predictors of time to competency restoration among patients with Schizophrenia admitted to a forensic unit.

**Method** We completed a chart review of male patients with a diagnosis of Schizophrenia or Unspecified Schizophrenia Spectrum and Other Psychotic Disorder in a state psychiatric hospital. Patients were excluded if they were transferred to another facility or did not participate in the assessment on admission. Subscales on the BPRS assessments were categorized into six domains (Affect Resistance Positive symptoms Negative symptoms Activation and Disorganization) which were used to predict time to competency restoration (TTCR). Spearman's

rho and Cox regression analyses were employed using IBM SPSS v.29 and statistical significance was set a priori at  $p < .05$ . Results A total of 129 participants predominantly white (66.7%) with a median age of 37 years were included in the study. Participants had a median TTCR of 132 days and length of stay of 203 days. Higher disorganization upon admission was associated with longer TTCR ( $r(126) = .460 p < .001$ ). Longer TTCR was also associated with more positive symptoms ( $r(125) = .272 p = .002$ ) and increased activation ( $r(126) = .240 p = .006$ ). A multivariable model predicting TTCR retained race ( $p = .020$ ) affect ( $p = .027$ ) and disorganization ( $p = .001$ ). Overall results from both analyses show that disorganization symptoms significantly contribute to the unique variance in TTCR. Conclusion Disorganization is a primary feature of cognitive dysfunction in schizophrenia and is the strongest predictor of TTCR. Future research may wish to examine the predictive value of objective neuropsychological tests and whether cognitive remediation therapy reduces TTCR. Lastly future research is needed to confirm the clinical value of clinician-administered rating scales when predicting TTCR.

**Sunday May 05**

### **A preliminary report of the first psychiatric emergency team services based mental health welfare center in an urban-rural complex city in South Korea**

Sojin Kim; Tak Youn; Young Min Cho

**Introduction:** In South Korea there was no officially independent mental health and suicidal emergency system in local catchment areas funded by the government and operated by local mental health welfare centers until 2019. In accordance with the 'Priority Act for the Protection and Rehabilitation of Persons with Severe Mental Illness' announced by the Ministry of Health and Welfare of the Republic of Korea in May 2019 the first team for mental health and suicidal

emergencies operated by the city mental health welfare center was established in the Paju City (population 465617; 2020 year) on behalf of 31 metropolitan and suburban cities and counties in Seoul and Gyeonggi metropolitan area in South Korea. Objectives: This study is the preliminary report of the Paju City psychiatric emergency team for 3 years from Jul. 2020 to Jun. 2023. We investigated the main cause of compulsory emergency admission to psychiatric hospitals as well as the demographic characteristics of individuals in psychiatric emergency cases. Methods: A total of 630 (130 cases/year) psychiatric emergencies occurred over three years. All psychiatric emergencies reported to the Paju City Mental Health Center were received through police fire departments and community centers from July 2020 to June 2023. In all instances whenever an emergency call was made a psychiatric emergency team was promptly dispatched to the scene and alongside the police conducting an assessment. The Korean Psychiatric Intervention Crisis Assessment Tool (CRI) was used to assess the severity of psychiatric emergencies. All data were analyzed with SPSS. Results: In all age groups except for those in their 20s men were more likely to report to the emergency rescue team. The percentage of emergency cases requested by the police has been steadily increasing over the past three years. In the first year of implementing the emergency system numerous emergency cases related to recruitment were requested from the town office. However the percentage of recruitment cases handled by the police increased year after year. The percentage of cases where police intervened due to the risk of self-harm increased from 52.66% to 64.44% year after year. The percentage of committing violent acts recently has also increased from 13.61% to 36.89%. The lack of a family support system seemed to be more closely associated with psychiatric emergencies and compulsory admissions. A history of psychiatric treatments hallucinations and violent behavior is also important but the chronicity of mental illness does not correlate with psychiatric emergencies. Conclusions: This result is a preliminary report of the Korean psychiatric emergency systems in one urban-rural complex area the Paju city in Seoul

and Gyeonggi metropolitan area in South Korea. Additional analysis and investigation are needed to systematically establish our country's and metropolitan area's psychiatric emergency system.

**Sunday May 05**

### **Addressing the Knowledge Needs of Family/Friend Carers about Driving Cessation with the Driving and Dementia Roadmap**

Mark Rapoport MD FRCPC; Elaine Stasiulis PhD; Gary Naglie MD FRCPC

Background: Family/friend carers (FCs) in addition to people with dementia (PWD) generally feel ill-equipped to manage the emotional and practical challenges of driving cessation. To support FCs and other affected individuals by providing them with the knowledge to guide them through this major transition we developed and disseminated the Driving and Dementia Roadmap (DDR) ([www.drivinganddementia.ca](http://www.drivinganddementia.ca)). The DDR is a comprehensive evidence-based website comprised of information and tools (e.g. videos worksheets) uniquely directed to FCs PWD and healthcare providers. In this poster presentation we report on early survey results of FCs' perspectives of using the DDR. Methods: All DDR users including FCs were invited via a pop-up message that appeared as they were exiting the DDR to participate in an online survey about the DDR. Participants were asked about the knowledge they gained and changes in confidence attributed to using the DDR as well as their satisfaction with aspects of the DDR. Descriptive statistical analysis was conducted. Results: To date 23 FCs completed the surveys. Almost half (47.8%) of the FCs were children of the PWD and 17.4% identified as the spouse/partner. The driving status of the PWD they were caring for was evenly divided with 47.8% still driving and 47.8% no longer driving (4.3% did not respond). In

regards to knowledge gained about driving cessation close to half or more FCs rated most DDR topics as providing new knowledge such as “reporting and licensing” (73.9%) “recognizing when driving becomes unsafe” (60.9%) “having conversations about giving up driving” (52.2%) and “transitioning and planning ahead” (52.2%). This gain in knowledge was reflected in FCs’ reports of having somewhat or much more confidence about “helping the PWD to make the decision to stop driving” (78.2%) “initiating conversations about driving” (73.9%) “navigating licensing and reporting” (61.9%) as well as “helping the PWD maintain their mobility” (52.1%). However although 47.8% FCs rated the topic “managing when the PWD won’t stop driving” as new knowledge 47.8% indicated having much less less or no change in confidence about this issue. All characteristics of the DDR were rated highly (satisfied or very satisfied) by over 80% of participants with “trustworthiness of the DDR” (91.3%) and “clarity of information” (95.7%) receiving the highest scores. Conclusion: The DDR appeared to effectively address FCs’ knowledge and confidence about some of the key issues associated with driving cessation – recognizing and making the decision to stop driving when driving becomes unsafe as well as planning ahead by having conversations about driving. However early results also suggest that knowledge and strategies to better support FCs to manage when the PWD continues to drive requires further attention.

Sunday May 05

## Applying Machine Learning Models to Existing Food Insecurity Screenings: An Exploratory Data Analysis

Megan Flores; Stephanie Rolin; Chelsey Recendez

Background: Food insecurity significantly increases the risk of anxiety and depression. While hunger relief organizations exist to help address this issue persons experiencing food insecurity may avoid seeking nutritional

assistance due to the subjective nature of the hand-scored interview-based screening techniques used by many hunger relief organizations. This type of screening has been associated with long waiting times inconsistent documentation requirements (e.g. proof-of-identity) and degrading feelings of compulsory gratitude. Updated food insecurity screening practices that rely on objective measures could help address these concerns. Objective: This exploratory data analysis sought to utilize machine learning models to predict an individual’s categorization of food insecurity using objective measures as accurately as hand-scored evaluations. Methods: This study is based on data from the United States Census Bureau’s Current Population Survey Food Security Supplement 2021 dataset. Inclusion criteria for persons included 1) being a U.S. civilian 2) being in a noninstitutionalized population and 3) being age 16 years or older. This study analyzed each participant’s objective factors known to be associated with food insecurity (such as household income) and subjective survey responses to the Food Security Supplement questionnaire (which asks participants for their recent experience in obtaining and consuming food) to create the final machine learning models that predicted a participant’s food insecurity score (ranging from “Very Low Food Security” to “Very High Food Security”). Objective factors were selected based on a review of the literature. In total 71472 entries with valid food insecurity assessment scores were randomly divided into a 75% train/validation split in which 75% of the data was used to create the machine learning models and 25% of the data was used to test whether these models were effective. The final generated models were 1) ordinary least squares regression 2) hybrid feature selection regression and 3) random decision forests. The success of each generated model was assessed by the percentage of correct predictions and root mean squared logarithmic error. Results: Each model’s predictive capabilities were significantly improved by the addition of objective factors rather than only subjective survey factors. The most successful machine learning model was a bagging random forest tree model that correctly predicted



97.65% of food insecurity scores in the validation dataset. Conclusion: Machine learning algorithms were capable of accurately predicting food insecurity assessment scores. Future research testing the viability of these machine learning models could evaluate whether food insecurity can be screened without an interviewer present and if technology-based screening techniques can decrease anxiety and depression among food-insecure populations by improving access to nutritional resources.

Sunday May 05

### **Beyond access and utilization: a systematic review evaluating quality of psychiatric care for immigrant and limited English proficiency populations**

Sorabh Singhal MD; Lizzie Mause; Marie St. Pierre; Allison Dempsey Ph.D.

Background: Social determinants of health (SDH) are a Priority Research Area for the National Institute of Mental Health. Within this framework immigrant and limited English proficiency (LEP) populations encounter unique challenges including structural and cultural barriers to care. While past systematic reviews address access and utilization challenges literature on the quality of psychiatric healthcare delivery for these populations is comparatively limited. This systematic review seeks to augment existing literature by identifying gaps in psychiatric healthcare delivery for these vulnerable patient populations. Methods: The systematic review was registered with PROSPERO and utilized the Covidence software to track progress. Four databases were queried: PubMed PsycINFO Web of Science and CINAHL. The search strategy included keywords and MeSH terms from three categories: 1) immigrant and LEP 2) mental health and 3) healthcare quality. Inclusion criteria encompassed immigrant or LEP patients with a mental illness a relevant comparison group and

outcome measures focusing on the delivery or quality of psychiatric care. Studies without original data single case reports and expert opinions were excluded. Two independent reviewers completed the screening process with in-person meetings to resolve discordances. Results: The initial search yielded 2860 studies narrowing to 65 after deduplication and abstract screening. Ultimately 17 studies were included (Cohen's Kappa = 0.67). Spanning 2010-2022 12 studies addressed LEP and 5 immigration status. Outcome variables included involuntary psychiatric hospitalization (n=8 studies) symptom management (n=4) psychiatric medication use (n=3) referral to psychiatry (n=1) and length of hospitalization (n=1). Notably immigrant and LEP populations had a higher rate of involuntary hospitalization in seven of the eight studies. Study populations responded more favorably to treatment in terms of symptom management in all studies. Mixed results were found for psychiatric medication prescription rates referrals to psychiatry and length of hospitalization. Conclusion: This review originally aimed to identify care disparities for immigrants and LEP populations uniquely focusing on psychiatric healthcare delivery rather than access and utilization. Notably our findings highlighted that current outcome measures remain tangentially related to quality of psychiatric care. Thus there is insufficient data to determine if an established gap in care delivery exists. For example the identified higher involuntary hospitalization rate could be attributed to implicit provider bias or barriers in accessing outpatient care. Established psychiatric quality metrics as outcome variables such as medication monitoring adherence and mental health assessment rates are needed to better evaluate quality of care in future studies. There were no established research funding sources.

Sunday May 05

## Beyond Barbie: A call for use of representative samples in eating disorders research

Gloria Lee M.D.; Seung-Hee Hong; Jennifer Medicus; Laura Fochtmann M.D.

**Background:** Eating disorders are often seen as illnesses of young White women. However eating disorders occur in individuals of all genders races ethnicities and age groups. Our objective was to assess whether research on anorexia nervosa (AN) bulimia nervosa (BN) and binge-eating disorder (BED) is likely to be applicable to all individuals with these disorders. **Method:** We used articles identified as part of the systematic review that served as the basis for the American Psychiatric Association's Practice Guideline for the Treatment of Patients with Eating Disorders. Information about each study was taken from evidence tables that were used in guideline development. Summary statistics were calculated using Excel. **Results:** The average ages of study participants were 19.8 25.5 and 41.0 years for AN BN and BED respectively. Of trials that reported gender (129/136; 94.9%) the sample was limited to females in 69 studies (42.8% AN 79.5% BN 38% BED  $p < 0.001$ ). No studies reported numbers of LGBTQ+ participants. Race and ethnicity were reported less often than gender. Data was available in 11 of 37 AN studies (29.7%) and 15 of 49 BN studies (30.6%) as compared to 31 of 50 BED studies (62%;  $p < 0.05$ ). Study characteristics also affected sample generalizability. Research conducted in the US or Canada was more likely to include men as well as women (57.4% vs. 35.4% in other studies) and report race/ethnicity (70.4% vs. 23.2%). Funding source also affected sample diversity with 62.5% of industry- and 53.3% of government-funded studies having mixed gender samples as compared to other studies (31.3%). Race/ethnicity was reported in 66.7% 57.8% 25% of studies respectively by funding source. Proportions of mixed gender samples and reporting of race/ethnicity have increased over time (18.2% and 21.2% respectively before 2000 38% and 42% from 2000 to 2009 and 66% and 54.7% since 2010). Finally studies rated as having a low to

moderate risk of bias (RoB) were more likely to have a mixed gender sample (64.9%) than those rated as having a high RoB (36.2%) but reporting of race/ethnicity did not vary with RoB (42.6% for high RoB vs. 43.2% for low/moderate RoB). **Conclusion:** A substantial proportion of studies on eating disorders continue to be limited to younger participants and women. Furthermore race and ethnicity are often unreported. Recent studies in the US and Canada those with low/moderate risk of bias and those funded by industry or governmental agencies may be more likely to include men or describe the race/ethnicity of their samples. In interpreting research on eating disorders clinicians should be mindful that findings may not be generalizable to older individuals men LGBTQ+ individuals and historically under-represented racial and ethnic groups. Use of representative samples is crucial in future research on eating disorders.

Sunday May 05

## Breaking the Silence: Suicidal Crisis Syndrome in Black Youth

Yasir Masood M.D. M.P.H.; Eyuel Terefe M.D.

**Objective:** Evaluate and manage suicide risk by accurate and routine implementation of a scientifically proven risk assessment in Black youth. **Background:** Suicide ranks as the leading cause of death among adolescents and young adults in the United States.<sup>1</sup> It is concerning as children and adolescents aged 5 to 11 make up 15% of the population black youth accounted for a 37% of all juvenile suicides between 2003 and 2011.<sup>2</sup> A new concept called Suicidal Crisis Syndrome (SCS) is proposed to improve the assessment of pre-suicidal psychopathology aiding in predicting suicidal behavior. However there is a lack of research specifically focused on identifying risk factors for Suicide Crisis Syndrome in black youth. Suicidal crisis syndrome (SCS) refers to a state preceding suicide characterized by cognitive instability along with behavioral changes triggered by real or

perceived threats. Suicidal crisis syndrome (SCS) a presuicidal mental state characterized by affective and cognitive dysregulation along with changes in behavior in response to a real or perceived danger.<sup>3</sup> Methods: Literature review was performed via searches in various data-bases (PubMed MEDLINE Ebsco and ProQuest and Scopus) from January 2018 to December 2022. Following keywords were used African American adolescents/black youth suicide suicide risk factors suicide prediction suicide prevention. Results: Suicide among black adolescents has a distinct origin highlighting the critical need of assessment tools that fully understand the complex nature of suicidality in black youth. There is a paucity of research that focuses on the suicidal crisis syndrome prevalent in black youth. It is recommended to introduce Suicide Crisis Syndrome (SCS) as a category in DSM-V following prediction validation implemented into therapeutic practice. Conclusion: The risk of suicide in Black youth are distinct in etiology from adolescents of other racial/ethnic groups due to a combination of lower levels of traditional markers of risk (such as psychiatric diagnoses/symptoms) and the wide variety of socioecological suicide risk factors. Suicide-Crisis Syndrome may present an opportunity to objectively measure the current pre-suicidal emotional and mental state by validated clinical tools whereas past suicide attempts and other classical suicide risk factors provide only marginal improvement of diagnostic accuracy and minimal incremental prediction of future suicide attempts.

Sunday May 05

## **Bridging the Gap: Results of a Survey on Equity Diversity and Inclusion in Clinical Care**

Nikhita Singhal M.D.

Background: Given the diverse populations we serve it is essential for clinical work to take into

account the social determinants of health and systemic barriers to care and also to address learner and faculty safety in light of power imbalances working within institutions medical systems and communities. In recognition of these principles the University of Toronto's Department of Psychiatry established a cross-divisional Advisory Council for Equity Diversity Inclusion Indigeneity and Accessibility (EDIIA) in Clinical Care that aims to foster promote and advocate for clinical and academic innovations related to racialized minorities Indigenous people LGBTQ+ people women and other marginalized populations and to maximize the impact of these activities across the Department and its affiliated hospitals. Methods: As one of the first steps toward meeting its mandate the Council launched a survey in November 2021 with the aim of identifying gaps priorities and existing resources in clinical care offered by services affiliated with the Department. The survey was distributed to all Departmental members and included questions organized around three key areas: (1) ensuring access to care for equity-seeking and underserved populations; (2) service gaps for Black and Indigenous communities; and (3) measurement-based care from an EDIIA lens. Results: The survey received a total of 211 responses from Departmental members across all 7 divisions and most affiliated hospital sites between November 2021 and May 2022. Of those that responded 87.2% were faculty members 8.7% were residents and 4.1% were fellows. Most respondents perceived their primary division as supporting encouraging or facilitating their engagement in EDI activities to at least some degree; similarly most indicated their primary hospital site or clinical setting was attending to EDI gaps in clinical care at least some of the time. Additional themes emerging from content analysis of free-text responses pertained to overarching topics (e.g. provider wellbeing/support training systems issues user engagement measurement) as well as specific populations (e.g. refugees and uninsured individuals children and youth seniors). Respondents also shared examples of exemplary services addressing EDI issues individual actions taken to advance EDI principles in daily practice and expected actions from their hospital/division

to advance EDI principles in clinical care. Conclusions: Results from the survey helped inform the Council's preliminary recommendations and ongoing areas of focus which include ensuring access to care via specific strategies tailored to specific equity-seeking and underserved populations (with bottom-up user engagement) sustainability of existing EDI-related programs consistent collection of sociodemographic information at intake across hospitals more EDI training opportunities diversity and representation of clinicians and funding support.

Sunday May 05

### **Bulimia Nervosa and Cardiovascular Risks: A Longitudinal Study in Taiwan**

Cheyin Lin; Mei-Chih Tseng; YUHSUAN SHAO; Hung-Yi Liu

Background: Bulimia nervosa (BN) characterized by binge-eating cycles and subsequent restrictive eating or purging induces metabolic alterations electrolyte imbalances and endocrine disruptions potentially elevating cardiovascular risk. This study explores cardiovascular complication incidence and risk in a nationwide cohort of Taiwanese patients diagnosed with BN. Methods: Over an 11-year period this cohort study analyzed population-based health insurance data for 10838 patients with BN and their 1:10 matched controls without eating disorders. Matching criteria included propensity scores for sex age residency socioeconomic status and year of diagnosis resulting in 119218 individuals. The study enrolled individuals aged 10-59 years with a first-time diagnosis of BN from psychiatrists between 2011 and 2021. Outcome measures included major adverse cardiovascular events (MACE) and composite cardiovascular diseases encompassing congestive heart failure stroke acute myocardial infarction ischemic heart diseases conduction disorders inflammatory heart disease valve disorder cardiomyopathy

cardiac arrest hypotension and atherosclerosis. Kaplan–Meier curves were utilized to estimate cumulative cardiovascular events. Following adjustments for basic characteristics psychiatric comorbidities and physical comorbidities (including hypertension hyperlipidemia and diabetes mellitus) Cox proportional regression was employed and a risk model with death as a competing event was developed to assess cardiovascular risk in the BN group compared to controls. Results: A total of 611 patients with BN experienced cardiovascular diseases with 324 encountering MACE. Cumulative incidence rates for cardiovascular diseases and MACE in the BN group were 10.18% and 5.54% at the 10-year follow-up. Compared to the control group the BN group had a significantly higher risk of cardiovascular disease (adjusted hazard ratio [HR]: 1.12; 95% confidence interval [CI]: 1.02-1.23) and MACE (adjusted HR: 1.35; 95% CI: 1.18-1.54). When comparing sexes a significant increase in the risk of both cardiovascular diseases and MACE was observed in females but not males in the BN group. Adjusted HRs for MACE and cardiovascular diseases significantly increased in the first 24 months and over 60 months after diagnosis. Regarding specific cardiovascular diseases a significantly higher risk was observed only for cardiomyopathy (adjusted HR: 2.54; 95% CI: 1.01-6.39) and hypotension (adjusted HR: 2.56; 95% CI: 1.64-3.99). Conclusions: This study highlights a heightened risk of MACE and cardiovascular disease especially hypotension and cardiomyopathy in individuals with BN. It underscores the need for prolonged cardiovascular monitoring particularly in females with a history of BN. This study was supported by grants from the National Science and Technology Council Taiwan and Taipei Medical University.

Sunday May 05

### **Characterizing a novel Restoration to Trial Fitness Program in an Academic Community Hospital setting**

Carolyn Shima MD; Julia Chael; Kristen Jacobson PhD; Richard Cockerill MD

Background: There is a high prevalence of mental illness among individuals who interact with the criminal justice system. The referral rate for forensic psychiatric treatment has increased over the past several years with a 76% increase in forensic admissions noted across 35 states from 1999 to 2014. Over this same period there was a 72% increase in admissions for patients deemed unfit to stand trial who require restoration treatment to resolve their charges. A recent meta-analysis found an 81% restoration rate with a median length of stay of 146 days. The gold standard for time to restoration to fitness is within 90 days. The current system for restoration to trial fitness is in crisis due to a critical shortage of available restoration beds. To address these problems the University of Chicago Medical Center and the Illinois Department of Human Services (IDHS) embarked on a pilot project to allow our community-based inpatient psychiatric hospital to create a novel restoration to trial fitness program. The goal of this study is to describe the characteristics and outcomes of patients who completed the program between December 2020 and June 2023. Methods: IRB approval was obtained for this retrospective chart review study. Data on fitness determination time to determination patient demographics charge type/severity and psychiatric diagnoses were extracted from medical charts and IDHS records. Characteristics of patients who did and did not achieve restoration to fitness were compared using chi-square and t-tests. Results: Patients were aged 18-71 (56% female 60% non-Hispanic White). Most (76%) had history of prior arrest and 60% were currently facing Class 3 or 4 felony charges. The majority (82%) had a psychotic disorder. Almost 75% (N=69) were restored to fitness. Patients who achieved fitness were in treatment fewer days (M=86.5 SD=65.1) than patients deemed unlikely to be fit (N=24 M=143.1 SD=83.9;  $t(91)=3.36$   $p=.001$ ). There were no gender differences ( $X^2=0.17$   $df=1$   $p=.68$ ) in fitness determination. However patients who achieved fitness were younger (35.6 vs 44.9;  $t(91)=3.15$   $p=.002$ ) and more likely to be non-

Hispanic White (67.1% vs 39.1%;  $X^2=5.67$   $df=1$   $p=.017$ ) than patients unlikely to be fit. Cognitive disability was reported in 50% of patients unlikely to be fit but in <2% of patients who achieved fitness. Conclusion: This study provides promising evidence that restoration to fitness can be achieved in a majority of patients receiving inpatient psychiatric care outside traditional state hospitals. Moreover restoration can be achieved within the gold standard of 90 days. Cognitive disability older age and factors associated with minority status are some of the characteristics that may predict treatment success.

Sunday May 05

### **Civic Engagement and Mental Health of Asian Undergraduates in the U.S. During COVID-19: A Survey Study**

Mara Xiong; Kai Huang; Huiqiong Deng

Background: The onset of the COVID-19 pandemic predicted an increase in mental health problems for undergraduates. This increase is especially significant for undergraduates of color. To date however little research has examined the relationship between civic engagement and mental health. This survey study looked at the civic engagement and mental health of Asian undergraduates in the U.S. during COVID-19 a period marked by frequent protests and prominent displays of anti-Asian racism. Examining civic engagement during an emotionally distressing time for many Asians offers potential avenues for improving mental health disparities in a traditionally marginalized population. Methods: Adult undergraduate students who self-identified as Asian were recruited nationally through a third-party survey distributor. Civic engagement and its effects on mental health were assessed through a series of five questions. These questions asked about general participation in civic engagement ways of



engaging in the civic process during the pandemic reasons for not engaging in civic activities and the degree to which civic engagement affected mental health. Results: Analysis included a final dataset of 488 undergraduates (278 cisgender women; 356 U.S. born) in the U.S. 267 participants (54.7%) reported an increase in civic engagement since COVID-19 and 198 (40.6%) reported that anti-Asian hate was a driving factor in increased civic engagement. 375 participants (76.8%) reported either voting attending a rally supporting a political candidate joining a civics-related organization contributing funding/resources/time to a person or organization aligned with their values or otherwise participating in a civic engagement activity not listed in the survey. Amongst those who engaged in civic activities during the pandemic 122 participants (32.5%) reported that civic engagement worsened their mental health and 147 participants reported that civic engagement did not impact their mental health (39.2%). Notably 106 participants (28.3%) reported that civic engagement improved their mental health. Conclusions: While the majority of survey participants did increase their civic engagement during the pandemic this engagement was not necessarily a direct result of anti-Asian racism. Other events happening during the pandemic (e.g. the 2020 election COVID restrictions) could explain this disparity. The results suggest that civic engagement may continue acting as a safe space for Asian undergraduates to advocate important causes. Future research should focus on specific factors associated with worse mental health related to civic engagement for some Asian undergraduates and accordingly what can be done to support them.

Sunday May 05

### **Comparing Trainee and Non-Trainee Perspectives on Caring for Psychiatric and Substance Use Disorder Patients in Two Academic Emergency Departments**

Rushali Kothari; Mano Senthil; Dion DePra MD; Alan Lewis M.D.;Ph.D.

Patients with psychiatric or substance use disorders represent a substantial proportion of total individuals presenting to emergency departments (EDs). There are many potential barriers to quality care for these patients in EDs including high wait times stigmatization of mental health problems lack of ED provider training and limited availability of specialized psychiatric consultants. Thus it is important to understand how ED providers both during and after training perceive caring for this patient population. Clearer understanding of this question will identify focused educational and resource supports that may be addressed by collaboration with psychiatric colleagues. To address this goal we used REDCap to survey emergency medicine resident physicians and post-training practitioners (attending physicians nurse practitioners and physician assistants) at Vanderbilt University Medical Center (VUMC Nashville TN) in 2022 with a follow-up study at Albany Medical Center (AMC Albany NY) in 2023. Here we present the aggregated results across the two studies. We received responses from 48 resident physicians (34 from VUMC 14 from AMC) and 81 post-training practitioners (63 from VUMC 18 from AMC) and analyzed responses using descriptive statistics. Most practitioners reported some training in emergency psychiatry (83% classroom didactics 35% simulation training and 81% clinical training with psychiatry providers). Practitioners across training status agreed that improving psychiatric and substance use treatment would have a disproportionately positive impact on the efficiency of the ED as whole (86%). Trainees and non-trainees reported similar comfort levels overall in caring for this patient population with 73% and 79% respectively reporting fair comfort or greater. Using a 10-point Likert scale approximately fair or better comfort levels were reported by all respondents regarding evaluation and management of suicidal or homicidal ideation alcohol/drug intoxication or withdrawal capacity to refuse treatment malingering and mania and psychosis. Poorer comfort levels were reported for understanding civil commitment procedures and

factors related to disposition level of care decisions. Finally 92% of residents and 98% of non-residents felt that a mandatory or elective rotation in emergency psychiatry should be offered during emergency medicine residency training. Overall results from resident physicians largely approximated those from post-training practitioners for most questions. Our findings show that ED practitioners across training level identify the importance of caring for this patient population and have at least moderate comfort in treating many of the most common chief complaints. We identified specific areas of knowledge deficits that could be targeted using educational interventions. Finally we showed overwhelming interest in the opportunity to receive emergency psychiatry training during emergency medicine residency.

**Sunday May 05**

### **Coping Behaviors Social Support and Emotional Health during the COVID-19 Pandemic among Urban American Indian and Alaska Native Peoples**

Cole Haskins MD PhD

**Objective:** This study examines the effects of coping behaviors and social support on emotional health in American Indian and Alaska Native (AI/AN) peoples. The COVID-19 pandemic has placed a burden on the health of many and the study seeks to better understand factors associated with well-being. **Methods:** Cross-sectional survey data was collected from 1164 participants seen at six urban health organizations serving AI/AN peoples primarily in urban settings from November 2021 to May 2022. The primary outcome is self-reported change in emotional health since pandemic onset. Exposures of interest include avoidant and direct problem-solving coping behaviors functional and emotional social support. Additional exposures included previously identified relevant pandemic factors; life disruptions and concern for cultural impacts. Poisson regression was used to model adjusted

multivariate associations. **Results:** Since pandemic onset 39% of participants reported worsened emotional health. Using problem-solving coping skills was associated with better emotional health as was “always” getting emotional support and increasing amounts of functional support [adjusted Prevalence Ratio (PR) 0.66; 95% CI: 0.54 - 0.81 and PR 0.40; 95% CI: 0.30 - 0.55 and PR 0.90; 95% CI: 0.87 - 0.92] respectively. The evidence was limited for psychological resilience modifying primary effects. COVID-19-related life disruptions and concern for cultural impacts were associated with worse emotional health. **Conclusions:** Problem-solving coping skills and increasing social support were associated with better COVID-19 pandemic emotional health among urban AI/AN peoples. These findings can be used to identify strengths-based approaches to support community emotional health during social upheavals. This study was supported by the National Institutes of Health under Award Number 3U54MD011240-06S1; Dr. Haskins is a member of the Pathways Resident Research Track Department of Psychiatry University of Colorado School of Medicine R25MH125758.

**Sunday May 05**

### **Defining Child Emergency Psychiatry: Lessons Learned from a National Survey of Current State Practices and Service Delivery Models**

Nasuh Malas; Megan Mroczkowski

**Objectives:** The field of child and adolescent emergency psychiatry has been minimally characterized with a lack of clarity of current models of care services offered staffing approaches and care delivery. In light of the significant rise in pediatric mental health emergencies we sought to characterize the current models of care and service delivery models of care through an international survey of

health systems and their approaches to Child and Adolescent Emergency Psychiatry. Methods: A 42-item survey modeled on surveys developed by Shaw et. al. in 2006 and 2016 assessed best practices and service delivery in Child and Adolescent Emergency Psychiatry. Participants were elicited from 11/8/2022-11/18/2022 via emails sent to the professional listservs of the American Academy of Child and Adolescent Psychiatry the Academy of Consultation-Liaison Psychiatry and the American Association for Emergency Psychiatry. Results: Seventy-three participants volunteered to complete the survey representing sixty-one sites. The majority of respondents identified as child psychiatrists (51%) followed by child emergency psychiatrists (33%) pediatric emergency physicians (16%) and emergency psychiatrists (12%) with the remaining 14% of respondents either being general psychiatrists or having other specialty roles in child psychiatry such as consultation-liaison psychiatry or inpatient psychiatry. Geographic representation included the United States United Kingdom Canada and Switzerland. A majority of respondents were urban (N=44 90%) and in an academic center with a dedicated Children's Hospital (N=33 67%). Twenty-eight respondents (57.1%) had direct access to inpatient psychiatric care while 21 respondents (43%) did not have access. Thirteen respondents (50%) responded that access to inpatient psychiatric beds impacted the ED/hospital length of stay and boarding. Conclusions: Survey findings will provide an opportunity empowered by data to make more informed decisions about service models and care delivery related to child and adolescent psychiatric emergencies. This study will also inform and guide future research quality improvement and program development related to the nascent yet rapidly growing field of child and adolescent emergency psychiatry.

## Depressive Symptoms in Older Mexican Americans and the Role of disability care

aymun razzak; Kyriakos Markides; Phillip Cantu

Background: Caregiving and caregiving intensity is associated with increased depressive symptoms among caregivers. However it is unclear how source of care is related to depressive symptoms in community-dwelling care recipients. The relationship between source of care and depressive symptoms is especially important for older Mexican Americans who are less likely than other non-Hispanic whites to enter into nursing homes. Methods: Using data from the 2010 seventh wave of the Hispanic Established Populations for the Epidemiologic Study of the Elderly (H-EPESE) (n=550) we assessed the association between depressive symptoms in care recipients and the source of care for ADL activities of daily living disability in Older Mexican Americans age 80+. Depressive symptoms were measured using the Center for Epidemiological Studies Depression (CESD) scale. Care sources for ADL care for care recipients including the caregiver the care recipient another family and other non-family. We used regression models controlling for the care recipient and caregiver characteristics as well as the care recipient's health. Results: The average CESD score of care recipients was 11.12. Care recipients' mean age was 87 years old 68% were women and 52% were born in the U.S. Caregivers reported sources of care included the care recipient (73%) the caregiver (32%) another family (13%) and other non-family (21%). Care recipients who provided care for themselves had significantly fewer depressive symptoms (-3.16) while those who reported non-family as sources of care had significantly higher depressive symptoms (3.33). Depressive symptoms were higher for females than males and among those who had fewer than seven years of education. Conclusion: The source and amount of attention the care recipients receive are crucial in determining the risk of developing depressive symptoms.

Sunday May 05

## **Disparities in the Care of Youth with Agitation or Aggression in the Emergency Department: A Systematic Review and Clinical Guidance**

Nasuh Malas; Megan Mroczkowski

**Objective:** This systematic review aims to summarize the current state of research literature on disparities in the care of youth with agitation and aggression in the Emergency Department (ED) including referral assessment diagnosis use of pharmacologic interventions and utilization of restraint and seclusion. **Method:** This study used the preferred reporting items for systematic reviews and meta-analyses (PRISMA) 2020 checklist searching PubMed and PsycINFO databases (May 1 2013-May 5 2023) for studies that reported disparities in the care of youth with agitation or aggression in the Pediatric ED. **Results:** Disparities in the care of youth with agitation or aggression in the ED have been documented for race sex age developmental status and insurance status. There is no data on disparities in ED-based care of youth with agitation or aggression based on gender identity and/or presentation sexual orientation socioeconomic status (SES) systems-involvement (including child welfare foster care juvenile justice) or language proficiency. **Conclusion:** While there is some data on disparities in the care of youth with agitation or aggression the ED documented for race sex age developmental status and insurance status further work in this area is needed. Actionable steps to address mental health disparities in the pediatric ED are discussed.

Sunday May 05

## **Eating disorders and emotional dysregulation are associated with inadequate weight loss after bariatric surgery: a 1-year follow-up study.**

Francesco Weiss; Giulio Perugi; Margherita Barbuti

**Background:** Individuals with obesity especially those seeking bariatric surgery have high rates of mental disorders and marked psychopathological traits. In particular the presence of emotional dysregulation (ED) appears to predispose to the development of addictive eating behaviors characterized by food cravings and loss of control over eating particularly toward high-calorie high-fat and high-sugar foods. The primary objective of this observational prospective study was to test whether the presence of various psychiatric disorders attention-deficit/hyperactivity disorder (ADHD) symptomatology and ED influence weight loss at 1-year follow-up after bariatric surgery. **Methods:** Subjects consecutively referred to the Obesity Center of the University Hospital of Pisa for preoperative evaluation were recruited. Psychiatric diagnoses were made using the Mini-International Neuropsychiatric Interview (MINI) and ADHD symptomatology was assessed using the Wender-Reimherr Adult Attention Deficit Disorder Scale (WRAADDS). ED was assessed using the WRAADDS and self-report questionnaires. After the intervention weight and obesity-related comorbidities were monitored during follow-up. Comparisons between participants with adequate and inadequate weight loss 1 year after surgery were made using chi-squared test for categorical variables and Student's t-test and Mann-Whitney U test for continuous variables. A logistic regression model was used to determine the predictive value of clinical characteristics for the presence of inadequate weight loss at the end of follow-up. **Results:** Of the 99 participants recruited 76 underwent surgery and 65 could be re-evaluated 1 year after surgery (mean age=45.2 78.5% female). Subjects with inadequate weight loss (excess body mass index loss below the 25th percentile i.e. 53% n=15) had more frequent lifetime binge eating disorder (BED) and BED-mood disorders comorbidity than subjects with favorable postoperative outcomes (73% vs 42% p=0.033 and 67% vs 32% p=0.016 respectively). They also had higher scores on both clinician-administered and self-reported scales assessing ED. In logistic

regression analysis older age [OR (95%C.I.) = 1.17 (1.05-1.31); p=0.006] higher preoperative excess body mass index [OR (95%C.I.) = 1.22 (1.04-1.42); p=0.011] and greater affective instability [OR (95%C.I.) = 1.14 (1.03-1.27); p=0.011] were predictors of less weight loss at 1-year follow-up. Conclusions: Individuals with a history of emotional and mood dysregulation are likely to develop maladaptive eating and to return to their addictive eating behaviors soon after surgery with poorer weight outcome. These patients are burdened with more severe psychopathology both in terms of psychiatric comorbidity and emotional dysfunction and impulsivity. Further studies with larger samples and longer follow-up are needed to confirm the influence of various psychiatric disorders and psychopathological traits on postoperative outcome.

**Sunday May 05**

### **ECT-AD: Insights into Baseline Demographics of a Novel Dementia Treatment**

Maria Lapid; Georgios Petrides; Martina Mueller; Brent Forester

Background: ECT-AD is a multi-site NIA-funded FDA-regulated clinical trial to investigate the effectiveness of electroconvulsive therapy (ECT) in treating severe and treatment-refractory agitation among patients with advanced dementia a condition that has a profound negative impact on patient quality of life and caregiver burden. In this poster we describe baseline demographics of our patient population in this ongoing study.

Methods: Baseline demographic information was collected at the time of enrollment. Clinical assessments were conducted to evaluate cognitive and functional impairment as well as severity of agitation. These included the Mini-Mental State Examination (MMSE) and Severe Impairment Battery (SIB-8) for cognitive function Barthel Index (BI) for functional impairment and

Cohen-Mansfield Agitation Inventory (CMAI) Neuropsychiatric Inventory (NPI) and Pittsburgh Agitation Scale (PAS) for agitation. Descriptive statistics were used to summarize demographics using frequencies and percentages for categorical variables and means and standard deviations for continuous variables. Results: To date we have enrolled 18 participants with a mean age of 74.1 years where majority are male (61.1%). The racial composition is predominantly White (94.4%) with Asian representation (5.6%) and with 11.1% identifying as Hispanic or Latino. Dementia subtypes in our cohort include Alzheimer's disease (AD 77.8%) vascular dementia (VaD 16.7%) and frontotemporal dementia (FTD 5.6%). Baseline assessments reveal severe cognitive and functional impairment as indicated by mean scores of MMSE  $4.0 \pm 4.6$  BI  $52.2 \pm 21.8$  and SIB-8  $2.9 \pm 3.8$  all consistent with advanced stages of dementia. High mean total scores on the CMAI ( $75.8 \pm 23.8$ ) NPI agitation ( $15.1 \pm 7.1$ ) and aggression ( $9.2 \pm 5.4$ ) scales and PAS ( $7.8 \pm 4.3$ ) reflect the severe levels of agitation and aggression in our participants. Conclusions: These baseline demographic and clinical data underscore the profound impact of advanced dementia on patients highlighting the need for innovative treatment approaches like ECT. The ECT-AD trial offers a critical step towards understanding and improving the management of agitation in dementia with implications that could enhance current clinical care practices.

**Sunday May 05**

### **Ethical problems related to the care for transgender individuals in a psychiatric hospital: a document analysis**

Cassandra Siqueira Psychiatrist; Manoela Pozzolo Pedro; Adriana Godoi

Transgender individuals (TI) are more likely to have denied rights as they are victims of social exclusion and violence which can produce a variety of stresses that contribute to psychopathology. TI with mental disorders can



experience double stigma including in healthcare settings. Different perspectives favor the emergence of misunderstandings called ethical problems weakening the assistance to service users and also exposing professionals to suffering situations. This study aims to identify ethical problems occurring in psychiatric hospitalizations of TI and may contribute to comprehend the barriers to treatment and the provider's difficulties with an opportunity to reflect on the ethical dimension of care. A qualitative exploratory study using thematic analysis of data present in medical records of TI admitted to a Brazilian psychiatric hospital from April 2021 to December 2023. Ethical problems were identified through units of meaning related to 5 themes: communication autonomy best interests discrimination and safety. Sample of 12 TI hospitalized mostly due to substance use disorders followed by mood and personality disorders. All 8 trans women and 4 trans men were kept in shared female wards. Information about their narratives was incomplete in many cases. Gaps were observed in important variables such as sexual orientation gender transition process history of hormone therapy and perception about the ward in which was allocated. In contrast there were repeated reports referring to them as "doesn't listen". Problems related to autonomy were also observed with the majority hospitalized against their will or with consent considered invalid and descriptions of coercive approaches. Expressions related to their preferences were described such as "questions knowledge of her social name" "refuse medication" "I can't stand here anymore I want to resume my activities" "she is not happy with the treatment". Records of pronouns in the sex assigned at birth different from the adopted gender were very frequent and there were also notes of transphobic attitudes of professionals or other patients. Concerns about the physical and sexual safety of other patients and staff were observed with reports of sexual involvement and aggressive threats by the patient. A contemporary challenge in biomedical ethics is the recovery of moral principles capable of coexisting with the value pluralism of the societies. This analysis suggests the frequent failure to establish trusting relationships which may be influenced by

prejudice professional's lack of knowledge and cultural competence misunderstanding of the patient's best interests their refusal to adhere to treatment and non-formalized work processes. This study aims to encourage the awareness of professionals to provide respectful treatment adapted to personal needs finding a therapeutic balance between dealing with the patient's resistance respecting autonomy and promoting well-being.

Sunday May 05

### **Factors Associated with Frequent Mental Health Emergency Department Visits Among Mental Illness People: Focusing on Use of Care Management Service**

Xiaoli Fu; Molly Finnerty

Background: Frequent mental health (MH) emergent department (ED) users often have complex health needs or difficulties connecting to health networks. New York State (NYS) has provided care management (CM) services to Medicaid eligible people who have difficulties accessing to or engaging with health services. This analysis aims to investigate factors associated with frequent MH ED visits among New York City (NYC) severe mental illness (SMI) population focusing on impact of CM service utilization and potential service improvement opportunities. Methods: This analysis included 13588 Medicaid-insured NYC adults with SMI in 2022. Patient characteristics (age gender race/ethnicity homeless and co-occurring substance use disorder (SUD)) and service utilization (care management MH outpatient and SUD outpatient) were extracted from NYS Medicaid database. The utilizations of the three types of services were grouped into four engagement levels based on the number of months that the individual received this service in 2022: none (0 month) low (1-4 months) medium (5-9 months) and high (10-12 months). MH ED service utilization was also categorized

into four groups based on number of ED visits: 0 visit 1-2 visits 3-5 visits and more than 6 visits. Chi-square tests were used to test the association between factors included and MH ED visit groups. Negative binomial models were used to show the ratio of the count of MH ED visits for the variable of interest (e.g. co-occurring SUDs) to its reference group (e.g. no co-occurring SUDs) and Incidence Rate Ratios (IRR) were calculated. Results: Younger age homelessness co-occurring SUDs lower CM engaged level and lower MH/SUD outpatient care engaged level were significantly associated with higher number of MH ED visits. Individuals with co-occurring SUDs had higher risk of frequent MH ED visits (IRR=2.3 95% CI: 2.17-2.45). High-frequency MH ED use (visits >=6) was highest in groups with no (19.3%) or low engagement in CM services (19.4%) while high engagement in CM had the lowest proportion of individuals with high use of MH ED visits (14.9%; IRR= 0.8; 95% CI: 0.75-0.87) compared to those with no CM services. We also examined CM services provided to co-occurring SUDs individuals and they were associated with lower level of CM engagement (IRR=0.9 95% CI: 0.88-0.93) compared to those without SUD but over two-fold higher IRR for high MH ER use. Conclusion: Higher engagement level of CM services was associated with lower frequent MH ED visit use. Consistent with previous studies co-occurring SUDs was associated with more frequent MH ED visits. However those with SUD were less likely to receive and engage in CM services identifying an opportunity to improve mental health outcomes for this population.

Sunday May 05

### **Feasibility of Clinician EMR Prompts to Encourage the De-prescribing of Antipsychotics in Patients with Dementia**

Jamie Fyda M.D.; Brenda Zuniga; Maria Enriquez

Background: Antipsychotics have been shown to be effective in reducing the behavioral and psychological symptoms of dementia. These medications are associated with increased mortality and risk of cardiovascular events. As a result in 2008 the FDA issued a black box warning cautioning the use of all antipsychotics in patients with dementia. Despite this antipsychotic medications have been widely used in post-acute care settings to manage behavioral and psychological symptoms of dementia. The most recent data from 2017 shows that 15.7% of residents in nursing homes receive antipsychotic medications for conditions other than schizophrenia Tourette or huntingtins. Data from 2017 show that Illinois ranked second highest in terms of antipsychotic use at 19.1%. Aims: The goals of this quality improvement project are to increase the frequency de-prescribing of antipsychotic medications in patients in dementia in post-acute care facilities. This particular study looked at the feasibility of automated identification and clinician notification of post-acute care patients with dementia who were prescribed antipsychotics. Methods: This quality improvement project was performed in collaboration with Bespoke Psychiatry Illinois' largest provider of psychiatric services to post acute care facilities. Patients prescribed antipsychotics in the context of dementia were continually identified among patients seen in the month prior to project starting. Clinical alerts in the EMR were created notifying providers that the patient was on antipsychotic and has a diagnosis of dementia. After three months all providers were invited to complete a survey. 12 of the providers (psychiatrists NPs PAs) responded to the survey. Results: 12 providers participated in the survey. 11 of the 12 completed each question. 100% (12/12) of survey respondents stated that they were aware of the increased mortality risk associated with antipsychotic medications in patients living with dementia. 100% (12/12) of survey respondents stated that they were aware of the FDA black box warning regarding the use of antipsychotics in dementia. 91.7% (11/12) of survey respondents stated that they noticed the clinical prompts one did not answer the question. 100% (12/12) of survey respondents stated that they found these

clinical prompts to be useful. 8.6% (1/12) of the respondents stated that they found that the alerts got in the way of patient care. Conclusion: This quality improvement project lends evidence to the idea that clinical alerts can be found useful by clinicians in the post-acute care setting. This data has contributed to the development of a more comprehensive alert system with a geriatric psychopharmacological focus. Future studies will need to be performed to measure effectiveness of this intervention leading to de-prescribing antipsychotics in patients with dementia living in post-acute care settings.

**Sunday May 05**

### **Impact of lecture series on resident competency in Equity Inclusion Diversity in workplace culture and patient care**

Catherine Soeung M.D.; Diana Wang M.D.

Impact of lecture series on resident competency in Equity Inclusion Diversity in workplace culture and patient care Importance: Equity inclusion and diversity are three principles that work together to be supportive of different groups of individuals including people of different races ethnicities religions abilities genders and sexual orientations. Equity means the quality of being fair and impartial. Diversity means understanding that there is unique and variety of persons. This includes differences of beliefs abilities backgrounds values and identities. Inclusion meaning to include all those parties or groups involved in a process. Objective: This study highlights the findings of a lecture series created to educate physician residents on equity inclusion and diversity in the workplace including workplace culture and patient care. Design setting subjects: Physician residents in training were surveyed prior to the educational lecture series and after on their competency of equity inclusion and diversity in workplace culture and patient care. Brief survey was generated asking residents various questions on their competency and how comfortable they were with certain topics related

to equity inclusion and diversity. Likert scales ranking with numerical value 1-5 with 1 being not at all and 5 being very comfortable. Results Of the 15 US residents were surveyed prior to the equity inclusion diversity lecture 15 of 15 participants (100%) met at predetermined criteria to participate in survey. 13 pre lecture participants were male 2 pre lecture participants were female. 11 post lecture participants were male 4 post lecture participants were female. Likert scale 1-5 used to rank responses with 1 being not at all and 5 being very comfortable. Pre lecture ranged from 4.2 4.3 3.73 3.13 2.6 3.6 3.8 4.3. Post lecture responses ranged from 4.3 4.6 4.26 4.13 3.86 4.13 4.4.6 Conclusion and Relevance Results of this quality improvement study suggest that the majority of participants in US residency program did not feel sufficiently educated in the topics of equity inclusion and diversity. However after participation in the EID lecture series felt increased comfort with the topics they were presented. Although this investigation cannot determine how a community residency program's education reflects the diversity and inclusion within the program these findings suggest that there is a gap in the information that residents in training need to further their level of understanding in topics of equity inclusion and diversity in workplace culture and patient care.

**Sunday May 05**

### **Impacts of Social Determinants of Health (SDOH) on Continuing care In Outpatient clinics**

Olumuyiwa Fatade M.D. M.P.H.; Nicholas Flugrad; Saba Afzal; Miqian Wu

Introduction Social determinants of health (SDOH) wield significant influence over health outcomes and the accessibility of healthcare services particularly in outpatient clinics. This study explored the impact of SDOH on care delivery patterns including length of follow up

period and number of visits in outpatient psychiatric and primary care clinics within an academic not-for-profit healthcare organization in Southern New Jersey. **Methods** This study was approved by the JSUMC IRB and consisted of a retrospective chart review of patients treated at 3 Psychiatric and 3 Primary care clinics between 10.01.2019 and 10.01.2022. Data regarding Age Ethnicity Race Gender Marital status Encounters Insurance Department Diagnosis and Medications was abstracted from 14392 patient charts. The impact of demographic factors on number of visits and length of follow-up were then evaluated using simple and multivariable zero-inflated negative binomial regression techniques. **Results** Our patient population consisted of individuals with a median age of 52 (range: 18 103) 61% female and about 14% of non-white race and 6% hispanic ethnicity. Males were more likely to have no follow-up period than females (OR=1.14 95%CI: 1.06 1.21). Patients 65-years or older were less likely to have follow-up (OR=0.88 95%CI:0.81 0.95) and shorter periods of follow-up than their younger counterparts (fold-difference 0.87 95%CI:0.81 0.95). No impact of Hispanic Ethnicity was detected on whether or not follow-ups occurred however hispanics had a follow-up period that was 0.83-fold (95%CI: 0.76 0.91) as long when compared with Non-hispanics. People for whom Race information was missing had a 1.28-fold increased risk of (95%CI: 1.08 1.54) of having no follow-up period and a 0.68-fold (95%CI: 0.61 0.76) shorter follow-up if they did have one. Although African-Americans and other race/Multiracial people were equally likely to have a follow-up period their follow-up periods were 0.82 (95%CI: 0.75 0.89) and 0.73 (0.68 0.80)-fold shorter. Medicaid patients were equally likely to have a follow-up period than non-medicaid patients but when they did have one they were for only 0.79-fold (95%CI:0.740.84) as long. After adjustment for confounders Male gender (adjOR: 1.18 1.09 1.26) Age 65 or greater (adjOR: 0.67 95%CI: 0.62 0.73 being on medicaid (adjOR: 0.76 95%CI: 0.68 0.28) and presenting at the psychiatric clinics (adjOR: 0.25 95%CI: 0.24 0.28) were statistically significant for likelihood of having no follow-up period. **Conclusions:** Male Gender Age 65 or greater medicaid status and

psychiatric clinic attendance are independent risk factors for whether or not patients receive follow-up care. Male gender as well as age of over 65 are also independent risk factors for duration of follow-up. Our findings also suggest enhanced attention to the specific needs of minority patients and those patients whose race information was missing.

**Sunday May 05**

### **Incidence and Risk of Cardiovascular Diseases in Patients with Anorexia Nervosa in Taiwan**

Mei-Chih Tseng; YUHSUAN SHAO; Hung-Yi Liu

**Objectives:** To investigate the incidence and risk of cardiovascular (CV) outcomes in a nationwide cohort of Taiwanese patients with anorexia nervosa (AN). **Methods:** This longitudinal cohort study analyzed the data of 23155 individuals—comprising 2105 patients with AN and their controls (non-eating disorders) matched (1:10) using propensity scores according to sex age degree of urbanization of residence socioeconomic status and year of diagnosis—from a population-based database; the study lasted 11 years. Data of individuals with AN were extracted from the Taiwan National Health Insurance Research Database (NHIRD) merged inpatient and ambulatory care/emergency department database. The diagnosis of AN was based on International Classification of Diseases Ninth Revision Clinical Modification (ICD-9-CM) code 307.1 and ICD Tenth Revision Clinical Modification (ICD-10-CM) code F50.0. Individuals with AN who were aged <sup>3</sup>10 years and <60 years and received a first-time diagnosis of AN from psychiatrists between 2011 and 2021 were enrolled in this study. Outcome measures were major cardiovascular adverse events (MACE) and composite CV diseases (including congestive heart failure stroke acute myocardial infarction all ischemic heart disease conduction disorders

inflammatory heart disease valve disorder and cardiomyopathy cardiac arrest hypotension and atherosclerosis). We used Kaplan–Meier curves to estimate the cumulative incidence of CV outcomes. We also performed Cox proportional regression and constructed a risk model with death as a competing event (adjusted for hyperlipidemia hypertension diabetes mellitus and psychiatric comorbidities) to examine the risk of MACE and composite CV outcome in the AN group relative to the control group. Results: In total 110 (incidence rate 10.76 per 1000 person-years) and 142 patients (incidence rate 14.40 per 1000 person-years) with AN had MACE and CV diseases respectively. The cumulative incidence rates of MACE and CV diseases were 9.23% and 11.31% respectively at 10-year follow-up. Compared to the control group the AN group had a significantly higher risk of MACE with an adjusted hazard ratio (aHR) 4.20 (95% confidence interval [CI] 3.20–5.52) and CV diseases (aHR 2.13 [95% CI 1.73–2.62]). Among all cardiovascular events conduction disorder was the most common with an incidence of 5.29 per 1000 person-years and aHRs were the highest for cardiac arrest (aHR 18.20 [95% CI 3.02–109.65]) and hypotension (aHR 15.29 [95% CI 7.49–31.23]). Risks for both MACE and CV events were highest in the first 24 months after diagnosis and decreased rapidly with an increase in the follow-up duration. Conclusions: The elevated risks of MACE and CV outcomes in AN highlight the importance of monitoring CV malfunction. This study was supported by grants from the National Science and Technology Council Taiwan and Taipei Medical University.

Sunday May 05

## Pragmatic Pilot Trial to Increase Suicide Screening in U.S. Primary Care Clinics

Rebecca Rossom MD MS

Background: Individuals with opioid use disorder (OUD) are at increased risk of suicide (Rizk 2021). In a study implementing an electronic

health record (EHR)-integrated clinical decision support (CDS) tool designed to prompt diagnosis and treatment of OUD in primary care a supplemental study incorporated decision support to guide structured assessment of suicide risk for patients with OUD. Methods: In this cluster-randomized controlled pragmatic pilot study 15 primary care clinics were randomized to receive or not receive a CDS tool that alerted clinicians when adults with OUD were estimated to have elevated suicide risk using machine-learning risk models. Clinicians were prompted to complete a Columbia Suicide Severity Rating Scale (CSSRS). Completion of at least one CSSRS in the 14 days following an eligible primary care visit was the primary outcome. Mental health (MH) engagement was a secondary outcome and defined as a MH visit or a primary care visit associated with a MH diagnosis. MH engagement adequacy was determined by CSSRS score with higher scores requiring earlier follow-up; if the CSSRS was missing item 9 of the Patient Health Questionnaire (PHQ9) determined engagement adequacy. Linear mixed log-binomial regression models predicted the likelihoods of CSSRS completion and adequate MH engagement. Results: 115 primary care patients met inclusion criteria (69 intervention 46 control) with 57% women and a mean age of 39.3 years (SD 12.1). 81% were white and 83% were insured by Medicaid. Similar proportions of intervention and control patients (20.3% vs. 17.3% p=0.70) completed CSSRSs within 14 days of the index visit. The proportion of patients with adequate MH engagement was 88% for intervention patients and 87% for control patients. The average number of days elapsed between visits was similar for control (19 days SD 30) and intervention (16 days SD 26) patients. Discussion: The intervention had no impact on suicide prevention process measures and there were relatively low rates of CSSRS completion in both intervention and control clinics. Somewhat reassuringly the vast majority of patients had adequate MH follow-up for their estimate level of acute suicide risk. Two patients died of what was classified by medical examiners as accidental opioid overdoses during the 3-12 months of follow-up a stark reminder of the high risk of mortality in this population with



OULD and suicide risk (Bohnert 2019). That these deaths were classified as accidental rather than intentional is not reassuring. Historically most opioid overdoses have been considered accidental but more recent evidence suggests as many as 20-30% may be intentional and that the intentionality of overdose is likely dimensional rather than categorical (Pergolizzi 2021). Regardless our findings suggest a more robust intervention is needed to increase suicide prevention process measures including use of the CSSRS.

**Sunday May 05**

### **Predictive Variables of Gender Transition Failure in Youth: Bridging Clinical Gaps in Transgender Healthcare**

Gary Wu M.D.; Nithin Edara M.D.

**Objectives** Detransitioning refers to the process in which an individual reidentifies with their natal sex or a different gender after having undergone a gender transition. Detransitioning remains a professional and bioethical challenge clinicians face when treating transgendered and gender diverse (TGGD) individuals. This review focuses on youth and looks at identifying factors predictive of transition failure assessing strategies to help detransitioners reacclimate to their preferred gender identity and examining clinical gaps in gender detransitioning. **Methods** PubMed was queried with the terms “transgender” and “detransition\*”. Inclusion criteria included TGGD individuals diagnosed with gender dysphoria as defined by DSM-5 criteria before adulthood (age 18). Articles were limited to the past decade with only 14 identified articles. **Results** In a study by Littman the average age of onset for gender dysphoria is 11.2 years with the highest comorbidities of depression (39.1%) and anxiety (31.9%). Retrospective studies suggest that gender dysphoria diagnosed in childhood persists into adulthood in 12-27% of cases. The

prevalence of detransitioning is poorly studied but estimated between 1-8% in the literature. The top reasons for detransitioning according to Littman study include: feeling more comfortable identifying as one’s natal sex medical concerns about the transition process and no improvement with transitioning. Another study demonstrates that incomplete transition dissatisfaction with results of transition and discrimination are reasons TGGD individuals opt to detransition. Post-detransition surveys suggest that nearly a third regret their decision to transition with 32.3% reporting harm from the transition process. Strategies to help facilitate successful detransitioning include psychotherapy aimed at softening the rigid boundaries defining gender roles integration of artificial intelligence to materialize the concept of an ideal self to reduce distress and utilization of gender affirming voice care consistent with preferred gender. **Conclusion** Detransitioning involves a complicated process that unravels social medical and legal changes incurred during the gender transition process. Detransitioners may suffer from social rejection loss of gender identity and psychological trauma. Unlike the scrutinized process and clinical guidelines of transitioning set forth by the World Professional Association for Transgender Health (WPATH) the process of detransitioning and how clinicians should provide support is poorly defined. Early identification of transition failure is essential but treatment of comorbid illness and and utilization of adjunct therapies may be key to help TGGD reacclimate to their preferred gender identity after transition failure.

**Sunday May 05**

### **Psychotherapy Engagement Before and After a Rapid Transition to Telehealth during COVID-19 for Older Adults with Dementia**

Rebecca Rossom MD MS

**Objective:** To understand the impact of the transition to telehealth during COVID-19 on psychotherapy visits for patients with dementia.

**Method:** Retrospective study of older adults with dementia who had at least one psychotherapy visit in the 9 months before and after the onset of COVID-19 at 3 health systems. Care disruptions were gaps of 45+ days. Descriptive statistics and logistic mixed-effects models examined factors associated with care disruption.

**Results:** During 18 months of observation 4953 patients with dementia made 19902 psychotherapy visits. Patients had a mean age of 77.8 years (SD 8.30) and nearly two-thirds were women. Seventy-six percent of patients self-identified as white 6% as Black 5% as Asian 2% as Hispanic and 2% with another race/ethnicity. Comorbid mental health conditions were common in this population of older adults with dementia with 64% of patients diagnosed with depression 55% with anxiety 8% with schizophrenia or other psychosis 14% with substance use disorder and 6% with bipolar disorder.

Among the 19902 psychotherapy visits occurring during the observation period 11167 occurred prior to COVID-19 and 8735 occurred during COVID-19. Only 29% of all total psychotherapy visits were associated with a disruption of more than 45 days during COVID-19 compared to 49% in the period before COVID-19. Relatedly the average number of days between visits was smaller in the period during COVID-19 (40.9 days SD 43.1) compared to the period before COVID-19 (83.8 days SD 95.0). Not surprisingly the percentage of psychotherapy visits conducted virtually during COVID-19 dwarfed the percentage before COVID-19 (32.3% vs 0.2%).

In multilevel models adjusting for number of previous psychotherapy visits patient demographics and mental health conditions the odds of a patient with dementia experiencing a disruption in care during COVID-19 was 0.54 times the odds prior to COVID-19 (aOR 0.54 95% CI: 0.50 to 0.59).

**Discussion:** Contrary to concerns that older adults would be reluctant to engage in virtual care patients with dementia had fewer disruptions in psychotherapy visits and fewer days between visits during COVID-19. These population-level findings are consistent with previous studies that involved people of all ages and showed

improvement in psychotherapy adherence with virtual psychotherapy compared to in-person visits.(Eyllon et al. 2022; Mishkind et al. 2021)

These findings help refute conceptions that older adults may not have the technical savvy to be able to navigate virtual visits. Our findings are consistent with research showing the gap in use of smartphones and computers narrowing between older and younger adults due to technology use increasing at a faster rate for older adults compared to other age groups (Faverio 2022). Our work suggests telehealth may be a viable option for patients with dementia.

**Sunday May 05**

### **Readability of self-reported measures in restrictive eating disorders**

Asad Khan; Gwendolyn Mirzoyan; Kayla Lyon MD; Joseph Nickel

**Background:** The consideration of readability in the development and validation of self-reported measures has often been overlooked. Numerous psychiatric questionnaires have been found to be above the suggested 6th grade reading level provided by the American Medical Association (AMA) and National Institutes of Health (NIH). The inability to understand questionnaires may lead patients with restrictive eating disorders to be undiagnosed for longer periods of time and experience increased mortality likelihood developmental delay and decreased bone and brain health. Although previous studies have analyzed readability in binge eating disorders there is limited data analyzing restrictive eating disorders.

**Methods:** Measures in assessing restrictive eating disorders were selected from Schaefer's systematic review in eating disorders and a publicly available literature search. In total twenty-three patient health questionnaires were identified as meeting inclusion criteria and were evaluated for readability. The readability of each measure was analyzed via Gunning Fog Simple Measure of Gobbledygook (SMOG) FORCAST and Flesch Reading Ease Score. Measures with an

average readability of greater than 6.00 were considered to be above the recommended reading level. As consistent with previous studies the readability of the item and instruction sections were analyzed separately. Measures without instructions were thus excluded from analyses involving instructions. Results: Twenty-one out of twenty-three measures (91%) had at least one component (instructions or items) written above the recommended reading level. The instruction sections of all measures in our study had mean readabilities above the recommended sixth-grade level. The items sections of twenty out of twenty-three measures included in our study had mean readabilities above the recommended sixth-grade level. The mean reading level of the instructions and items sections were 9.80 (SD 1.79 Range 7.07 – 12.88) and 7.74 (SD 1.19 Range 5.39 – 10.88) respectively. A reading comprehension level of high school or above was required in seven out of twenty-three measures (30%). Conclusion: Many self-reported measures in restrictive eating disorders are written at grade levels that exceed AMA and NIH recommendations. Readability should be at the forefront of considerations regarding implementation in clinical or investigative settings particularly as it relates to disorders in restrictive eating. It is paramount to the reduction of health disparities across socioeconomic groups to ensure that self-report materials are utilizable across a broader spectrum of literacy.

Sunday May 05

### **Risk and protective factors for sexual and gender minority youth's mental health: A longitudinal study**

Andre Gonzales Real M.D. M.S.; Stephen Russell

Background: LGBT youth report disproportionate rates of compromised mental health when compared to cisgender heterosexual peers 1. Victimization family acceptance and disclosure of

their sexual or gender minority identity to family members are factors associated with mental health<sup>2-5</sup>. However only few studies are longitudinal limiting our understanding of how changes in these factors may directly impact LGBT youth's mental health over time. Additionally studies have often combined LGBT youth into one group neglecting differences between cisgender sexual minorities (LGB) and transgender or gender diverse (TGD) youth. Methods: Data come from a four-wave longitudinal community-based sample of 661 LGB and TGD youths between the ages of 15–21 at baseline (Mage = 18.53) from two large cities in the United States. At each wave participants reported cumulative victimization due to being LGBT<sup>6</sup> levels of family acceptance and outness to family and depressive symptoms using the Beck Depression Inventory for Youth (BDI-Y) 7. Stepwise Hierarchical Linear Modeling (HLM) analysis were run to (1) examine and compare trajectories of depressive symptoms for LGB and TGD youth and (2) explore within- and between person (WP and BP) associations of cumulative victimization family acceptance and outness to family with depressive symptoms over time. Results: LGB and TGD youth had decreasing levels of depressive symptoms over time. TGD youth reported higher overall negative affect throughout the study ( $b = -2.21$  SE = .99  $p = .025$ ) but this difference was no longer significant when victimization family acceptance and outness to family was taken into account ( $b = -1.26$  SE = 1.05  $p = .246$ ). In the BP level cumulative experiences of victimization were associated with more depressive symptoms ( $b = 0.43$  SE = .08  $p < .001$ ) while being out to family and being accepted by family was associated with less depressive symptoms (respectively  $b = -1.11$  SE = .47  $p = .019$ ;  $b = -1.14$  SE = .49  $p = .019$ ). In the WP level compared to periods to when they reported less victimization when youth reported more cumulative experiences of victimization they experienced higher levels of depressive symptoms ( $b = 0.30$  SE = .12  $p = .013$ ). In contrast when youth reported higher levels of family acceptance compared to other periods when they perceived lower levels of family acceptance youth experienced lower levels of depressive symptoms ( $b = -0.91$  SE = 0.28  $p = .001$ ). Conclusion: TGD

youth are at risk to experience poorer psychological wellbeing and this vulnerability seems to be driven by social rejection from peers or family. Findings highlight that experiences of victimization and family relationships have direct impact on LGB and TGD youth's mental health across time. Understanding factors associated with mental health for LGB and TGD youth may indicate directions for interventions to better assist this vulnerable population

Sunday May 05

### **Selected aspects of emotional functioning in convicted rape perpetrators**

Robert Kowalczyk; Artur Daren; Katarzyna Waszynska

Background: Rape perpetrators constitute a specific subgroup of inmates as rape is despised even among inmates. This report aimed to look into the psychological characteristics of convicted rape perpetrators as regards understanding and regulation of emotions impulsivity and empathy. The group of convicts was compared to a sample of people with no criminal record to assess significance of differences. Methods: The study group included 90 subjects incarcerated in accordance with article 197 of the Penal Code in several penitentiaries in the region of Malopolska aged 17 to 60 years and 90 control subjects aged 21 to 60 years. The emotional functioning was assessed with Impulsivity-Venturesomeness-Empathy questionnaire (IVE) Difficulties in Emotion Regulation Scale (DERS) and Test for Understanding of Emotions (TRE). Results: The inmates had lower level of empathy than controls (IVE empathy score: mean= 13.8 (sd= 2.89) vs 15.1 (3.17)  $p=.033$ ) lower level of understanding of emotions (TRE score: 12.87 (5.05) vs 17.23 (3.67)  $p<.001$ ) and had more emotional problems (DERS: 121.53 (20.96) vs 109.57 (13.61)  $p=.030$ ) which showed up in specific areas including: lack of acceptance of emotional reactions (DERS: 13.33 (6.61) vs 9.77 (3.87)  $p=.046$ ) greater

difficulty in controlling impulsive behaviors (DERS: 13.6 (5.73) vs 10.37 (3.29)  $p=.033$ ) greater limitation in strategies of emotion regulation (DERS: 17.6 (6.74) vs 13.33 (5.14)  $p=.007$ ). Conclusions: The results indicate that rape perpetrators have several limitations in reception understanding and regulation of emotions as compared to individuals without such criminal record. These limitations constitute potential goals for treatment directed toward reducing the risk of reoffending and developing a more pro-social orientation in order to better prepare such offenders for returning to the society.

Sunday May 05

### **Sweden vs. Finland – forensic psychiatric care and subsequent recidivism in violent crime**

Lenka Sivak; Jonas Forsman; Ilkka Ojansuu; Markku Lähteenhuo

Background The specifics of legal and medical treatment of mentally ill criminal offenders vary across countries but perpetrators suffering from a severe mental disorder will commonly be consigned to psychiatric care. One of the main aims of such sanctions is to prevent relapse in crime. Here we explored differences between two Nordic countries – Sweden and Finland – with regard to violent recidivism after discharge from forensic psychiatric treatment. Methods This retrospective cohort study compared violent recidivism rates in patients discharged from forensic psychiatric care in Sweden and Finland. The Swedish cohort consisted of all patients registered in the National Forensic Psychiatric Registry who were both sentenced and discharged between 2009 and 2019; data on criminal recidivism up until December 2019 including specific date and type of violent crime were extracted from the Swedish National Council for Crime Prevention's crime registry. The Finnish cohort was made up of all forensic psychiatric patients released between 1999 and 2018 according to the archive of the National Institute

for Health and Welfare. Information on recidivism up until 2019 was gathered from the database of the Institute of Criminology and Legal Policy at the University of Helsinki. Violent recidivism was presented both graphically as cumulative incidence curves and numerically as recidivism rates. Cox regression analyses based on relevant sociodemographic and criminological variables were performed in each dataset separately to calculate hazard ratios for different levels of variables. Results The violent offending rate after discharge from treatment in Sweden was 3294 per 100000 person years (95% CI 2563–4169) compared to 1083 per 100000 person years (95% CI 799–1436) in Finland. The estimated cumulative incidence of violent crime was in the Swedish cohort 6.3% at 12 months (95% CI 4.3–8.3) 9.9% at 24 months (95% CI 7.3–12.4) and 13.6% at 60 months (95% CI 10.3–16.7); and in the Finnish cohort 0.4% at 12 months (95% CI 0.1–1.6) 2.7% at 24 months (95% CI 1.6–4.7) and 7.6% at 60 months (95% CI 5.4–10.5). History of substance use disorder was associated with a higher risk of committing a violent crime in both Sweden (HR 2.8; 95% CI 1.6–4.8) and Finland (HR 2.22; 95% CI 1.12–4.41). Further higher age at discharge was associated with lower risk of recidivism in violent crime in both countries with a HR of 0.97 per year (95% CI 0.95–0.99) in Sweden and a HR of 0.94 per year (95% CI 0.91–0.97) in Finland. Conclusion The rate of violent recidivism among former forensic psychiatric patients is higher in Sweden compared to Finland with the cumulative incidence at five years being nearly twice as high in the former country. In both countries history of substance use disorder was associated with a higher risk of recidivism and higher age at discharge with a lower recidivism risk.

Sunday May 05

## The Burden and Characteristics of Diagnosed Tardive Dyskinesia in Long-term Care Settings

Amita Patel M.D.; Christopher Diejy; Rachel Childs; Eric Jen; Morgan Bron

Background: Tardive dyskinesia (TD) is a persistent and often debilitating movement disorder associated with prolonged exposure to antipsychotics. Older adults (>65 years) can develop TD as early as 4 weeks after antipsychotic exposure even when treated at lower doses. This population is also vulnerable to the burdens of TD (e.g. impaired balance difficulty swallowing) which may complicate clinical management in long-term care (LTC) settings. Despite widespread use of antipsychotic medications in older adults there are limited data on the prevalence and burden of TD in LTC settings. This real-world study was designed to characterize patients with TD in LTC settings. Methods: The STATinMED Real-World Data Insights Database which captures 80% of US claims data was used for analysis. Patients who had an LTC stay and an ICD-10 code indicative of TD (G24.01) during the study period (Jan 2016-Dec 2022) were identified. The demographics and clinical characteristics of patients with TD in LTC settings were analyzed descriptively in a subset of patients who had the following: ≥1 LTC stay during the identification period (Jan 2017-Dec 2021) with the first LTC stay as the index LTC stay; an ICD-10 code of G24.01 diagnosed on or before the LTC index stay; and continuous capture of medical and pharmacy benefits for 1 year pre-LTC index (admission date) and 1 year post-LTC index (discharge date). Results: Among 2294 patients with TD who met the selection criteria 1483 (64.6%) were >65 years old and 1544 (67.3%) were female. The mean (±SD) Charlson Comorbidity Index (CCI) score was 3.72 (±4.2) and 753 (32.8%) patients had a CCI score of 4 or higher. The most prevalent comorbidities were mood disorders (66.1%) schizophrenia (38.8%) and sleep disorders (35.0%). Other comorbidities of interest included dysphagia (18.5%) substance abuse (28.4%) and UTI (26.7%). Use of antidepressants (56.1%) and antipsychotics (50.4%) was prevalent as was the use of other central nervous system (CNS) medications such as anticonvulsants (52.3%) and anticholinergics (50.0%). Moreover nearly half (47.9%) of patients were prescribed ≥3 CNS medications. Within 1-year of the post-index



LTC stay 1085 (47.3%) patients had at least 1 emergency department visit with a median of 4 visits per patient. The median time to the first post-index emergency department visit was 143 days. Additional longitudinal real-world analyses are currently being performed. Conclusions: Analysis of real-world claims data indicated that patients with TD in LTC settings had high comorbidity burden and polypharmacy with medications that frequently induce TD (antipsychotics) or worsen TD (anticholinergics). Moreover nearly 50% of patients had at least 1 emergency department visit within 1 year of the post-index LTC stay. These data indicate a need for special attention to the needs and pharmacological treatments in older adults with TD. Supported by Neurocrine Biosciences Inc.

Sunday May 05

### **The Emerging Neurodivergent Disorders in Eating Disorder: an Analysis of Real-Time Administrative Claims in the US**

Dominic Moog BA; Kevin Xu M.D. M.P.H.; Yezhe Lin; Hui Xie MPH

Introduction: Eating disorders (EDs) are known to have higher risk of different psychiatric illnesses. There is no real-time surveillance tracking the trend of its psychiatric comorbidities and particular knowledge gaps exist on the intersections of ED with neurodevelopmental disorders including autism spectrum disorder (ASD) and ADHD and gender dysphoria (GD) even as these psychiatric illnesses have received increased attention in recent years. Additionally there is a paucity of population-level data on psychiatric comorbidities in ED before and after the COVID-19 pandemic which exacerbated ED symptoms hospitalizations and care seeking. Objectives: We investigated the trends of psychiatric comorbidities in eating disorder over 2017-2022. Methods: Design setting and participants: We conducted a population-based

retrospective cohort study of electronic health records (EHRs) between January 2017 and December 2022 using the TriNetX databases a federated multinational network of health care organizations with access to real-time EHRs with around 80% of data from the US. Trends of comorbidities in people with ED were assessed. Main outcomes and measures: 18 different psychiatric disorders The comparison group was identified using propensity score matching on a range of patient demographics and clinical characteristics. We assessed the ratios between two timeframes (2020-2022 vs. 2017-2019) by using logistic regression models. Results: Our sample consisted of 31153 people with ED in 2020-2022 cohort (6225 male [20.0%]; mean [SD] age 15.4 [4.7] years; 21201 White [68.1%]) and 17516 people in 2017-2019 cohort (4389 male [25.1%]; mean [SD] age 13.9 [4.9] years; 11960 White [68.3%]) before propensity score matching. The matched cohorts comprised 17232 patients in each group (2020-2022 group: 4269 males [24.8%]; mean [SD] age 14.1 [4.6] years; 11854 White [68.8%]; 2017-2019 group: 4216 males [24.5%]; mean [SD] age 14.1 [4.7] years; 11786 White [68.4%]). Compared to 2017-2019 the 2020-2022 cohort had significant increased rates of GAD (adjusted odds ratio [aOR][95% CI] 1.112 [1.067 1.176] P<0.001) PTSD (1.201 [1.116 1.292] P<0.001) ADHD (1.160 [1.148 1.288] P<0.001) ASD (1.248 [1.163 1.340] P<0.001) GD (1.618 [1.421 1.842] P<0.001) and nicotine use disorders (1.308 [1.122 1.524] P<0.001) 1 year following the ED diagnosis. After excluding existing comorbidities new onset rates of ADHD (1.248 [1.119 1.393] P<0.001) and GD (1.418 [1.110 1.811] P=0.005) were significantly higher over years. Conclusions: Neurodivergent disorders are emerging in ED individuals in real-world settings. Screening neurodevelopmental disorders and gender dysphoria in patients with eating disorders is warranted to enhance diagnostic accuracy and comprehensive care. We hope that this information will assist mental health professionals in providing holistic psychiatric care to patients with ED which is historically lacking.

Sunday May 05

### **The Relationship between body mass index and neuropsychiatric symptom in Alzheimer's disease dementia: A perspective on sex and small vessel disease**

Seockjun Min; Seugnhooon Lee

Background: Previous studies reported the link between body mass index (BMI) and Alzheimer's disease (AD) dementia particularly associating lower BMI in older age with increased beta-amyloid protein deposition—a crucial pathology in Alzheimer's disease. Limited studies have explored the impact of BMI on Behavioral and Psychological Symptoms in Dementia (BPSD) with scarce attention to sex-specific effects or small vessel disease (SVD) in brain. This study aims to investigate the correlation between BMI and BPSD in older adults with AD dementia considering sex and the degree of SVD differences. Methods: This retrospective analysis included 246 subjects aged between 55 and 90 meeting the criteria for probable or possible AD according to NINCDS-ADRDA with a clinical dementia rating (CDR) greater than or equal to 0.5 at Myongji Hospital Cognitive Clinic from March 2010 to October 2021. Variables such as BMI geriatric depression scale (GDS) neuropsychiatric inventory (NPI) and brain MRI Fazekas score as well as demographics were examined. BMI was categorized into four groups based on the Asia-Pacific classification of National Heart Lung and Blood Institute (NHLBI). A one-way analysis of variance (ANOVA) was conducted to assess differences in mean NPI scores across BMI groups and linear regression analysis was used to evaluate the association of BMI with NPI scores based on sex or Fazekas scores. Results: The results demonstrated a significant negative correlation between NPI and BMI ( $r=-0.256$   $p<.001$ ) with five NPI behavioral domains also exhibiting significant negative correlations with BMI. Stratifying BMI into groups revealed a significant difference in NPI total scores ( $F=4.171$   $p=0.01$  and  $b=-0.221$   $p<.001$  by linear regression) indicating lower BMI associated with high NPI scores. Subgroup analyses based on sex revealed a significant negative association

between BMI and total NPI scores in females ( $b=-0.209$   $p=0.007$ ) but not in males ( $b=-0.262$   $p=0.150$ ). Subgroup analysis with Fazekas scores In the group with a score of 2 or more lower BMI was significantly associated only with nightmare behavior scores among NPI domains ( $r=-0.548$   $p=0.005$ ). However no NPI domain was associated with BMI in the group with a Fazekas score less than 1. Conclusion: Among older adults with AD dementia a negative correlation between BMI and neuropsychiatric symptoms was observed especially in females. More attention to BMI is needed in older adults with AD dementia with a high burden of cerebral small vessel disease.

Sunday May 05

### **Poster Session 6**

Sunday May 05

### **Unlocking Healing Potential: Exploring the Transformative Power of Self-Compassion in Eating Disorder Recovery"**

Jayasudha Gude M.D.; Ulrick Vieux

Background: Eating disorders affect at least 9% of the populations with the onset among majority of the population during their adolescent years. The purpose of this study was to explore how self-compassion can play a pivotal role in the recovery process and if it has any positive impact in the management of individuals with eating disorders. Methods: We searched PubMed using the keywords "self-compassion" and "eating disorders OR Binge eating disorder OR Anorexia Nervosa OR Avoidant restrictive Food Intake disorder OR Body Dissatisfaction OR Body Image OR Body Shaming". The search yielded a total of 156 articles and final 12 studies were included in the review that has studied the role of self-

compassion in eating disorder psychopathology or symptomatology. The inclusion criteria included randomized controlled trials that have used some form of compassion focused therapy intervention. Improvement of eating disorder symptomatology was studied pre and post compassion focused therapy. Exclusion criteria include any acute eating disorder symptoms psychiatric illnesses requiring inpatient hospitalizations. Primary outcome is measured using questionnaires post self-compassion strategies. Data was extracted using the PRISMA guidelines and analyzed. Results: Of the twelve studies six studies have studied the role of self-compassion in eating disorders three have studied in Binge Eating disorder one in Anorexia Nervosa and two in the body dissatisfaction/body shame. It was found that all the intervention such as compassion focused therapy body imagery rescripting brief self-compassion intervention and video intervention have resulted in improvement in the eating disorder symptomatology self-compassion and fear of self-compassion factors compared to groups without the intervention. There was a significant improvement in the Subjective Units of State Body Shame scores (SUBS) before and after the intervention. The self-compassion intervention also has had greater acceptability. Overall there was a decrease in the eating psychopathological symptoms binge eating symptoms self-criticism and psychological distress. Conclusion: Current studies have shown that self-compassion intervention can play a major role in decreasing eating disorder symptomatology. However more clinical trials with higher power are needed to unlock the complete potential of the self-compassion.

**Sunday May 05**

### **Are Cultural Psychiatrists Supporting Religions by Preventing Suicide"? An Invalid Question for a Valid Ongoing Cultural Dilemmas"**

Lama Muhammad M.D.

Background: There is but one truly serious philosophical problem and that is suicide. Judging whether life is or is not worth living amounts to answering the fundamental question of philosophy. All the rest — whether or not the world has three dimensions whether the mind has nine or twelve categories — comes afterward. These are games; one must first answer." Albert Camus. It is estimated that more than 700000 people globally die by suicide every year(1). However this number might be way beyond the reality given the stigma of psychiatric illness that leads to the misclassification of many suicide cases and the effects of the political and economic environment on the surveillance systems(2). While suicide ideations are severe symptoms of psychiatric illnesses that need to be treated there are some suicide cases that raise ethical dilemmas and support Camus's philosophical question above. Existentialism explores the issue of human existence in a philosophical way. Existential angst is a common concept in many psychiatric encounters thus not covered in the Diagnostic and Statistical Manual of Mental Disorders and underestimated in many psychiatric encounters. Method: The presenter will introduce the concept of "existential angst" as a possible significant risk factor for suicide. The presenter will describe using clinical examples some areas psychiatry hasn't explored yet and discuss the application of a philosophical style to the psychiatric interview. Results: Case 1: A 56-year-old female has been diagnosed with depression related to a general medical condition (Breast cancer with bone and liver metastases). The patient verbalized suicidal ideation with intent and plan stating that "the road to treat my medical diagnosis is rough and I don't want to take it; I prefer to have dignity and end my life in my own way". An ethical consult was requested. Case 2: Iraqi American 40 y/o male patient was admitted for the diagnosis of treatment-resistant major depressive disorder. Patient reports that he comes from a culture that believes in reincarnation. As he didn't like any of his life events he decided to end it so he could have the opportunity to come back in a different body and other circumstances. The patient was admitted to the psychiatric inpatient ward for further evaluation. Case 3: A 48 y/o

Syrian female with anxiety reports to her psychiatrist that she doesn't care if she is dead as "this life is a farce and it is shameful to human beings to live more than 50 years". When the psychiatrist tried to discuss the psychiatric history the patient replied: 'Why are you trying to make my cultural beliefs as pathological symptoms?'. A lengthy discussion about Existentialism took place in regular psychiatric follow-ups. Conclusion: Optimal enhancement of the understanding of Existentialism is necessary; while we don't have definitive black-or-white answers in many suicide scenarios this knowledge helps treat pathological psychiatric symptoms. "

Sunday May 05

### **Are People of Color and Women Underrepresented in the Naming of Medical Terminology that Medical Students Encounter During their Medical Education?**

Ali Karimi

**Background** To the best of the author's knowledge there are no previous studies on whether people of color and women are underrepresented in the naming of medical terminology. The most representative source of the medical terminology that medical students encounter in their medical education is the First Aid for the USMLE Step 1 book as it is the most popular resource used by medical students.

**Methods** All the medical terms in the First Aid for the USMLE Step 1 book were searched in the literature to determine if they were named after someone. The race and gender of that individual were then obtained through the person's biography and confirmed with the individual's photograph whenever available. **Results** When analyzed by gender of the 514 individuals with a medical term named after them 97.1 % were men and only 2.9 % were women even though women make up 50.4 % of the US population and 47.9 % of US medical graduates. When analyzed by race

98.1 % of the 514 individuals with a medical term named after them were White. Black/African Americans make up 13.6 % of the population and 6.2 % of medical graduates but only one medical term 0.2 % was named after an African American individual. Hispanic/Latin Americans make up 19.1 % of the population and 5.3 % of medical graduates but only 0.4 % were Latin American. Asians make up 6.3 % of the population and 21.6 % of medical graduates but only 1.8 % were Asian. When analyzed by race and gender 95.3 % were White men while only one medical term 0.2 % was named after a woman of color. **Conclusion** Women and people of color were underrepresented in the naming of medical terminology which was not reflective of the diversity of US medical students or population. A future study could investigate whether this underrepresentation discourages some populations from pursuing a career in medical research. One solution is to ensure that the naming of new medical terms reflects society's diversity. Another solution would be to add the names of those who did not get credit because of their race or gender. For example although Rosalind Franklin played a crucial role in the discovery of the DNA structure her name was not included in the "Watson-Crick" model. More research is necessary to determine the best path toward a more equitable inclusive and diverse world.

Sunday May 05

### **Association between Eating Disorders Body Image Ideals and Nutritional Status in Female Adolescents from Santiago Chile.**

Carolina Milles; Fernanda Cabello; Arturo Grau

**Abstract** Background: Eating disorders (EDs) have a multifactorial etiology with a prevalence of 1-3% during adolescence. Factors associated with their onset include female gender internalization of the thin body ideal pressure to be thin body

dissatisfaction and elevated body mass index (BMI). In Chile there are limited studies on the influence of sociocultural determinants and the risk of EDs amongst children and adolescents. This study aims to investigate the prevalence of ED risk and its association with body image ideals and nutritional status in a group of adolescent females from Santiago. Methods: This descriptive cross-sectional study includes students aged between 12 and 19 years obtained using non-random sampling. A questionnaire regarding sociodemographic variables was applied along with two self-administered instruments: the Eating Disorder Diagnostic Scale (EDDS) to assess the risk of an ED and the Questionnaire of Sociocultural Influences on the Aesthetic Body Shape Model (CIMEC 26) which evaluates perceived pressure from cultural and social factors to lose weight. Weight and height measurements were taken to calculate nutritional status based on BMI and age. Results: A total of 141 females participated with a mean age of 15.39 years. In this cohort the prevalence of ED risk was 43.26% with an average age of 15.67 years 42.62% of which being between the ages of 15 and 16. Among the total cohort 39% showed risk of either bulimia nervosa or subthreshold bulimia. The percentage of surveyed adolescents that perceived themselves as susceptible to sociocultural influences to lose weight was 51.77% with this percentage rising to 77.04% in the ED risk group showing a statistically significant association between these variables ( $p < 0.001$ ). Among adolescents without ED risk 42.5% were overweight or obese while in the ED risk group the same nutritional level was observed in 55.73% with no statistically significant association. Conclusions: A high risk of developing an eating disorder was identified in the studied adolescent population and there is a statistically significant association between ED risk and the perception of susceptibility to sociocultural influences for weight loss. However the association of nutritional status with ED risk was not statistically significant. This study provides evidence for the development of preventive strategies aimed at reducing the prevalence of eating disorders focusing on social and environmental factors influencing the body image of the adolescent population.

Sunday May 05

## Beyond Words: Deciphering Linguistic and Cultural Layers in Refugee Mental Healthcare

Bazif Bala; Mirabelle Mattar

Background: The intensifying global refugee crisis has brought to the forefront a multitude of challenges with mental healthcare access being paramount among them. In addressing these challenges mental health professionals and policymakers often encounter a confluence of issues stemming from linguistic and cultural differences. Refugees each arriving from unique socio-cultural backgrounds bring with them diverse perceptions of mental well-being illness and treatment. This intricate interplay of language and cultural beliefs remains a critical yet relatively under-investigated domain warranting deeper exploration to ensure that care provided aligns with refugees' lived experiences and worldviews. Methods: We scoured multiple academic databases including PubMed PsycINFO and Web of Science to identify articles that specifically addressed the intersection of language culture and mental healthcare for refugees. Criteria for inclusion encompassed peer-reviewed studies qualitative and quantitative in nature published in the past decade. Through a rigorous process involving initial screening of titles and abstracts followed by a full-text review we distilled our search to 20 seminal articles. Data extraction was then conducted focusing on key themes methodologies findings and implications. The cumulative insights from these articles were subsequently synthesized culminating in the creation of a comprehensive conceptual framework. Findings: The framework highlights three central dimensions:

Linguistic Discordance: Beyond mere language differences variations exist in terminologies and idioms of distress that refugees utilize to express their mental health challenges in dialects and local vernaculars. Often these might not have direct counterparts in Western



psychiatric terminologies.

**Cultural Perceptions Embedded in Language:** The mental health narratives of refugees are significantly influenced by their cultural backdrops. Language in this context serves as a medium through which varying cultural perceptions of mental health symptoms recognition or even stigma are conveyed.

**Systemic Language Challenges:** Institutional barriers such as sparse interpreters in healthcare settings or non-native language mental health resources further aggravate the linguistic rift.

**Conclusion:** Language serves as more than just a communicative tool; it is deeply interwoven with cultural perceptions and beliefs. In the realm of refugee mental healthcare understanding this dual facet is paramount. Our framework accentuates the imperative for interventions that are not only linguistically but also culturally attuned ensuring genuine comprehension and empathy towards refugees' mental health narratives.

**Sunday May 05**

### **Change in Quality of Life After the Relocation of a National Forensic Hospital: A Dundrum Forensic Redevelopment Evaluation Study (D-FOREST)**

M. Umer Waqar M.D.; Aisling O'Reilly M.B. B.Ch. B.A.O. M.Sc.; Muhammad Umer Iqbal M.B.B.S.; Harry Kennedy B.Sc. M.B. M.D.; Mary Davoren M.B. B.Ch. B.A.O. M.D.

**Background:** Forensic psychiatric services address the therapeutic needs of mentally disordered offenders in a secure setting. Clinical ethical and legal underpinnings emphasize that the Quality of Life (QOL) of patients admitted to forensic hospitals should be optimized. This study aims to examine changes in the QOL in Ireland's National Forensic Mental Health Service following its relocation from the historic 1850 site in Dundrum to a new campus in Portrane Dublin.

**Methods:** This multisite prospective longitudinal study is part of the Dundrum Forensic Redevelopment Evaluation Study (D-FOREST). Repeated measures were taken for all inpatients in the service at regular six-monthly intervals. The WHOQOL-BREF questionnaire was offered to all inpatients and an anonymized EssenCES questionnaire was simultaneously used to measure atmosphere in the wards. Data were obtained at five time points for each individual patient and ward. WHOQOL-BREF ratings were obtained across five time points with comparisons for four time intervals including immediately before and after relocation. For 101 subjects across the four time intervals 215 sets of data were obtained; 140 before and 65 after relocation with 10 community patients who did not move. Using Generalized Estimating Equations (GEE) to correct for multiple comparisons over time the effect of relocation with community patients as a control was analyzed by ward cluster and whether patients moved between wards. Observations were categorized according to security level—high dependency medium secure rehabilitation or community—and trichotomized based on positive moves to less secure wards more secure wards (negative moves) or no moves. **Results:** The hospital's relocation was associated with a significant increase in environmental QOL (Wald  $X^2=15.9$   $df=1$   $p<0.001$ ) even when controlling for cluster location positive and negative moves. When controlling for ward atmosphere environmental QOL remained significantly increased after relocation (Wald  $X^2=10.0$   $df=1$   $p=0.002$ ). EssenCES scores were obtained within the hospital for three time points before relocation and two time points afterward. No significant differences were found in the three subscales before and after the relocation. All three EssenCES subscales progressively improved with decreasing security level (Patient's Cohesion: Wald  $X^2=958.3$   $df=1$   $p<0.001$ ; Experienced Safety: Wald  $X^2=152.9$   $df=5$   $p<0.001$ ; Therapeutic Hold: Wald  $X^2=33.6$   $df=3$   $p<0.001$ ). **Conclusion:** The GEE model showed that the hospital's relocation improved self-reported environmental QOL. The cluster location made significant differences as expected for a system of stratified therapeutic security with a steady improvement in scores on

all three atmosphere subscales. This study was funded by the Health Service Executive for the Republic of Ireland.

**Sunday May 05**

### **Co-Morbidity of Anorexia Nervosa and Schizophrenia: A Review of the Literature Clinical Case Finding and Recommendations for Inpatient Management**

Claire Koljack M.D.; Amy Acosta; Claire Holderness M.D.

**Background:** Symptoms of anorexia nervosa (AN) are more frequently seen in patients with schizophrenia compared with the general population yet are underdiagnosed and often go undetected in populations with primary psychotic disorders. This has potentially deleterious consequences given that AN has the highest mortality rate of all psychiatric diagnoses and is also one of the most difficult diagnoses to treat. For these reasons it is important that clinicians can both detect and comfortably treat primary eating disorders in patients with severe mental illness. Recognition and co-treatment are particularly important in inpatient settings where clinicians are more likely to encounter patients who are severely underweight. Our goal of this literature review and case finding is to provide guidance for diagnostic clarification and inpatient management of a population that is particularly difficult to treat and requires a unique and targeted management approach. **Methods:** We reviewed literature regarding the comorbidity of anorexia nervosa and schizophrenia by searching PubMed and Google Scholar for citations between the years 2005-2023 using the keywords “psychotic disorder” “psychosis” “schizophrenia” “disordered eating” “restrictive eating” “anorexia nervosa” “serious mental illness” and “comorbidity.” We briefly review the presentation and management of a 74-year-old patient of the

co-authors’ who was admitted to an acute psychiatric unit with decompensated schizophrenia diagnosed with anorexia nervosa while there and received treatment for both disorders. **Results:** Most of the literature that examines eating disorders in populations with schizophrenia has focused on binge eating disorders. There are fewer investigations that consider the cooccurrence of schizophrenia and AN. This is likely due to the increased appetite seen in patients who are treated with antipsychotic medications. Moreover AN and schizophrenia can be difficult to distinguish often due to difficulties that accompany differentiating reduced food intake secondary to mood and psychotic symptoms from those that can be attributed to a primary eating disorder. **Conclusion:** There is a need for greater awareness and diagnostic sophistication when approaching the patient with schizophrenia who presents with restrictive eating; however there is limited literature on the co-occurrence of the disorders. This likely results in underdiagnosis of AN in patients with schizophrenia despite the high mortality rate of AN compared to other psychiatric disorders. We recommend a more frequent and careful screening for eating disorders in patients with psychotic disorders who present with low weight. Patients with psychotic disorders who present with disordered eating should receive a specialized treatment approach from a multidisciplinary team of medical and mental health professionals as well as dietitians.

**Sunday May 05**

### **Concordance in Admission Decisions Between Correctional and Hospital Clinicians**

Jamie Fried; Catherine Mier M.D.

**Background:** When a correctional mental health clinician deems an inmate in their care in need of hospitalization they refer the patient to a psychiatric services-equipped hospital for evaluation. A hospital-based psychiatrist or

clinician with admitting privileges then makes the final disposition decision. While inter-rater agreement among emergency room psychiatrists has been highly studied no previous research has explored concordance between correctional mental health professionals and hospital-based clinicians regarding disposition decisions. Similarly there is limited research assessing agreement between physician evaluators and other mental health professionals (PhD LCSW NP LPsych). This study tracks referrals for admission evaluation from New York City's jails to a public hospital to assess the extent of agreement among providers as to whether a patient requires admission. Methods: We extracted patient-level data from the records of 185 referrals made by jail-based mental health professionals to a public hospital with forensic psychiatric inpatient capacity over a seven-month period in 2023. Data collected included the referring clinician's training type time elapsed since the patient's last encounter with a clinician authorized to prescribe medications time since their last encounter with any mental health professional and the disposition decision made at the hospital. Descriptive statistics were used to assess percentage of referrals resulting in admission and the mean square contingency coefficient was calculated to determine association between the referring provider's training and the eventual disposition. Results: 63.6% (117/185) of all patients referred to the hospital were admitted. 70.8% (17/24) of patients referred by a psychiatrist were admitted while 62.1% (100/161) of referrals from other disciplines led to admission. There was little to no association between patients referred by psychiatrists and those admitted ( $\phi = 0.0538$ ). The number of days since a patient's last encounter with a psychiatrist did not significantly differ between admitted and discharged patients ( $p = 0.22$ ). Conclusions: Correctional mental health professionals exhibit generally high agreement rates with hospital-based psychiatrists similar to inter-rater agreement rates observed in other contexts. Correctional mental health professionals with psychiatric residency training (MD DO) demonstrate slightly higher rates of agreement than other providers (PhD LCSW NP); however this difference is not statistically

significant. More research is required to determine the relationship between training level decision concordance. These findings may prove valuable to psychiatric providers at carceral institutions attempting to establishing standard protocols for hospital referrals.

Sunday May 05

### **Creating A Hospital-Based Nutrition Rehabilitation Pathway for Adults**

Helen Liljenwall M.D.; Jeylan Close M.D.; Sheila Shanmugan M.D.

**Abstract** Background: Lifetime prevalence estimates of eating disorders (ED) are approximately 0.80% for anorexia nervosa and 0.28% for bulimia nervosa. Since the COVID-19 pandemic there has been a rise in the incidence and severity of ED. The Hospital of the University of Pennsylvania (HUP) has similarly seen a rise in the incidence and severity of patients admitted with eating disorders. These patients are medically complex and their courses have been complicated by inconsistent care and difficulty managing nutrition. While there is robust eating disorder treatment programming for youths and adolescents at children's hospitals such as the Children's Hospital of Philadelphia (CHOP) protocols for weight stabilization in adults with eating disorders admitted to medical hospitals have not been widely published. Methods: We sought to create a systemic treatment pathway for malnutrition for patients with eating disorders admitted to the HUP medical and ICU floors. We collaborated with a multi-disciplinary team including leaders from the nutrition psychiatry nursing food services and CHOP eating disorder program and drew on existing literature for protocols for treating malnutrition in children with eating disorders to create the Nutritional Rehabilitation Pathway (NRP). Results: The NRP consists of a care bundle involving structured observed meals with daily calorie goals for patients frequent electrolyte monitoring and daily

blind weights. It includes suggested consultant teams and key guidelines for treatment considerations for this patient population. As medical stabilization and weight restoration are key components for the treatment of patients with restrictive eating disorders (ED) the pathway emphasizes that nutrition is key to achieving medical stability in this patient population and “food is medicine.” While there is evidence for behavioral programs for the treatment of eating disorders patients are often too medically unstable to be appropriate for treatment in those settings and this treatment pathway aims to provide a protocol to stabilize these patients for appropriate further treatment. The pathway was made available on the PennPathways website March 2023 after undergoing approval and revision from nursing nutrition medicine critical care and psychiatry leadership. To date 3 patients have been enrolled in and completed the pathway and were set up with resources on discharge. Conclusion: To our knowledge this treatment pathway is the first to address the treatment of malnutrition in adults with eating disorders admitted to inpatient medical floors. Future work will focus on monitoring the efficacy of this pathway and dissemination to other hospitals and programs across the country in order to improve the quality of care for this patient population.

**Sunday May 05**

### **Discontinuation of Chronic Prescribed Benzodiazepine in Geriatric Patient Followed by Catatonia**

Lana Abdole M.D.; Maya Baiyasi; Hadley Cameron-Carter

There are no clear guidelines for tapering benzodiazepines in the geriatric population. It is known that medication changes in the geriatric population should be done slowly due to increased sensitivity to changes in dose. For many patients they are tapered off benzodiazepines over

months while for others a quicker titration is done. In some inpatient settings they are tapered off the medication as quickly as a week. Coming up with a plan for tapering benzodiazepines needs to consider patient tolerance motivation and risks of medical complications like seizures. Moreover there have been a few cases of catatonia following benzodiazepine withdrawal. Given catatonia is often underdiagnosed and missed it is important to monitor patient symptoms and maintain a broad differential when there are concerns. In this poster we present a case where an elderly man had been mistaken to have a primary psychotic disorder but ultimately it was determined he was catatonic after being tapered off his chronically prescribed benzodiazepine medication a month prior to his initial presentation. We will discuss the importance of maintaining a broad differential diagnosis recommendations for slow titration for benzodiazepines in the geriatric population and risk for catatonia as a consequence of weaning chronic benzodiazepines too quickly.

**Sunday May 05**

### **Does school attendance prevent anxiety and depression? A literature review on the effects of school closures on children from marginalized communities**

Omar Alzein M.D.; Zerimar Ramirez Lopez; Frozan Walyzada; Arham Ahmad M.D.

Background: The COVID-19 pandemic has had far-reaching and inequitable consequences on the general welfare of students encountering varying forms of virtual learning environments. Studies report children of Hispanic non-Hispanic black and multiracial backgrounds encountered virtual instruction with a greater prevalence and for a longer time frame than non-Hispanic white peers. Further studies demonstrated decreased access to in-person learning environments as lockdown restrictions eased in 2021 for the same marginalized populations compared to their non-Hispanic white peers. Evidence from varying studies concludes that psychiatric symptoms

particularly anxiety and depressive symptoms increased during the pandemic for school-aged children during school closures and lockdowns. The concerning impact of these experiences falling more significantly on under-represented groups is investigated in our literature review. Objective: The aim of this article is to comprehensively review and provide perspectives from existing literature regarding the impact of school closures and remote learning on the levels of experienced anxiety and depressive symptoms in children from underrepresented minority groups during the COVID-19 pandemic. Methods: During this study we carried out a systematic literature review based on the PRISMA model on 3 databases: PubMed Embase and PsychINFO. Search terms included COVID-19 School Closure Mental Health underprivileged anxiety and depression. Papers published from 2021 to 2023 were included in this literature review and collected studies were organized thematically. Exclusion criteria included studies pertaining to populations outside the allotted age range [1-18 years of age] previous literature reviews or duplicate entries from varying databases. Results: An initial search resulted in a total of 25 articles and 8 met the inclusion criteria. Of the returned articles a total of 4 articles were duplicates 5 were previous literature reviews and 8 studied subjects outside the age range. The articles included in our review studied children aged 5 to 18 with a total number of subjects totaling 24990. Preliminary analysis indicates a statistically significant increase in symptoms of anxiety or depression experienced by children from marginalized communities in post-pandemic school closures compared to pre-pandemic levels. Conclusion: The findings of this literature review suggest that under-represented minority groups were exposed to more prevalent and longer-lasting periods of remote learning and school closures. In the mentioned setting students were more likely to experience depressive and anxiety symptoms exhibiting more hyperactivity peer problems and overall behavioral difficulties. These findings indicate a disproportionate negative consequence of pandemic lockdowns in school-aged children from under-represented minority groups.

Sunday May 05

### **Eating Disorder Blogs During COVID-19: A Window into Recovery Progress**

Emma Batchelder M.D.; Cheryl Dellasega PHD; Martha Levine M.D.

Background: During times of crisis those who are in recovery from pre-existing conditions such as eating disorders can be at increased risk for exacerbation of existing illnesses and other comorbid conditions. Study Aim: It was the purpose of this study to evaluate and compare online blogs published by persons with eating disorders for content about the impact of pandemic on their health status. Methods: Thirty-seven blogs were identified online and reviewed by the research team. Nine blogs with posts spanning November 2019 to June 2020 were chosen for analysis of themes prior to and during the COVID-19 pandemic. Results: Persons who identified as in recovery from eating disorders experienced many of the same stressors as the general population but these were influenced by the nuances of their illness. Food scarcities led to anxiety and a focus on searching grocery stores to obtain provisions. Lockdown impacted the emotional status of bloggers by distancing them from their support networks and their treatment teams. Loss of support systems including family and virtual supports left bloggers feeling isolated. Conclusion: Vulnerable populations must receive enhanced support during crises as they are often at increased risk. For persons struggling with eating disorders this can mean relapse a loss of motivation and a sense of despair that can impact recovery status if interventions are not provided.

Sunday May 05



## **ECT Ethical Dilemma & State Laws - What are the State Laws for a Patient with Chronic Major Depressive Disorder Suicidal Ideation & Catatonia?**

Chiedozie Ofoma M.D.; Glen Orirafo M.D.

NIH and FDA have both deemed electroconvulsive therapy (ECT) to be a safe and effective treatment for patients with acute suicidality and catatonia. Here we present a patient with a major depressive episode with mood-congruent psychotic features suicidal ideation and catatonia. The patient was treated with lorazepam for catatonia and safely discharged. But months later the patient presented again with similar symptoms. The patient did not want to pursue ECT despite her worsening catatonic symptoms. Her capacity to make decisions was questioned. Two psychiatrists agreed that her psychotic and depressive symptoms may be impairing her judgment. It was unclear if the patient understood her diagnosis prognosis and treatment with ECT. The ethical dilemma here is should the patient's autonomy should be respected or whether beneficence nonmaleficence and justice should be practiced. There are no consistent U.S. laws around treating the patient with ECT when the patient is deteriorating and there is availability for life-saving treatment. This leaves individual states to regulate ECT. Some states have detailed restrictions on use other states have no regulation at all. This variation applies to multiple areas of ECT practice including who can receive it who can provide informed consent who can prescribe or perform ECT and what administrative requirements (eg fees reporting) must be met by ECT practitioners. In this case temporary commitment and judicial authorization to treat with ECT were attained. Just after four ECT treatments the patient was seen smiling with a significant decrease in paranoia and delusions. Her catatonic symptoms and depressive symptoms decreased dramatically. The patient is followed on an outpatient basis and is receiving maintenance ECT treatment. In summary there is a need for guidelines for physicians or state laws for ECT in patients with catatonia acute suicidality and major depressive disorder. Variations in laws

and delays in treatment can worsen patient condition leading to poor prognosis. Additionally the longer the patient suffers from psychopathology the more difficult it is to treat. Our proposal is two psychiatrists and a judge's order should allow ECT treatment in a catatonic patient. This could be implemented across states reducing liability and patient harm. In addition our case also adds to the literature that patients without the capacity to refuse ECT may benefit from involuntary ECT treatments.

**Sunday May 05**

## **Gender Affirming Surgeries (GAS) and their Impact on Quality of Life and Gender Dysphoria: A Systematic Review.**

Jatminderpal Bhela M.D.; Maliha Ansari M.B.B.S; Kaushal Shah M.D. M.P.H; Shailesh Jain

Background: Gender dysphoria (GD) a profound discomfort with one's birth gender significantly impacts the quality of life (QoL) through factors such as poor relationships mental health issues and low self-esteem. This review aims to elucidate the impact of Gender Affirming Surgeries (GAS) on QoL and GD among U.S. individuals. Methods: A literature search across databases like PubMed Web of Science and APA PsycInfo from February 2017 to 2023 identified potential studies. Of the initial 864 11 met the inclusion criteria focusing on GD QoL and GAS. Results: An average of 182.1 participants were included per study with a mean age of 34.7. Males (gender assigned at birth) averaged 37.32 years while females averaged 30.27. Affective disorders anxiety disorders and substance use disorders were the most prevalent disorders among GD individuals undergoing GAS. Various surgeries were studied with facial feminization surgery top (chest) and bottom (genitalia) surgeries being predominant. Significant improvements in self-worth psychological and social well-being and satisfaction with physical and sexual appearance post-surgery were noted enhancing overall QoL and reducing GD. Post-surgical evaluations across

studies indicated significant improvements in GD. Following facial feminizing surgery 86% of participants reported improved GD-related mental health conditions. Increased GAS interventions corresponded with more favorable Transgender Congruence and Body Image Satisfaction Scale scores. Masculinizing top surgery showed a dramatic improvement in the Chest Dysphoria Scale score from 29.6 pre-surgery to 3.3 post-surgery. Additionally post penile inversion vaginoplasty 77% of patients reported resolution in GD. Post-surgery complications included wound issues hematoma infections scarring and sensory losses among others. Conclusions: Gender identity remains a complex domain. We suggest further research into the long-term effects of gender affirmation surgery and self-acceptance. Despite increased access data on quality of life after the procedure is limited.

Sunday May 05

### Identifying Disparities in the Ordering of Urine Drug Screens in Psychiatric Inpatients on Admission

Michael Tompkins M.D.

**Background** Intoxication or withdrawal from illicit substances can mimic or exacerbate virtually all psychiatric disorders that require inpatient hospitalization. For this reason a urine drug screen should always be performed when admitting a patient to an inpatient psychiatric unit. Some current studies suggest that some demographic differences such as a patient's race age sex insurance status or admitting diagnosis can lead to disparities in the likelihood a urine drug screen is ordered at time of admission. The purpose of this study is to assess the prevalence of urine drug screen based on key demographic differences in patients admitted for psychiatric hospitalization. **Methods** A retrospective cohort study was conducted on 11164 patients admitted to HCA Healthcare inpatient psychiatric

units in Florida between 2016-2022. Data was extracted from HCA Healthcare's proprietary EMR database. The primary outcome measure used odds ratios to determine how much more or less likely a patient was to receive a urine drug screen based on differences in admitting psychiatric diagnosis (based on ICD codes) patient age (18-35 vs over 65 and 35-65 vs over 65) race sex and insurance status (Medicaid vs uninsured and private insurance vs uninsured). **Results** The likelihood of patients receiving a drug screen based on differences in insurance were modest with Medicaid patients being slightly less likely than uninsured patients (OR=0.83) and no statistical difference in private vs uninsured patients. Male patients were somewhat more likely than females (OR=1.28) to receive a drug screen. White patients were somewhat less likely than black patients (OR=0.85) to receive a drug screen. The data found no statistically significant difference in drug screen ratios between white patients and those of "other" race. Age differences yielded more significant differences with younger patients being twice as likely to receive a urine drug screen compared with their over 65-year-old counterparts and patients 18-35 having an OR=2.36 and 35-65 year old's with an OR=1.96 respectively. The most significant disparity occurred with a patient's admitting diagnosis specifically a psychotic disorder vs a non-psychotic disorder. Patients with the diagnosis of schizophrenia were 4.41 times more likely to receive a drug screen on admission than patients without that admitting diagnosis. Patients with a mood disorder vs non-mood disorder had an OR of 3.32. Finally patients with schizophrenia were more likely than those with mood disorders (OR=1.41). **Conclusion** Slight to modest discrepancies were found in the prevalence of a urine drug screen ordered on admission for patients based on race gender and insurance type or status whereas younger patients and those with an admitting diagnosis of a psychotic disorder were significantly more likely to receive a urine drug screen on admission.

Sunday May 05

## Impact of COVID-19 on mental health related emergency department visits in the Central Valley

Katayun Fethat; Chelsey Preciado; Francisco Ibarra

Background: COVID-19's economic recession negatively impacted many Americans' mental health and created new barriers for those with pre-existing mental health and substance use disorders. As demonstrated in several studies lower household incomes are associated with higher rates of mental health disorders and suicide attempts. California's Central Valley ranks among the highest in mental illness and poverty rates in the state. Furthermore this area demonstrates a threefold higher hospitalization rate for mental health related disorders among individuals of lower socioeconomic status. Despite these findings the region is below the national average in the number of licensed mental health professionals. Our study aimed to quantify COVID-19's impact on emergency department (ED) visits for mental health disorders in the Central Valley. Methods: This retrospective study was conducted at two institutions within the Community Health System. The primary endpoint was the incidence of patients presenting to the ED with one of the following mental health disorders: anxiety depression substance abuse or stress reactions. Patients were included if the mental health disorder was listed as a primary diagnosis or chief complaint in the electronic medical record. The incidence of mental health disorders was determined by dividing the total number of mental health disorder ED visits by the total number of ED visits. The incidence of mental disorders was compared across the following three time periods: Pre-COVID-19 (Pre-19 12/21/2018 - 03/18/2020) During COVID-19 (D-19 03/19/2020 - 06/15/2021) and Post-COVID-19 (Post-19 06/16/2021 - 09/12/2022). A sub-group analysis was performed to identify the incidence rates according to pre-specified age groups ethnicity and gender. All study measures and

procedures were approved by the local Institutional Review Board and there are no conflicts of interest to report. Results: Anxiety was the most common mental disorder across all three time periods (67.7% 68.6% 65.9% respectively) followed by substance use disorder (21.6% 20.2% 20.8% respectively). There was a 13.6% increase in the number of total mental health disorder ED visits across the Pre-19 and Post-19 time periods. Depression demonstrated the largest Pre-19 to Post-19 increase (44.3%) followed by anxiety (4.3%). Among ethnicities depression rates increased most in Hispanics (85.1%) and American Indians (75%). Depression rates increased more in males (61.3%) than females (28%) across the Pre-19 to Post-19 time periods. Among age groups depression rates increased most in those less than 18 and greater than 64 years of age (266.7% and 76.9% respectively). Conclusions: ED visits for mental health disorders in the Central Valley increased following COVID-19. Our findings highlight the need to increase the number of providers and resources available to those with mental health disorders in the Central Valley.

Sunday May 05

## Interstellar Interventions to Create Cosmic Calm

Andrew Correll M.D.; Terry Correll D.O.

Benzodiazepines such as lorazepam are the standard of care for the abortion of acute trauma-induced epileptic events and are one of the first-line treatments of acute psychogenic agitation. However lorazepam viewed by many as a gold-standard benzodiazepine necessitates refrigeration and restocking every 60 days which can be a challenge in austere environments where refrigeration is at a premium or not available at all. Currently NASA employs intramuscular diazepam injections in this role. Concerns exist though for the erratic absorption of diazepam via intramuscular route and its metabolites have an extended half-life leading to increased risk of

respiratory depression and prolonged sedation. Furthermore recent data suggests that midazolam is superior in two core measures as a treatment for status epilepticus: efficacy of time to onset and efficacy of seizure abortion. Midazolam has also been shown effective in other domains more particular to missions in space: shelf life and flexible routes of delivery. Previously long-term stability data and temperature tolerability data for midazolam were not available rendering diazepam the more reasonable option. Considering updated pharmaceutical data and recent trials it is demonstrated that stable and versatile midazolam is superior to other benzodiazepines in yielding safe timely termination of undifferentiated acute agitation and status epilepticus and is particularly well-suited for use in challenging environments such as space.

Sunday May 05

### **LGBTQ+ Iowans Mental Health Assessment: Initial Impressions from Quantitative Data**

Kendall Kelly DO/MPH

Background: There are over 100000 lesbian gay bisexual transgender and queer/questioning (LGBTQ+) individuals living in Iowa. High-quality mental health care is consistently lacking for the LGBTQ+ community despite higher rates of mental health disorders and suicide. Research is sorely needed to address specific barriers to successful treatment engagement and satisfaction for LGBTQ+ population. Methods: The LGBTQ+ Iowans Mental Health Assessment (LIMHA) was created to explore a variety of health behaviors in the LGBTQ+ community. The project is ongoing and consists of two parts: quantitative and qualitative data collection and analysis. The quantitative portion of the LIMHA was completed between October 5 2021 and November 17 2021. An anonymous online survey was made available to adult Iowans who identified as LGBTQ+ and

distribution was supported by LGBTQ+ focused community-based organizations (like One Iowa). Questions inquired about current health status utilization of services and feelings toward availability and access to resources. A convenience snowball sample design was implemented. All data management and review was conducted using SAS v9.4. Results: A total of 870 participants representing 82 of Iowa's 99 counties responded to the survey. Participants selected mental health in general (50%) lack of mental health providers and facilities (35%) and access to welcoming care (26%) as the top three barriers facing the LGBTQ+ community. Almost half (49%) of all respondents reported having visited their mental health provider for counseling or other mental health treatment within the last 12 months. Participants were also asked to identify their preferred source of information for identity and counseling legal information and health-related information. Most respondents selected a "LGBTQ+ community or state advocacy organization" above other sources including "hospital or healthcare organizations" or "public health organizations". Conclusion: Survey results confirm the high mental health needs of the Iowan LGBTQ+ community. Respondents identified mental health needs lack of mental health services and lack of access to welcoming care as the top three issues. The first two issues are explicitly related to mental health while the third issue is at least partially related. Alarming 16% of respondents reported postponing or avoiding mental healthcare because they felt disrespected or discriminated against because of their LGBTQ+ identity. It is currently unclear how many providers in Iowa have a working cultural knowledge of sexual minority patients but LGBTQ+ related education / training for healthcare providers should benefit this vulnerable population. Providers working with LGBTQ+ patients must also be aware that building multi-sector partnerships with community-based organizations may be essential to making a positive impact on the LGBTQ+ community health.

Sunday May 05

## Medical Student Perceptions of Eating Disorders

Lillian Carter; Carrie McAdams

Background: Patients with eating disorders (EDs) can present to clinicians in many different psychiatric and medical settings. As such teaching medical students to become effective clinicians for EDs is imperative. Limited research has considered how medical students approach patients with EDs a first step towards improving medical curriculum and care for this vulnerable patient population. Vignette learning is common in medical education and can identify gaps in training as well as student biases about different types of patients and disorders. Because EDs are widely referenced in the media and social media misinformation and stigma about EDs is also common. Identification of attitudes perceptions and gaps in competencies in approaching patients with EDs is a first step towards improving medical education about EDs. Methods: Twelve mental health scenarios were designed in the form of short vignettes. These scenarios included combinations of psychiatric conditions. The combinations were designed to allow two major comparisons of responses across different mental health scenarios. First ED presentations (anorexia nervosa bulimia nervosa and binge eating disorder) were compared to other psychiatric conditions (depression anxiety and substance use disorder). Second each type of psychiatric disorder was presented in both a social and a clinical setting allowing comparison of whether attitudes perceptions and competencies differed with context. A survey utilizing these vignettes was distributed to all medical students at one university to evaluate their attitudes perceptions and confidence in managing each scenario. Two-tailed T-tests were used to compare Likert scale ratings. Results: Thirty medical students responded to the survey request. Students felt significantly less competent in treating eating disorders compared to treating other mental health conditions such as anxiety depression and

alcohol use disorder ( $p < 0.001$ ). Students expected that individuals with eating disorders were less likely to recover from their condition than individuals with non-eating disorder conditions such as anxiety depression and alcohol use disorder ( $p = 0.006$ ). All psychiatric conditions described were viewed as more serious in clinical settings compared to social settings ( $p = 0.04$ ). Conclusion: Medical student perceptions of patients have the ability to affect the care that they provide. The results revealed some areas where medical education can be improved. Curriculum changes focused on improving student competence in treating EDs may be beneficial. Education focused on severity and prognosis may need to be emphasized. The vignettes designed in this study captured student attitudes perception and competencies and could be applied as an educational tool.

Sunday May 05

## Overcoming Cravings: Naltrexone Utility in Binge Eating Disorder

Vitaly Chernish M.D.; Zoe Reasons M.D.

Abstract Background: Binge-eating disorder (BED) as defined in the fifth edition text revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) is characterized by recurrent episodes of consuming large amounts of food in a short period of time accompanied by a sense of lack of control and distress. While the condition is not classified as a substance-related or addictive disorder the opioid system and dopamine reward pathway in the brain are implicated in food intake and craving. We present a case of a 53-year-old non-obese woman with BED who achieved remission with naltrexone 50mg qd after trials of fluoxetine topiramate and bupropion. Through this case study we attempt to ascertain the relationship between opioid antagonists such as naltrexone and food craving and binge eating behavior as well as their potential role in treating BED. Methods: A literature review was conducted though PubMed



Embase and Scopus. We broadened the search criteria for “binge eating disorder” to include “binge eating behavior” “food addiction” and “compulsive eating” as well as “bulimia” and “eating disorder not otherwise specified (NOS)” to account for the evolution of the diagnosis over the years. Search terms for “naltrexone” also included “opioid antagonist” and “narcotic antagonist.”

Results: Reviews and studies from both animal and human models suggest a role for blocking the reward processing pathway through the opioid receptor system to target craving and feeding behaviors. Conclusion: Opioid antagonist monotherapy such as naltrexone may be a reasonable treatment option for patients with BED who fail or have contraindications to other typical first-line therapies (SSRIs bupropion lisdexamfetamine).

Sunday May 05

### **Overview of Efficacy and Clinical Outcomes of IMO in treatment of serious Mental Illnesses in the US Jail System.**

Bahareh Seyed mahmoud; Abdolreza Saadabadi M.D.; Mandeep Bagga M.D.; Gursimran Kehal D.O.; Shashvat Patel

In California jail-based competency restoration programs offer a promising approach to improving mental health care for inmates deemed incompetent to stand trial. These programs have demonstrated the ability to increase competency restoration rates and reduce the time inmates spend in jail. However it is crucial to conduct further research to evaluate their long-term outcomes and cost-effectiveness. In a recent United States Supreme Court case *Riggins v. Nevada* the court expanded its examination of involuntary treatment with antipsychotic medication to include mentally disabled individuals facing criminal trials. When a criminal defendant is deemed incompetent to stand trial they cannot undergo trial proceedings. Instead

they are committed to hospitals for treatment aimed at restoring their competency and some may refuse medication. This raises significant medical and ethical questions an issue that has received limited study and attention. Our case studies represent the first comprehensive examination of individuals committed to state hospitals to restore competency while refusing antipsychotic medication. We retrospectively analyzed 68 cases involving applications for treatment over objections filed from 1986 to 1990. These cases involved patients in two facilities that received over 95 percent of all indicted felony offenders in New York State who were found incompetent to stand trial. The study's findings revealed several noteworthy conclusions: According to clinical reports none of the patients provided rational reasons for refusing medication. Clinicians consistently found the proposed treatment to be clinically appropriate. Judges did not find any individual who was deemed incompetent to stand trial justified in refusing medication. A remarkable 93 percent of patients treated involuntarily exhibited a positive clinical response. An impressive 87 percent of patients treated involuntarily were successfully restored to competency for trial. These findings suggest that in the cases we examined involuntary treatment with antipsychotic medication resulted in positive clinical responses and successful competency restoration. However it's important to emphasize that these findings are specific to the cases in this study and may not necessarily apply universally. The ethical and legal complexities surrounding involuntary medication in such cases continue to be the subject of ongoing debate and scrutiny highlighting the need for further research to inform policy and practice in this area.

Sunday May 05

### **Overview of Efficacy and Clinical Outcomes of JBCT in Treatment of Serious Mental Illnesses in the US Jail System.**

Pegah Yakhchalian M.D.; Abdolreza Saadabadi M.D.; Mandeep Bagga M.D.; Shashvat Patel; Gursimran Kehal D.O.

Forensic populations in the United States are increasing driven largely by a rise in individuals determined to be Incompetent to Stand Trial (IST). Across most states including California the number of mentally ill inmates awaiting competency restoration has increased dramatically in recent years. Traditionally competency restoration has taken place in state hospitals but incompetent inmates often experience a significant wait for state hospital beds because of the rising demand for beds in such facilities. The resulting waitlists which range from days to months have led to states being held in contempt of court for violating limits placed on how long incompetent defendants can be held in jail. Therefore alternatives to state hospitalization for IST patients have been developed including jail-based competency (JBCT) restoration programs. JBCT programs provide restoration services in county jails rather than in psychiatric hospitals. California the first state to substantially advance the principle of least restrictive treatment through its Lanterman-Petris-Short Act in 1969 with strict procedural safeguards required for involuntary hospitalization ironically also allows the involuntary medication of jail detainees through its Welfare and Institutions Code. As explained by Lamb and colleagues: The inpatient unit [of the Los Angeles County Central Men's Jail] is designated (under the California Welfare and Institutions Code) to house and treat both voluntary and involuntary patients and is thus empowered to administer medications involuntarily when the patient is considered a danger to himself or others or is gravely disabled. Discrepancies between jail regulations and patients' rights are weighed in their resolution in favor of jail regulations. A systematic review was conducted by searching electronic databases and hand-searching the reference lists of relevant studies. Studies that investigated jail-based competency restoration programs for inmates deemed incompetent to stand trial in California were included. Outcome measures included competency restoration rates and length of stay in

jail. Four studies met the inclusion criteria comprising 594 inmates. The meta-analysis showed that jail-based competency restoration programs were associated with higher rates of competency restoration (pooled odds ratio = 3.87 95% CI = 1.50-9.97 p = .005) and shorter length of stay in jail (pooled standardized mean difference = -0.50 95% CI = -0.98 to -0.02 p = .04) compared to standard care. Jail-based competency restoration programs are a promising approach for improving the quality of mental health care for inmates with incompetency to stand trial in California. These programs have been shown to increase competency restoration rates and reduce the length of stay in jail. However further research is needed to evaluate these programs' long-term outcomes and cost-effectiveness.

**Sunday May 05**

### **Prison Policy Autocastration and Gender Affirming Care**

Nicholas Jascewsky D.O.; Nayan Bhatia M.D.

Background: The US prison system houses an estimated 4890 gender dysphoric patients leading to a paucity of information regarding care<sup>1</sup>. Prior to 2022 New Jersey carceral placement was determined by state law which utilizes gender identity. Following two inmate impregnations carceral placement has been determined by Prison Rape Elimination Act of 2003 (PREA) which utilizes sex assigned at birth. Case series presentations: 36-Year-old trans-female inmate with gender dysphoria presents with penile lacerations and rectal insertion of a razor. Psychiatry consulted for conditional self-harm in the setting of gender dysphoria. The patient planned to perform auto-penectomy. Patient was previously denied gender-affirming hormones and therapies and states "I'm not suicidal I just want treatment." 33-Year-old trans-female inmate with gender dysphoria presents with self-harm involving groin and scrotum lacerations. Psychiatry consulted for capacity evaluation following treatment denial. Patient has capacity.

She desires penectomy and vaginoplasty while denying any intervention that will maintain the viability of her penis. Patient states “If I wind up dying because I don’t get a repair it is better than being forced to live like I have been.” 28-Year-old trans-female inmate with gender dysphoria presents with self-harm involving scrotum lacerations and rectal insertion of a blade. Behavioral health evaluated for self-harm. This was the 3rd episode of self-injurious behavior related to their gender dysphoria to access gender affirming surgery. 37-Year-old trans-female inmate with gender dysphoria presents with self-harm involving scrotum lacerations. Psychiatry consulted for capacity evaluation following treatment denial. Patient has capacity. She denies all interventions that impeded the acceleration of her path toward gender affirming bottom surgery or the necrotic loss of her external genitalia. She stated the decision was between “slitting her scrotum or her wrists”. Discussion: Changes in policy have led to increased incidence of self-harming and autocastration in the incarcerated gender dysphoric population. Access to gender-affirming care is medically necessary for the incarcerated population when appropriate. Denial of care violates the patient’s 8th amendment rights<sup>2</sup>. There are jurisdictions with provisions for gender affirming care which show decreased likelihood of autocastration events occurring<sup>3</sup>. Training programs are available which improve knowledge of transgender policies and lead to greater overall satisfaction<sup>4</sup>. Resources are available that discuss the treatment of inmates with gender dysphoria including standard of care medical necessity eligibility for SRS and post-SRS considerations<sup>5</sup>. Transgender care in the prison setting should follow evidence and ethically informed approach<sup>6</sup>. This case series report contributes to a small but growing literature on providing care for gender dysphoria in the carceral setting.

Sunday May 05

## Propylhexedrine Abuse and Psychosis in the Emergency Department an Increasing Trend

Stephanie Ruthberg MD; Parisa Thepmankorn; Noah Villegas MD

Introduction: Propylhexedrine is an alpha-adrenergic sympathomimetic amine and the main ingredient of the popular over the counter (OTC) nasal decongestant Benzedrex. [1] In 1949 the pharmaceutical company replaced its active ingredient amphetamine sulfate with propylhexedrine hoping to improve the drug’s safety profile and decrease abuse. [23] However propylhexedrine still became a popular drug of abuse in the 1970s-80s. [3] After a relative period of inactivity during the 1990s-2000s it re-emerged in the 2010s. Abuse can be via supratherapeutic inhalation oral ingestion of the inhaler components or IV injection. When inhaled as indicated (at lower doses) it causes vasoconstriction and decreases inflammation of the nasal mucosa locally. At higher doses it increases the release of norepinephrine dopamine and serotonin like amphetamines. The psychiatric effects of propylhexedrine toxidrome include severe agitation psychosis paranoia and hallucinations and cardiac effects include severe hypertension tachycardia end-organ damage from its peripheral vasoconstriction and sudden death. [1 2] Case: BE is a 34-year-old man with history of Bipolar 1 Disorder and tobacco and cannabis use disorders who was brought to the ER after his father noted increased and dangerous activity at home. He presented as acutely agitated manic and psychotic requiring 2 rounds of Versed 5mg. He reported abuse of Benzedrex (propylhexedrine) via ingestion. Toxicology recommended cardiac and psychiatric monitoring. Vitals: BP 147/82 pulse 78 O2 sat. 98% BMI 23.6. EKG with sinus tachycardia at 113 bpm. Re-evaluation: BP 129/89 and pulse 117. Utox positive for amphetamines and benzodiazepines. Methods: A literature search was conducted using PubMed with the following search terms: propylhexedrine propylhexedrine and psychosis propylhexedrine and abuse. We reviewed the resulting articles and their affiliated references as appropriate.

Results: Propylhexedrine: 45 results (1970-2000: 40 2001-2023: 5) Propylhexedrine and psychosis: 5 results (1970-2000: 4 2001-2023: 1) Propylhexedrine and abuse: 15 results (1970-2000: 11 2001-2023: 4) Conclusion: BE's case highlights the growing trend of OTC Bensedrex abuse. The resurgence of propylhexedrine this decade comes after about 20 years without mentions of associated abuse or psychosis in the literature. Given this trend Bensedrex and other OTC medications with stimulant properties may require stricter control in pharmacies. And while propylhexedrine may yield a positive result on urine toxicology screening our current screens do not test for this substance specifically. Thus we recommend asking about abuse of OTC medications during substance use history for psychiatric emergency room visits. Keywords: emergency psychiatry propylhexedrine stimulant abuse sympathomimetic toxidrome toxicology

Sunday May 05

### **Psychiatric advance directives: blueprints for preserving patient autonomy**

Yingcheng Xu MD; Kelly Yang M.D.; Liliya Gershengoren

Background: Respecting patients' autonomy is a cornerstone of ethical medical care and is a principle that often comes under threat in psychiatric care settings. This is especially the case when patients are incapacitated or unwilling to engage in treatment that is deemed clinically necessary. Psychiatric Advance Directives (PADs) offer a legal framework for patients to express their treatment preferences in advance helping to preserve their autonomy even in situations where decision-making capacity may be compromised. Methods: This narrative review summarizes literature on the use and impact of PADs on promoting patient autonomy in psychiatric care. A comprehensive literature review was conducted on available sources discussing the use of PADs including peer-reviewed articles legal documents

and official guidelines. Review of literature focuses on understanding the history of PADs how they are created and used and their effect on patient experiences. Challenges in implementing PADs and ways to improve their use in clinical settings are examined. Results: PADs have been legally recognized for decades in the United States but have low rates of use among patients and providers. Research demonstrates that PADs can facilitate shared decision-making enhance treatment adherence and improve patient satisfaction. Furthermore PADs have been linked to a reduced use of coercive interventions in psychiatric care settings. Structured facilitation and the involvement of peer specialists have been shown to improve the adoption of PADs among patients and providers. The discourse surrounding PADs is replete with intricate ethical and legal quandaries. This review illustrates the ways in which PADs can either mitigate or exacerbate existing disparities in treatment and reflects on the philosophical debates regarding decision-making capacity in patients with psychiatric illness. Conclusion: The utilization of PADs is a valuable means to promote patient autonomy in psychiatric care by promoting communication between patients their providers and their social supports. PADs may empower patients to actively engage in their treatment planning improve the therapeutic alliance reduce the use of coercive treatment practices and ultimately transform the overall quality of psychiatric care received.

Sunday May 05

### **Racial and Ethnic Diversity of Psychiatry residents and fellows from 2012-2022**

Shigeru Kaneki; Sophia Fioramonti-Gorchow; Olanrewaju Olukitibi; Mill Etienne

Background: The 2021 National Survey of Drug Use and Health revealed that Black and Hispanic populations with mental illness were less likely to receive any mental health services (39.4% and 36.1% respectively) than White populations (52.4%). This may be explained by the lack of

racial concordance between patients and physicians. According to the 2020 US Census Black and African American individuals comprise 12.4% of the population while Hispanic individuals comprise 18.7%. However only 5.99% and 9.16% of US medical residents are of Black and Hispanic origin. This heralds the importance of addressing the disparity in physicians from demographics underrepresented in medicine (URM) as defined by the Licensing Committee on Medical Education (LCME). The primary objective of this study was to analyze the racial and ethnic diversity among the US Psychiatry residents (n=7353) using data from the Accreditation Council for Graduate Medical Education (ACGME) from 2012 to 2022 and the US Census. Methods: ACGME data from 2012 to 2022 was quantitatively analyzed to determine the racial and ethnic diversity in US psychiatry residency programs. US data on race ethnicity and gender of Psychiatry residents were extracted. A Chi-Square test was utilized to compare the observed ACGME data and expected values using the 2010 and 2020 census. A linear regression test compared changes in diversity over time. Microsoft Excel and GraphPad Prism were used for data collection and analysis. Results: Chi square analysis demonstrated that Black and African American and Hispanics were significantly underrepresented in psychiatry residency programs compared to the United States Demographic ( $p < 0.001$ ) data. These significant differences were found within all subspecialties within psychiatry ( $p < 0.05$ ). Though there has been a steady increase in psychiatry residents from 2012 to 2022 (n=5034 to n=7353) regression analysis demonstrates the psychiatric residents from demographics URM have not followed the same trends ( $p < 0.001$ ). Summary of all years analyzed demonstrated that out of all psychiatry residents 6.25% were Black (n=3711/59416) and 6.90% were Hispanic (n=4102/59416). Conclusion: A significant disparity was found between US population demographics and US Psychiatry residents. Even with the increased emphasis on diversifying the field of psychiatry and increased care of underserved communities the field of psychiatry has not demonstrated a significant increase in residents from demographics URM. This suggests

the need for further upstream efforts in diversifying the field of medicine. Steps may include enhanced mentorship and exposure for K-12 URM students promoting the pipeline of URM entering college and medical school entering psychiatry residency and various psychiatric fellowship programs. This additional focus may be a major contributor in addressing the existing health inequity.

**Sunday May 05**

### **Refining medical clearance protocol for patients with primary psychiatric complaints in the emergency department**

Christopher Casey M.D.; Natalie Wu; Payton Mangham

Introduction: Medical clearance for patients with primary psychiatric complaints presenting to the emergency department has been debated for decades. Emergency physicians have argued that clearance labs are unnecessary yet psychiatrists may still order or require them. A retrospective review was conducted to evaluate the continued need for labs of psychiatric patients and help identify high risk groups that may need additional intervention prior to medical clearance.

Methods: Charts of 163 patients from Ochsner LSU Shreveport Psychiatric Crisis Unit (PCU) were reviewed with data collected of history physical examination review of systems vitals and routine lab work including complete blood count (CBC) comprehensive metabolic panel (CMP) urine drug screen (UDS) serum ethanol level (EtOH) urinalysis (UA) creatine kinase (CK) urine pregnancy test (UPT) and rapid COVID-19. Results: Review identified 82 patients (50.3%) that received interventions prior to medical clearance. Most common intervention was intravenous (IV) fluids (n = 59; 45%) followed by admission to other service (n = 15; 8.4%) imaging (n = 10; 7.6%) antihypertensive medication (n = 3; 3.1%) cardiac workup (n = 3; 2.3%) antibiotics (n = 3; 2.3%)



lorazepam for undocumented reasons (n = 2; 1.5%). Additional interventions completed once included immunizations antiseizure medication pain medication and additional lab work. Causes for IV fluids were reviewed with elevated creatine kinase (CK) (n = 31; 50.8%) being most common. Additional causes included undocumented (n = 12; 19.7%) tachycardia (n = 6; 9.8%) elevated EtOH level (n = 3; 4.9%) dehydration (n = 2; 3.3%) acute kidney injury (AKI) (n = 2; 3.3%) leukocytosis following a seizure (n = 1; 1.6%) elevated CK and leukocytosis (n = 1; 1.6%) and AKI and elevated CK (n = 1; 1.6%). Most common cause for medical admission was elevated CK being cited in 8 out of 15 admissions (53.3%). Additional causes for admission included AKI (n = 2; 14.3%) seizures and leukocytosis (n = 1; 6.7%) rule out of acute coronary syndrome (ACS) (n = 1; 6.7%) alcohol withdrawal (n = 1; 6.7%) encephalopathy with drop in hemoglobin and white blood cell count (n = 1; 6.7%) and encephalopathy with elevated CK (n = 1; 6.7%). Discussion: Our results support the recommended guidelines set by AAEP for laboratory testing in addition to history vital signs and physical examination prior to medical clearance. Certain laboratory testing such as CK and CMP were identified to have higher utility for medical intervention while other lab work such as UA and UDS had less of an impact. Further we suggest that specifically a CK and CMP be obtained on patients presenting with any of the following: agitation abnormal vital signs intoxication or a history of or current stimulant use as these were factors correlated with lab abnormalities that led to interventions.

Sunday May 05

### **Resident Comfort and Preparedness to Care for Sexual and Gender Minority Patients: Efficacy of an Interactive Trainee-led Case-based Didactic**

Jason Christopher D.O. J.D.; Lauren Kaczka-Weiss; Emma Banasiak M.D.

Background: The number of self-identified LGBTQ+ Americans has increased significantly in recent years resulting in a broader need for providers to exhibit appropriate cultural competence. Recent research has shown that psychiatry residency programs may insufficiently prepare trainees for this. Our study seeks to assess and improve psychiatry resident and fellow (“resident”) knowledge and comfort in discussing sexual orientation and gender identity (“SOGI”) with patients. Methods: A one-hour didactic session was presented to residents from two suburban academic medical centers including a case-based discussion focusing on relevant terminology psychosocial determinants of health and strategies to solicit SOGI information. Efficacy was measured using the Lesbian Gay Bisexual and Transgender Development of Clinical Skills Scale (“LGBT-DOCSS”) a self-rating 7-point Likert scale previously employed in related literature. The survey was administered to all participants before and after the didactic session. LGBT-DOCSS data was utilized to assess Basic Knowledge (awareness of health disparities) Clinical Preparedness (training clinical experience assessment skills competence) and Attitudinal Awareness (explicit bias and prejudice) among residents. A cumulative link mixed effects model for ordinal regression was performed comparing the pre- and post-didactic survey results. Results: The analysis included data from 19 residents who completed both surveys and 27 residents who completed the pre-didactic survey only. A wide range of knowledge and comfort was reported. Pre-didactic data showed that 74% of polled residents generally reported they could adequately identify health disparities experienced by LGBTQ+ patients and 62% could identify institutional barriers preventing these patients from utilizing health services. Post-didactic results suggest that participants felt better informed overall about specific topics including institutional barriers prohibiting transgender patients from utilizing healthcare services (mean LGBT-DOCSS score difference +0.8 p=0.19) and those preventing LGB patients generally (+0.5 p=0.37). Residents completing both surveys reported higher overall knowledge at outset but this difference was not statistically significant

(+0.4 p=0.15). Data regarding clinical preparedness suggests a more substantial impact. Overall residents reported feeling adequately prepared to care for LGB patients after the didactic (+0.7 p=0.12) but continued to report feeling unprepared to care for transgender patients (+0.3 p=0.61). Interestingly they reported feeling less competent to assess both transgender (-0.2 p=0.65) and LGB patients generally (-0.3 p=0.59) after the didactic. Conclusion: Results indicate that many residents had experience treating LGBTQ+ patients but did not always feel prepared to do so. After our didactic most reported feeling more knowledgeable and better prepared to discuss SOGI and assess these patients.

**Sunday May 05**

### **Sociodemographic Predictors of Attendance in an Outpatient Psychiatric Setting**

Aneri Patel BS MBA; Drishti Patel BS MBA; Lauren Dori BS MBA

**Introduction** A significant challenge to delivering outpatient psychiatric care is the high rate of patient no-shows for scheduled appointments. Inconsistent follow-up can exacerbate psychiatric conditions highlighting the importance of identifying patient characteristics that may predict high no-show rates. There is a lack of consensus on which patient demographics and socioeconomic characteristics in an outpatient psychiatric setting present with greater likelihood of no-shows. This study explored sociodemographic predictors of attendance at a large outpatient psychiatry clinic in the Northeast. **Methods** A retrospective chart-review of 331 patients seeking outpatient between 2017-2019 was conducted. Attendance for each patient was calculated as the ratio of attended sessions to total number of scheduled sessions during the initial 6 months of treatment. Sociodemographic data were collected through patient registration and self-report treatment questionnaires.

Nonparametric attendance data was analyzed using the Kruskal-Wallis and Mann-Whitney post-hoc test to examine the association between patients' sociodemographic variables and treatment attendance. Results The average attendance rate for the patients in our sample was 73.9%. Our findings indicated that ethnicity (H(5)=19.97 p<0.01) employment status (H(1)=13.84 p<0.001) and educational attainment (H(6)=18.18 p<0.01) were all significantly associated with attendance rate. Post-hoc analyses revealed that patients who identified as Black/African American (z=-2.52 p<0.05) and Hispanic (z=-3.76 p<0.001) had significantly higher no-show rates relative to Caucasian patients. Moreover patients without a high school diploma had low attendance rates compared to those with a four-year college degree (z=-3.37 p<0.01). Finally unemployment was associated with a higher no-show rate relative to part-time (z=-3.39 p<0.001) or full-time (z=-3.31 p<0.001) employed patients. Conclusion Increasing awareness of the sociodemographic predictors linked to attendance rates can help providers identify at risk patients and contribute to a deeper understanding of the barriers to treatment attendance. This can pave the way for targeted interventions such as for patients with decreased education and employment status to mitigate these barriers ultimately leading to improved attendance and better treatment outcomes.

**Sunday May 05**

### **Successful treatment of self-injurious behavior with bupropion in geriatric patients: A case series**

Aaron Puckett M.D.; Heidi Johnson; Justin Gande; Jacob Shumac

Self-injurious behavior (SIB) is an uncommon but serious problem in geriatric populations. There is little evidence based guidance for pharmacologic treatment of SIB in geriatric patients. This case

series covers four cases of SIB with dramatic improvement or resolution of such behavior after initiation of buspirone pharmacotherapy. Buspirone appears to have potential as a treatment option for SIB in geriatric patients and may warrant future study.

**Sunday May 05**

### **The Assessment of Non-Suicidal Self-Injury in Juvenile Correctional Facilities**

Rose Tusa M.D.; Rahn Bailey M.D.

**Abstract** Background: Non-suicidal self-injury (NSSI) is a deliberate and self-directed act resulting in the destruction of one's own body. While it is not done with suicidal intent it is strong predictor of suicidal behavior in the future. It occurs mostly in adolescence with incarcerated juveniles having increased psychosocial risk factors. Methods: A systemic review of literature between 1980 and 2022 was completed to understand the methods utilized to measure NSSI in juvenile correctional facilities. The databases used were PubMed Criminal Justice Abstracts PsycINFO and Embase. Search terms were "NSSI or non-suicidal self injury or non suicidal self harm" and "adole\* or juvenile" and "incar\* or prison\* or detain\*." A total of 451 articles were reviewed for inclusionary and exclusionary criteria. After review 22 articles were deemed appropriate to retain for review. Results: Review of literature found that multiple methods were utilized in assessing NSSI in juvenile correctional facilities. The more common methods of assessment were standardized assessments (41%) unstandardized assessments (32%) and chart reviews/incident reports (18%). Although the largest group was standardized assessments the specific assessments used varied widely in specific questionnaires and the type of information collected. Conclusion: Results from this review found that studies varied in how NSSI was assessed and measured. Future studies are needed to determine how to best assess and

monitor for NSSI in juvenile correctional facilities. This is especially important as this population is at increased risk due to age and psychosocial factors. Additionally consistent measurement of this type of data can improve research on related topics such as outcomes of certain interventions for NSSI.

**Sunday May 05**

### **The Influence of Food Addiction on Momentary Mechanisms in Binge Eating**

Shirley Li BA; Rachel Kalan; Alexandro Smith BA; Tyler Mason PhD; Kathryn Smith PhD

**Background:** Food addiction (FA) and binge eating are both marked by loss of control over consumption continued excess use despite negative consequences and repeated failed attempts to cut down on consumption. There is ongoing debate regarding if FA is a distinct concept from eating disorders characterized by binge eating. The present study examined whether FA severity moderated momentary associations between hypothesized antecedents and subsequent binge eating. **Methods:** Participants completed the Yale Food Addiction Scale 2.0 (YFAS) to assess for FA symptoms. Ecological momentary assessment (EMA) was used to examine temporal patterns in experiences and behaviors over a 10-day protocol with up to 5 daily prompts. At signal-contingent EMA prompts surveys assessed antecedents (affect impulsivity food cue exposure craving eating expectancies and preoccupation with thoughts of food). At eating episodes participants completed EMA surveys assessing binge-eating symptoms. We used generalized linear mixed models to examine main effects (within- and between-person components) in addition to two-way interactions between YFAS as predictors of subsequent binge-eating symptoms measured at the next EMA signals. **Results:** 49 participants (mean age=34.9±12.1 77.1% cisgender female 55.1% non-Hispanic White mean BMI=33.7±8.1 kg/m<sup>2</sup>) completed the EMA protocol and were included in

analyses. Participants completed 2345 EMA surveys with an average EMA compliance of 74.3%. There were 1358 eating episodes. YFAS was a significant predictor of binge eating across all models. Impulsivity was positively associated with binge eating for both between- ( $B=0.22$   $SE=0.05$   $p<0.001$ ) and within-person effects ( $B=0.11$   $SE=0.03$   $p<0.001$ ). Food cue exposure was also positively associated with binge eating for both between- and within-person effects ( $p=0.049$   $p<0.001$  respectively). YFAS scores interacted with within-person impulsivity ( $B=-0.01$   $SE<0.01$   $p=0.035$ ) and food cue exposure ( $B=-0.01$   $SE<0.01$   $p=0.001$ ) to predict binge eating. The relationship between momentary impulsivity and subsequent binge eating was stronger among participants with lower but not higher YFAS scores. Similarly the relationship between momentary food cue exposure was positive among those with lower YFAS scores. No interactions were observed between YFAS scores and other antecedents predicting binge eating. There were no significant within- or between-person effects for affect. Conclusions: Higher FA was associated with greater binge eating and FA severity moderated momentary associations between impulsivity and food cue exposure and subsequent binge eating. Preoccupation with thoughts of food craving and eating expectancy were associated with elevated binge eating but these associations did not differ based on FA. This data provided important insight into FA symptoms as a marker of binge eating including the understanding of maintenance mechanisms underlying this diagnosis.

Sunday May 05

### **The Prevalence of Eating Disorders in Children Adolescents and Young Adults 2017-2022**

Erin McDaid; Yezhe Lin; Anita Kablinger; Ching-Fang Sun; Katherine Liebesny

Introduction. Eating disorders (ED) have been on the rise seemingly tangential to both the popularization of social media and isolation brought on by the COVID-19 pandemic. EDs are characterized by pathological changes in eating behavior among individuals with distorted thoughts about food or body often carrying the potential for severe and even fatal outcomes. Although previous studies have explored the risk factors for eating disorders (1) as well as advances in classification and diagnosis (2) none had explored the current condition of eating disorders in a real-world setting (3). This calls for further exploration of the trends in prevalence of eating disorders and their impact on individuals of varying age and gender. This study aimed to 1) examine the ED estimated overall prevalence and the estimated prevalence by sex; and 2) investigate the time trend of ED diagnosis by age and sex. Methods. This study utilizes TriNetX 2017-2022 data from 46388498 patients aged 5-26 among which we identified those diagnosed with eating disorders. Ages were categorized into 3 groups prepuberty (aged 5-12) adolescents (aged 13-18) and transitional age youth (TAY) (aged 19-26). Descriptive analyses of sex and age of diagnosis were conducted using Fisher's exact tests/Chi-squared tests and t-tests. Age trends in ED estimated prevalence by year and sex were calculated independently. Time trends in ED diagnosis by sex and age were tested by two-way interactions of sex and age at ED diagnosis in binary logistic regression for the whole population. Results. The estimated prevalence of EDs was 250/100000 during 2017-2022. EDs were more prevalent in females compared to their male counterparts (female: male=20:7). The mean age of first diagnosis ED was  $17.57\pm 0.02$ . Females tend to be diagnosed with ED at an older age compared to males (Mean [age]: 18.71 vs. 14.08  $p<0.001$ ). Among the age groups we noted a prominently higher increase in the prevalence of EDs among patients in the adolescents group compared to the prepuberty and TAY groups rising from 110/100000 in 2017 to 560/100000 in 2022. In contrast the prevalence among TAY increased from 310/100000 in 2017 to 330/100000 in 2022 and the prepuberty group 80/100000 in 2017 to 140/100000 in 2022. Furthermore there was a

gradual increase in the overall prevalence of EDs from 2017 to 2022 with rates rising from 170/100000 to 320/100000. Notably this increase in ED prevalence over the years was significantly higher among females (230/100000 in 2017 to 470/100000 in 2022) compared to males (100/100000 in 2017 to 140/100000 in 2022). Conclusion. This study identifies the rapid increment in the prevalence of ED diagnoses particularly marked in the adolescents prepuberty and the female groups. Our findings indicate the necessity of ED primary prevention and potential early intervention in children and adolescents.

**Sunday May 05**

### **The psychiatric crisis team in the Netherlands is reachable 24/7 !**

Stefan Streit

The psychiatric crisis team in the Netherlands is 24/7 reachable for the patients ! A psychiatric doctor and a nurse are a duo-team which could see patient with psychiatric symptoms in 30-60 minutes in the Hospital ambulance or at home! This works very effectively to prevent hospital treatments. If necessary a special police officer can join the team. So people with psychiatric problems can be kept outside the hospital and can get a very sufficient ambulant service and mostly treatment for some days or weeks. We have data over our crisis work which shows what happens in the crisis team 24/7 very precisely. This opportunity to see patients very early is very efficient and helps to limit psychiatric crisis behavior and development. We are sure that the ambulant acute treatment service with the crisis team is one of the best ways in the world to limit psychiatric illness right from the beginning when it starts.

**Sunday May 05**

### **Unfolding GenZ Identity: Exploring Non-Binary Gender Identification in Youth with Borderline Personality Traits. A Case Series with Literature Review**

Chenique Texeira M.D.; Marilena Adames-Jennings; Natasha Kasulis M.D.; Urenna Anyeji M.D.; Daanish Khorasani

**Background:** Over the years there has been a significant rise in individuals openly identifying as non-binary challenging the traditional binary concept of gender identity. This emergence not only applies to the general child and adolescent population (CAP) but notably those with borderline personality traits (BPT). The empirical literature on BPT has paid little attention to this aspect of identity formation. As gender-diverse individuals become more prominent in clinical settings there is a growing demand for improved guidance on delivering suitable mental health care. **Methods:** Our case series used a qualitative approach to ascertain severity of BPT & patients' gender identification within our CAP on the inpatient psychiatric unit. Data was collected on their identified pronouns sexual orientation trauma history self-injurious behavior suicidality measures scored on McLean's instrument & subjective accounts of identity confusion. We employed a literature review using Google Scholar MESH filter on PubMed & Mount Sinai's Levy Library with search terms: "borderline personality" "children" "adolescents" "gender identity" & "non-binary" using combinations of up to 3 terms at a time. We found 35 articles published between the years of 2019 to 2023 & 21 were excluded based on age and diagnoses other than BPD or BPT. **Results:** There is very little literature exploring the interplay between youth with BPT and non-binary gender identification. Furthermore even less outlining the impact of non-traditional gender identity on individual experiences of mental health disorders psychological distress and trajectories of recovery. Existing literature focuses on binary populations citing increased risk of depression neuroses suicidal behaviors medication misuse decreased likelihood of seeking help from social supports internalization and greater tendencies towards hopelessness in binary females. In



contrast increased substance use involuntary hospitalization & externalization were found among binary males. Our case series consisted of a sample of 5 patients with BPT who presented on the child & adolescent inpatient unit in July 2023. The patients range from 11 to 16 years old 4 of female sex 1 of male sex 3 self-reported as non-binary and 2 as binary. Interestingly we found that non-binary gender identification was associated with protective factors such as improved psychiatric symptomatology and increased functioning on the unit. Conclusions: We consider that non-binary gender may act as a protective factor in the psychiatric & therapeutic realm in the CAP with BPT. This phenomenon needs to be further explored as it impacts diagnostic and treatment approaches. We suggest that clinicians thoroughly assess gender identity sexual orientation psychosocial factors and embrace a gender-affirming approach in the treatment course of the CAP with BPT. We aim to encourage more research into gender variability in this specific population.

**Sunday May 05**

### **Validity of the Schwartz Outcome Scale-10 with adolescent outpatients: Comparisons with Beck Youth Inventory**

Arany Uthayakumar M.D.; Olivia Plante; Whitney Viator M.D.; Greg Haggerty Ph.D.

Introduction: The Schwartz Outcome Scale-10 has been shown to be a valid measure of psychological health and well-being with adults in both clinical and non-clinical samples. It has also shown good construct validity with adolescent inpatients (Haggerty et al. 2013). We look to extend this line of research with adolescents seeking treatment at a suburban medical center's child and adolescent outpatient psychiatry clinic. Methods: Adolescents and their parents consented to participate in an assessment study. The sample consisted of patients with an average

age of 17.77 (SD=3.2) whose ethnicities primarily included 33.9% Caucasian 30% African American and 22% Hispanic/Latino. Predominant diagnoses of the sample were mood disorder (55%) and ADHD (19.3%). All measures were completed at the time of the first appointment in the outpatient clinic. As part of the assessment packet adolescents completed the Schwartz Outcome Scale-10 (SOS-10; Blais et al. 1999) and the Beck Youth Inventories (BYI; Beck Beck & Jolly 2001). Results: SOS-10 scores (higher scores of indicative of better health) were positively correlated to the BYI self-concept scale ( $r=.69$   $p<.001$ ) and negatively correlated with BYI scales of anxiety ( $r=-.48$   $p<.001$ ) depression ( $r=-.56$   $p<.001$ ) and anger ( $r=-.42$   $p<.01$ ). A principal component analysis showed that the SOS-10 was essentially unifactorial with the one factor accounting for 55.6% of the variance and having a coefficient alpha of .91. Discussion: Our results show support for the SOS-10 to be a valid measure of psychological health and well-being with an adolescent outpatient sample. This measure is already used as such with the adult population and there is use for a measure that can be used reliably across all age ranges.

**Sunday May 05**

### **Veracity Enhancement Using Non-Invasive Brain Stimulation: A Systematic Review**

Alice Hou; Abram Brummett; Shahrukh Naseer

For decades non-invasive brain stimulation (NIBS) techniques like Transcranial Magnetic Stimulation (TMS) and Transcranial direct-current stimulation (tDCS) have been used in clinical settings as forms of neuromodulatory treatment for depression and other neurodivergent disorders. In recent years there has been increased research in utilizing the non-invasive techniques to enhance cognition beyond normal baseline including enhancements in language memory moral and veracity. Due to the lack of systematic reviews in the growing field of veracity enhancement we

conducted a summative overview of current research studying the impacts of NIBS on veracity or tendency towards truthfulness under simulated scenarios. A systemic review was conducted with the use of PubMed Web of Science PsycARTICLES and the Cochrane Library databases. Papers were searched using key terms (TMS OR transcranial magnetic stimulation) AND (deception OR verac\* OR lie OR truth\* OR dishonest\*)" for TMS and "(tDCS OR transcranial direct current stimulation) AND (deception OR verac\* OR lie OR truth\* OR dishonest\*)" for tDCS across all databases. For each study data related to the study type groups/conditions sample size age gender ratio brain localization stimulation intensity and duration as well as significant findings were extracted and analyzed by two independent reviewers. A total of 12 papers utilizing tDCS and 10 papers utilizing TMS to study veracity enhancement were found to meet the inclusion criteria. Studies selected were randomized controlled trials (RCTs) and involved a total of 1165 participants (60.8% female 39.2% male) averaging 25.2 years old. Utilizing tDCS anodal stimulation of the anterior prefrontal cortex (aPFC) temporoparietal junction (TPJ) and ventrolateral prefrontal cortex (VLPFC) were all found to increase the participants' veracity. Stimulation of the dorsolateral prefrontal cortex (DLPFC) was found to increase veracity in 4 studies but boost deception in 2 other studies. In the last 2 studies stimulating the inferior frontal sulcus (IFS) and inferior frontal cortex (IFC) were found to be inconclusive. Utilizing TMS many studies researched differences between the left vs right DLPFC with follow-up studies focusing on the latter. Inhibition of the right DLPFC resulted in participants exhibiting more veracity while stimulation of the right DLPFC resulted in more deception. Based on this systematic review NIBS techniques show ability to pose distinct influences on veracity enhancement with stimulation of different brain regions generating opposing effects. However due to the small number of original articles on this topic as well as occasional inconsistent results substantial further research as well as a more standardized methodology is still needed."

Sunday May 05

### **A national virtual education program for professionals caring for adults with intellectual and developmental disabilities at the time of COVID-19**

Yona Lunsky PhD; Anupam Thakur

Background: The COVID-19 pandemic has significantly impacted the mental health of adults with intellectual and developmental disabilities (IDD). During this period of uncertainty and need for up-to-date information related to the pandemic various virtual training programs demonstrated the role of tele-mentoring programs like Project Extension for Community Health Outcomes (Project ECHO) to address this need share best practices and create virtual communities of practice. The aim of this paper is to describe the educational evaluation of the National ECHO AIDD a program for services providers working with adults with IDD during COVID-19. The goal of this Canada-wide virtual training program was to build service provider capacity in supporting the mental health needs of adults with IDD during this time. Methods: The program consisted of six sessions each lasting 1.5-hours conducted weekly over two cycles. Each session included didactic teaching by hub team members COVID-19 news updates wellness check-ins and a brief mindfulness activity followed by a 30 to 45 minute case-based discussion. The hub structure had an inter-professional collaborative approach to team expertise. Those with lived experience were an integral part of the content experts' hub. Pre- post- and follow-up evaluation data were collected. Results: Care providers from health and social care sectors (n=230) participated in the program. Of those 61 completed surveys at all three time points (pre- post- and follow up). High levels of engagement satisfaction (overall satisfaction score of 4.36 out of 5) were reported. Self-efficacy ratings improved from pre (66.38 ± 15.62) to post (77.58 ± 13.39) and maintained at eight-week follow-up (77.45 ± 13.54); improvement from pre-

to post- was significant ( $p < .0001$ ). Discussion: Exposure to National ECHO AIDD educational intervention led to improvement in perceived competencies. This study also shows the valuable role of people with lived experience in fostering adaptive expertise in learners. As a part of the Community of Practice participants appreciated the opportunity to relate to colleagues across the country and learn from each other. The outreach and scalability of using the ECHO model supports the feasibility in building a national virtual Community of Practice for IDD service providers connecting geographically dispersed areas. Future studies should focus on studying the impact of these programs on the health outcomes of people with IDD.

Sunday May 05

### **A NEW SYMPTOM PROVOCATION TASK IN OBSESSIVE-COMPULSIVE DISORDER: VALIDATION OF THE BRAGA OBSESSIVE-COMPULSIVE IMAGE SET (BOCS)**

Mafalda Sousa; Ana Daniela Costa; Carles Soriano Mas; Pedro Moreira; Pedro Morgado MD PhD

Background: Symptom provocation paradigms are paramount to better understand a heterogeneous disorder such as obsessive-compulsive disorder (OCD). To date there are some existent image stimuli databases for OCD. However some images could be regarded as outdated and the individual ratings for each image are not available. The main aim of our work was to develop and validate an open-access set of OCD-related images comprising three main subtypes (washing checking and symmetry). Methods: Twenty-six OCD patients and 25 controls were characterized in terms of age sex education and obsessive-compulsive symptoms (Obsessive-Compulsive Inventory-Revised OCI-R). Patients had to meet the criteria for OCD as primary diagnosis and score 16 or higher on the Yale-Brown Obsessive

Compulsive Scale (YBOCS). All participants provided valence and arousal ratings for an initial larger set of 320 images: 190 OCD-related images taken by the authors 64 aversive and 66 neutral images taken from widely used databases. Linear mixed model (LMM) analyses were used to estimate the main effects of group (OCD vs. controls) image category and group-image category interaction. Correlation analyses (Spearman's  $r$ ) explored associations between OCI-R and subjective ratings of OCD-related images. The most discriminant images within each category were then identified. Specifically each image was compared between controls and OCD patients with regard to valence and arousal scores using independent samples t-tests. Results: The results from LMM analyses revealed that OCD patients rated images less positively in comparison to healthy controls. No statistically significant main effects of group were observed for arousal ratings. Main effects of image category were obtained for both valence and arousal models. Aversive images had the lowest valence and the highest arousal ratings whereas neutral images had the highest valence and the lowest arousal ratings. Washing images yielded significantly lower scores of valence than other OCD-related images (i.e. check and symm). Significant interaction effects were also observed for the valence and arousal models. The decomposition of these interactions revealed that OCD patients presented significantly lower scores of valence and higher scores of arousal regarding washing and checking images when compared to controls. The image ratings on OCD-related images were significantly correlated with the clinical scores on the OCI-R total score. From the initial set of 190 OCD-related images 59 images (29 wash 9 symm and 21 check) had significantly lower valence ratings in the group of OCD patients; on the other hand 73 images (27 wash 27 check and 19 symm) had significantly higher arousal scores on the group of OCD patients. Conclusion: The Braga Obsessive-Compulsive Image Set (BOCS) could be further used for symptom provocation paradigms thereby contributing to the development of adequate symptom-specific stimuli for OCD-related research.

**Sunday May 05**

### **A virtual learning community to promote child and adolescent mental health in a global setting: From Penn State Project ECHO to the Philippines**

Jasmin Lagman M.D.; Ma Pilar Malata; Ramnarine Boodoo M.B.B.S.; Ailyn Diaz; Jessica Beiler

**Background:** A national emergency in child and adolescent mental health was declared in the United States in 2021. However this mental health crisis is not only limited in this country but is a global problem. In the Western Pacific region the Philippines has the third highest rate of mental health problems and mental illness is the third most common disability in this country. Currently there are only about 60 Child and Adolescent Psychiatrists in the Philippines and the lack of professionals working in children's mental health exacerbates the country's mental health crisis. To address this gap a training for Philippine physicians and other professionals working with the pediatric population was done to increase their knowledge of child and adolescent mental health through ECHO at Penn State in collaboration with West Visayas State University (WVSU). This is the Philippines' first Project ECHO on child and adolescent mental health.

**Methods:** Project ECHO is a tele-mentoring activity and uses a model where there is knowledge-sharing among network members led by expert specialist teams mentoring multiple community providers. Unlike telemedicine where outside specialists assume patient care Project ECHO is a guided learning community aimed at practice improvement: providers receive mentoring and feedback on de-identified patient cases to strengthen their skillset and retain responsibility for their patients. The biweekly virtual training from May 11 to August 17 2023 consisted of eight 60-minute sessions on child/adolescent mental health topics which included anxiety disorders depression suicide risk

assessment in youth LGBTQI-related issues ADHD autism spectrum disorder aggression and mood dysregulation and internet/gaming addiction. Participants were recruited by our WVSU partners. Sessions consisted of a 15-minute mental health lecture given by expert speakers followed by a participant case presentation with the participants and experts discussing and giving recommendations. Results: There were 131 active participants from 30 provinces in the Philippines representing primary care (42.4%) psychiatry (30.46%) psychology (5.96%) public health (3.97%) and school-based (17.21%) providers. Psychiatry pediatrics and family medicine residents also participated and presented cases. Registrants reported that 41% of their patients are children and adolescents and 36% have mental or behavioral health issues. Results showed that 90% of participants would use what they learned in their work 98% reported an increase in knowledge 95% reported an increased ability to care for their patients and 90% reported a decreased sense of professional isolation. Conclusion: There is an extreme shortage of Child and Adolescent Psychiatrists worldwide. Project ECHO can be a successful tool in leveraging expertise to increase the knowledge of physicians and other healthcare professionals to support healthcare providers in the Philippines.

**Sunday May 05**

### **Association between Cortical Thickness and Slow Wave Activity in Cognitive Normal Older Adults: Preliminary Results**

Luisa Figueredo; Ricardo Osorio

**Background** Sleep is a vital biological process that supports various cognitive and physiological functions. One of the most essential components Slow-wave sleep (SWS) is critical for diverse physiological processes and its decline has been observed in normal aging. Cortical Thickness (CT) has also been correlated with normal aging and specific differences among gender and racial health disparities. This study investigates the

relationship between cortical thinning and slow-wave activity (SWA) and its differences among gender and race. **Methods** Healthy patients selected for the study (ages >40) were recruited from the community as part of studies on normal brain aging. Polysomnograms were scored in a 30-second epoch according to standard criteria (AASM) for sleep and EEG arousals. Total sleep time (TST) and percent time spent in the wake non-REM stage 1 (NREM 1) non-REM stage 2 (NREM 2) non-REM stage 3 (NREM 3 – slow wave sleep) and REM sleep were determined. Certified technicians performed all polysomnograms for a whole night in the NYU/Mount Sinai Sleep Disorders Center. Magnetic resonance imaging (MRI) T1-weighted anatomical images were obtained using the MPRAGE protocol. Cortical segmentation was performed using FreeSurfer. Statistical analysis was performed using linear regression models. Multiple regression for stratification was performed after log-normalized CT and t-test analysis for comparison and confirmed by the post-hoc Bonferroni test. GraphPad Prism version 10.0.0 analysis was performed for MacOS GraphPad Software Boston Massachusetts USA [www.graphpad.com](http://www.graphpad.com)”.

**Results** The study included 118 participants (36 men 84 women) with an age mean of 65.6 (47-77). SWA decreased with age ( $p=0.003$  Fig1A) while the cortical thickness increased; however the effect is minimal ( $p=0.3$  Fig1B). There’s a significant association between whole-brain CT and SWA in the unadjusted model ( $p=0.001$  Fig1C) and the adjusted model by age sex and APOE4 status ( $p=0.003$  Fig1D). The mPFC CT showed the same tendency (unadjusted  $p=0.001$  and adjusted  $p=0.003$  Fig1E-F). Differences by gender in all brain CT and SWA showed no differences (Fig 2A-B). However individual relationships between SWA and CT was significant for females only showing no impact in the general association (Fig2C-E). Race did not showed significant differences either between all the variables or effects in the multiple regression (Fig 2F-H). **Conclusions** Our results suggest that while aging the loss of cortical thickness can be associated with a reduction in the SWA independently of the brain region; this association is independent of gender and race. Future directions will focus on SWA in the first

third of the night (When it is expected to peak) and cognitive changes during the follow-ups including CCI and GDS scores to the model. **\*\*Race:** 1: Non-Hispanic White 2: African American 3: Other NA: Not reported

**Sunday May 05**

### **Association of Area Deprivation Index and Rurality with Healthcare Utilization and Clinical Outcomes.**

sheharyar sarwar DO; Mark Williams M.D.; Samuel Savitz

**Background:** The Collaborative Care Model (CoCM) is a leading model for addressing major depressive disorder (MDD) in primary care settings. The success of this model in part relies on ongoing patient engagement and participation (Fu et al 2023). Here we aim to assess how socio-economic disadvantage (as measured by the area deprivation index (ADI)) along with rurality of adults eligible for CoCM in primary care impact healthcare utilization (as measured by emergency department (ED) and hospital visits) and clinical outcomes (as measured by improvement on the PHQ-9). . **Methods:** This was an observational analysis of patients eligible for CoCM between 2008-2021. We included adults aged 18+ empaneled in primary care clinics offering CoCM with a PHQ-9 of  $\geq 10$  at baseline and without bipolar disorder. Patients were categorized as being enrolled in CoCM or never enrolled. Patients who were not enrolled otherwise met all eligibility criteria. We operationalized the ADI as quintiles with Q1 being least deprived and Q5 being most deprived. We operationalized rurality using RUCA codes with two categories: urban and rural. We used cox proportional hazards regression for time to a PHQ-9 $\leq 5$  and time to a PHQ-9 $\leq 10$ . We used Anderson-Gill regression for ED visits and hospitalizations. The models controlled for demographics baseline PHQ-9 comorbid conditions and use of antidepressants. Results



are presented as hazard ratios (HR) with 95% confidence intervals. Results: We identified 44695 patients with a mean age of 43.9 years (standard deviation 18.7). Of these patients 11.9% (5302) resided in the least deprived quintile (Q1) 21.9% (9796) resided in the most deprived quintile (Q5) and 35.5% (15582) resided in rural areas. Patients living in rural areas (compared to urban) or areas with high deprivation (compared to low deprivation) had lower hazards for PHQ-9<5 (Rural HR: 0.81 [0.760.87]); ADI Q5 vs. Q1 HR: 0.87 [0.760.99] and PHQ-9<10 but higher hazards for ED visits and hospitalizations (ADI only). Interaction terms suggested that there was effect modification of the association between enrollment in CoCM and time to PHQ-9<10; the association was weaker for patients living in rural areas or areas with high deprivation. Discussion: ADI and rurality are associated with a greater length of time to achieve partial (PHQ9<10) and full remission (PHQ<5) in patients with MDD. Additionally ADI and rurality are associated with increased healthcare utilization in terms of ED visits while ADI alone is associated with increased hospitalizations. ADI and rurality may reduce the efficacy of CoCM in clinical outcomes in MDD. Other research (Powers 2020 Rimal et al 2021) has reported better outcomes in low-income and rural sites. Further research with this data set may clarify possible reasons for barriers to clinical improvement in these areas to inform adjustments in the treatment approach.

Sunday May 05

### Association of Oxidative Stress-Induced Damage to RNA and Mortality in Individuals with Psychiatric Illness

Anders Jorgensen MD PhD; Henrik Enghusen Poulsen

IMPORTANCE: All-cause mortality and the risk for age-related medical disease is increased in psychiatric illness (PI) but the underlying

biological mechanisms are not known. Oxidative stress on nucleic acids (DNA and RNA) (NA-OXS) is a molecular driver of aging per se and a potential pathophysiological mechanism in a range of age-related disorders. OBJECTIVE: To study the levels of markers of NA-OXS in a large cohort of community-dwelling individuals with and without PI and to evaluate their association to prospective all-cause mortality. DESIGN SETTING AND PARTICIPANTS: We used a combined cohort of participants from two population-based health studies: The Danish General Suburban Population Study (inclusion 2010-2013) and non-diabetic control participants from the Vejle Diabetes Biobank study (inclusion 2007-2010). Individual history of PI was characterized using register data on psychiatric diagnoses and use of psychotropic drugs before the baseline examination. Urinary markers of systemic RNA (8-oxo-78-dihydroguanosine (8-oxoGuo)) and DNA (8-oxo-78-dihydro-2'-deoxyguanosine (8-oxodG)) damage from oxidation were measured by ultra-performance liquid chromatography-tandem mass spectrometry. Cox proportional hazard regression models were applied for survival analyses using register-based all-cause mortality updated to May 2023. EXPOSURE: History of PI. MAIN OUTCOME AND MEASURE: Mortality risk according to PI status and 8-oxoGuo/8-oxodG excretion level. RESULTS: A total of 7728 individuals were included (3983 (51.5%) female mean age 58.6 (11.9) years) of which 3095 (40.0%) had a history of PI. Baseline 8-oxoGuo was statistically significantly higher in PI than in N-PI (2.4±1.2 vs. 2.2±0.9 nmol/mmol p<0.0001) whereas 8-oxodG was not. All-cause mortality was higher in the PI vs the N-PI group (HR=1.44 95% CI [1.27;1.64] p<0.001) and increased sequentially with each increasing tertile of 8-oxoGuo excretion in both groups to an almost doubled risk in the PI/high 8-oxoGuo group compared to the N-PI/low 8-oxoGuo reference group (HR=1.99 95% CI [1.58;2.52] p<0.001). These results persisted after adjustment for a range of potential confounders and in a sensitivity-analysis stratified for sex. CONCLUSIONS AND RELEVANCE: This study establishes systemic oxidative stress-induced

damage to RNA as a potential causal mechanism in the accelerated aging observed in psychiatric disorders and urinary 8-oxoGuo as a potentially useful marker of mortality risk in individuals with PI.

Sunday May 05

### **Cognitive outcomes following antidepressant pharmacotherapy for late-life depression: a systematic review and meta-analysis**

Nicholas Ainsworth MD FRCPC; Tulip Marawi; Marta Maslej; Argvrios Perivolaris; Benoit Mulsant

Background: Major depressive disorder in older adults (late-life depression; LLD) is a common condition with a prevalence of approximately 10% in adults over age 60. LLD is frequently associated with cognitive impairment and increases the risk of developing dementia. When present in the setting of LLD cognitive impairment may also decrease the likelihood of response to antidepressants. However there is not yet a definitive answer in the literature regarding whether antidepressant treatment improves cognitive functioning in individuals with LLD.

Objective: To evaluate the impact of antidepressant treatment on cognitive function across multiple domains in individuals with LLD.

Methods: We conducted a systematic review and meta-analysis of prospective studies of antidepressant pharmacotherapy for adults age ≥50 (or mean age ≥65) with MDD. Participants with bipolar disorder psychotic depression dementia or neurologic disease were excluded. We searched the MEDLINE/Pubmed EMBASE and PsycINFO databases from inception to December 31 2022. The primary outcome was score change on cognitive tests between baseline and post-treatment. Cognitive tests were classified according to the primary cognitive domain tested (global cognition executive function verbal memory/learning processing speed attention/working memory and verbal fluency). Secondary outcomes included effects of specific

medications and associations between changes in depressive symptoms and cognitive test scores. All eligible studies were synthesized descriptively and a random-effects model was used to pool results for meta-analysis. Results: Twenty-two studies were included reporting on cognitive outcomes in 3019 participants with LLD. Thirteen of 19 studies showed improvement in ≥1 cognitive test following antidepressant pharmacotherapy with the most robust evidence for memory/learning (8 of 16) and processing speed (7 of 10) domains and for sertraline (all 5 studies). Improvement in depressive symptoms was associated with improvement in cognitive test scores in 6 of 7 relevant studies. Meta-analysis (8 studies n=493) demonstrated a statistically significant overall improvement in memory/learning (5 studies; effect-size 0.254 {95% CI 0.103 – 0.404} SE 0.077 p = 0.001); no statistically significant change was seen in other cognitive domains. The evaluated risk of publication bias was low. Conclusion: Antidepressant pharmacotherapy of LLD appears to improve certain domains of cognitive function particularly memory/learning. This effect may be mediated by improvement in depressive symptoms. Further studies comparing pharmacotherapy with non-treatment controls are needed.

Sunday May 05

### **Combat Exposure Traumatic Brain Injury and Sleep Disturbance are Associated with Increased Severity of Alcohol Use Disorder in Post-9/11 Veterans**

Caroline Sablone BA; Arielle Knight MPH; Alyssa Currao; Sahra Kim; CATHERINE FORTIER PhD

Background: Alcohol Use Disorder (AUD) is highly prevalent in post-9/11 US Veterans and has been associated with increased risk for other co-occurring mental health conditions and reduced daily functioning. Understanding risk factors for

AUD is critical for developing effective prevention efforts and treatment options. The current study hypothesized that combat exposure and history of traumatic brain injury (TBI) would be associated with increased AUD severity in post-9/11 Veterans. Methods: The sample included 650 post-9/11 combat-exposed Veterans enrolled in the Translational Research Center for TBI and Stress Disorders (TRACTS) at VA Boston Healthcare System. Participants with a history of moderate or severe TBI as well as severe cognitive psychiatric and neurological illness (other than mild TBI) were excluded from analyses (n=37) resulting in a final sample of 613 (550 male; 63 female). Self-report questionnaires included: the Deployment Risk and Resilience Inventory (DRRI) to measure combat exposure; the Depression Anxiety and Stress Scale (DASS) to measure mood symptom severity; the Pittsburgh Sleep Quality Index (PSQI) to measure sleep quality. Clinician administered interviews included: the Boston Assessment of TBI- Lifetime (BAT-L) to assess TBI; the Clinician Administered Posttraumatic Stress Disorder (PTSD) Scale (CAPS-IV) to assess current PTSD diagnosis and severity; the Structured Clinical Interview for DSM-IV (SCID) to assess AUD depression and anxiety diagnoses. AUD severity was further quantified by diagnostic severity (no diagnosis mild moderate severe; range=0-3) and by symptom count (range=0-11) from the SCID. Results: Linear regression was used to assess predictors of AUD diagnostic severity and symptom count after adjusting for age gender and education. Combat exposure ( $p < .002$ ) current and lifetime mood diagnosis ( $p < .001$ ) military TBI status ( $p < .02$ ) and sleep quality ( $p < .001$ ) significantly predicted alcohol use symptom count and diagnostic severity. The global sleep score had the largest impact on alcohol use symptom count ( $\beta = .494$ ). Self-reported depression and anxiety symptom severity did not significantly predict AUD symptom counts or diagnostic severity nor did PTSD diagnosis or severity. Conclusion: The post-9/11 cohort of US Veterans is clinically complex with high levels of psychological and health related comorbidities. AUD is highly prevalent and is associated with increased mental health burden and suicide risk. Assessing for military risk factors such as TBI

status combat exposure and sleep disturbance is critical for identifying Veterans who are at risk for developing severe AUD. Further research should explore protective factors for disease recovery over time such as treating sleep disorders early to prevent potential self-medicating with alcohol.

Sunday May 05

### Complex and Diverse Neuropsychiatric and Psychosocial Sequelae of Traumatic Brain Injury: A Case Series

Karina Sophia Narciso M.D. D.S.B.P.P.; Roda Tessa Estrella M.D.; Clyde Garreth Dee M.D.

Background: Traumatic Brain Injury (TBI) leads to the disturbance of brain structure and function due to the biomechanical forces of a primary injury and/or the neurodegeneration borne from a secondary injury leading to long-term consequences at the molecular cellular and biochemical levels. This led us to report 3 cases of TBI that resulted in different neuropsychiatric presentations and multi-faceted courses of treatment and recovery. Methods and Case Series: Three adult patients with a diagnosis of TBI admitted to a tertiary hospital from 2022 to 2023 were included in the case series. The first case reports a male farmer of low education with neurocognitive issues following a motorcycle accident which was complicated by osteomyelitis and questions regarding his capacity to consent and decide. The second case illustrates the psychosocial and occupational challenges of a priest presenting with pathological laughter memory lapses and uncoordinated muscle movements after having fallen and hitting his head on a hard surface. The third case describes the therapeutic challenges of a male fisherman who had a vehicular accident as he presented with episodes of mania that were difficult to manage. This occurred in the background of the patient having a history of substance abuse unrecognized bipolar disorder hypersensitivity to anticonvulsant

medications and traumatized family. Common to all three patients were that they had non-penetrating head injuries the duration of loss of consciousness after the head injury was less than 30 minutes the Glasgow Coma Scale (GCS) was between 12-15 upon admission brain imaging did not show a midline shift the TBI was not classified as severe and they did not require any form of cranial surgery. They were primarily managed through medications (antipsychotics anticonvulsants and mood stabilizers) therapy and behavioral modifications. Careful planning to achieve mid-term and long-term goals of management before their discharge from the hospital to take into account the impact of the sub-acute and chronic phase of TBI. Conclusion: Due to the diverse mechanisms through which TBI can occur it is anticipated that each case will exhibit unique characteristics and will warrant individualized forms of treatment. Aside from the injury itself it is essential to factor in the considerable impact TBI places on the patient and the community when planning their treatment

Sunday May 05

### **Difference between patients with Mild Behavioral Impairment and Late-Onset Psychiatric Disorders who referred to psychogeriatric services**

Camilla Elefante; Giulio Emilio Brancati; Giulio Perugi

Background: Psychiatric disorders with an onset late in life have been repeatedly associated with cognitive changes. Recently Mild Behavioral Impairment (MBI) has been associated with a greater incidence of Mild Cognitive Impairment (MCI) and dementia. MBI is a construct that describes the emergence at ? 50 years of age of sustained and impactful neuropsychiatric symptoms (NPSs) that may be early manifestations of cognitive decline. MBI is described as the emergence of meaningful and persistent NPSs occurring from the age of 50

representing a change from the individual's usual behavior or personality. Our study aims to investigate the prevalence and differentiating features between MBI patients with respect to patients with late-onset psychiatric disorders. Results: A total of 81 patients who were referred to our psychogeriatric outpatient service for mental care were recruited. The severity of mental illness was evaluated by means of the Clinical Global Impression Severity scale the severity of psychopathology was evaluated by means of the Brief Psychiatric Rating Scale (BPRS) and overall functioning was evaluated by means of the Global Assessment of Functioning scale. The sample included 40 (49%) patients diagnosed with MBI and 41 (51%) patients with late-onset psychiatric disorder (without MBI diagnosis). The MBI group included patients who had the onset of NPSs ? 50 years according to MBI criteria. The late-onset group included psychiatric patients who had the onset of psychiatric symptoms from the age of 50 years. No significant differences between patients with MBI and late-onset psychiatric disorders were found for age gender lifetime mood and anxiety disorders levels of severity of mental illness and overall functioning age at onset of psychiatric symptoms mood state at the time of the assessment and first-degree family history of dementia and Parkinson's Disease. Despite the prevalence of vascular leukoencephalopathy did not differ between groups patients with MBI had a higher prevalence of MCI compared to those with late-onset psychiatric disorders ( $p = 0.004$ ). The BPRS total score and Negative Symptoms/Retardation subscale significantly differed between groups with greater symptom severity in patients with MBI (vs. late-onset: respectively  $p = 0.011$  and  $p = 0.015$ ). Conclusion: MBI patients has an higher prevalence of MCI with respect to late-onset psychiatric patients. Moreover MBI patients showed greater psychopathology severity motor retardation and apathy compared to those with late-onset psychiatric disorders. Since apathy has been previously found to confer a higher risk for cognitive decline its high prevalence in MBI patients support the neurodegenerative nature of this syndrome. The appropriate diagnosis of MBI syndrome may help correctly identify which

patients who are referred to psychiatric settings are more likely to report negative outcomes.

Sunday May 05

### **Effect of Behavioral Activation on Depression in Community-dwelling older adults: Focusing on the Moderating Effect of Life Values**

YeonJoo Nam; YoungImm Choi; KYUHO JEONG; TAE HUI KIM

Background: Behavioral Activation (BA) is a treatment that aims to create an upward spiral of positive mood that increases engagement in activities that align with individual's values and increase opportunities for positive reinforcement. BA is a known evidence-based treatment for depression and recent studies have shown that it significantly alleviates depressive symptoms in older adults. However studies on BA and its effect mechanisms in older adults are still insufficient. The aim of our study is to investigate whether the level of behavioral activation in older adults affects depression and whether it is moderated by the values older individuals have in their lives. Methods: This study was evaluated on 242 older adults [40 males (age M=75.25(SD=5.68) 202 females(M=78.99(SD=5.31))] receiving special management services in Korean senior welfare institutions due to high-risk for depression loneliness and suicidal thoughts. The short version of the Geriatric Depression Scale (sGDS) (Cronbach's  $\alpha=.842$ ) Behavioral Activation for Depression Scale (BADs) (Cronbach's  $\alpha=.821$ ) Valuing Questionnaire (VQ) (Cronbach's  $\alpha=.817$ ) was conducted. To test for moderation effects hierarchical regression analysis was conducted using SPSS 24.0. In the first step behavioral activation and values were entered as independent variables and in the second step the interaction term between behavioral activation and values was included. Prior to analysis all independent variables were standardized.

Results: The analysis results revealed that both the main effects of behavioral activation ( $\beta=-.288$   $t=-4.790$   $p<.001$ ) and values ( $\beta=-.403$   $t=-6.669$   $p<.001$ ) as well as the interaction effect between behavioral activation and values ( $\beta=-.270$   $t=-5.750$   $p<.001$   $R^2=.072$ ) were statistically significant. This indicates that values moderate the relationship between behavioral activation and depression. Specifically when older adults had impaired abilities to engage in activities that bring them pleasure in their daily lives they experienced higher levels of depression regardless of their perceived values in life. However when older adults had the capacity to engage in activities aligned with their personal goals those who perceived higher value in life experienced lower levels of depression compared to those who perceived lower value in life. Conclusion: This research findings empirically support the theoretical basis of BA which is recognized as an effective treatment for depression in older adults. It provides evidence for importance of behavioral activation interventions aimed at increasing engagement in value-aligned activities rather than activities in depressed older adults. Thus instead of seeking short-term pleasure it should be emphasized to encourage depressed older adults to engage in activities that align with their core values and goal in their present life. Funding: the Ministry of Health & Welfare Republic of Korea (HR21C0885040021)

Sunday May 05

### **Effectiveness of iCBT for obsessive-compulsive disorder in a nation-wide routine care in Finland**

Suoma Saarni M.D.; Tom Rosenström; Jan-Henry Stenberg; Ville Ritola

Obsessive Compulsive Disorder (OCD) has ranked among 10 most debilitating disorders by WHO. Having early onset and a chronic course when untreated OCD gives rise to substantial societal



and economic burden. Cognitive Behavioural Therapy (CBT) with or without exposure and response prevention (ERP) and have shown to be effective in treatment of. CBT/ERP are recommended as first line treatments in international treatment guidelines but the availability is far from facing the demand. Given the efficacy and resource-efficiency of internet-based cognitive behavioral therapy (iCBT) it is increasingly recognized as a viable solution for enhancing the accessibility of evidence-based treatments. In RCT studies iCBT has shown to yield comparable efficacy with face-to-face CBT and being cost-effective but only few studies examining the effectiveness in naturalistic settings have been published. This study examined the effectiveness of the therapist guided iCBT for OCD in nationwide routine care. Methods: All participants (N=1296) in the treatment program between Mar 2019 and Oct 2021 were included. All participants had a doctor set diagnosis of OCD. The Helsinki University Hospital (HUS) has developed and provides nationwide internet-delivered therapist-supported CBT-based therapy for OCD. The treatment is free of charge diagnosis-specific and supported by a trained online therapist. The treatment includes 10 sessions of which 7 therapeutic and the last 3 sessions form a recapitulation. The primary outcome was OCD symptoms (Obsessive-Compulsive Inventory - Revised (OCI-R)). Correlates of the treatment response were investigated using simple regression models part correlates were investigating in a multiple regression model. To compute intention-to-treat estimates we performed multiple imputation using chained equations. We used linear regression to compute imputed and/or adjusted (paired) Cohen's d effect sizes. Results: The observed mean OCI-R scores were at baseline for all participants 27.29 (SD 11.09) and at the last treatment session 20.75 (11.00) and after 10th session 14.76 (9.89). Effect size at last treatment session was (Cohen's d -0.86 (95% CI -0.98- -0.75) and at 10th session (Cohen's d -1.45 (-1.55- -1.36)). The imputed estimates of mean scores were systematically roughly one point higher than the non-imputed estimates suggesting selective attrition from the sample. However correcting for

this attrition had no effect on the estimated effect sizes of the therapy (data not shown).

Conclusions: The results demonstrated in a large real-life dataset of iCBT for OCD a significant decrease in OCI-R scores from baseline to completion and an even larger decrease from baseline to session #10. Cohen's d effect sizes indicated meaningful improvements in symptom severity. iCBT is an effective treatment for OCD also in naturalistic clinical settings and offers a scalable and economic alternative to face-to-face therapies.

Sunday May 05

### **Frontotemporal dementia (FTD) syndromes: intersections between cognition language and behavior.**

Sladjana Lukic; Masood Manoochehri; Mikhail Vysotskiy; Edward Huey

Background: Frontotemporal Dementia (FTD) is a heterogeneous neurodegenerative disorder characterized by predominant frontotemporal atrophy. Though behavioral variant (bvFTD) syndrome is mainly characterized by behavioral and personality changes nonfluent primary progressive aphasia variant (nfvPPA) is defined by relatively isolated deficits in motor speech and grammar. Yet the classification of FTD remains challenging given the lack of comprehensive assessment and the variability of clinical phenotypes. Whether patients with bvFTD also display language deficits and nfvPPA display altered behavior is not well understood. The present study characterized neuropsychological and language patterns along the FTD spectrum and examined whether these patterns give rise to distinct behavioral changes. Method: We conducted a comprehensive retrospective investigation of cognition language and emotion processing in 52 patients with FTD (38 bvFTD and 14 nfvPPA) by offering new windows into non-behavioral (in bvFTD) and non-language alterations (in nfvPPA). We integrated multiple assessments including Dementia Rating Scale

(DRS)-2 and The Neurobehavioral Rating Scale (NBRS) to assess neuropsychological and neuropsychiatric symptoms of FTD respectively as well as Psycholinguistic Assessments of Language Processing in Aphasia (PALPA) which was used to measure language abilities across FTD syndromes. Across patients we used a principal components analysis (PCA) of neuropsychological and language data to explore hidden patterns and the existence of data-driven clinical clusters. We correlated these PCAs with the presence or absence of behavioral symptoms across FTD syndromes. Results: The highest variance in the first principal component (PC1) came from the DRS-2 total score highlighting a globally altered cognitive status in bvFTD compared to nfvPPA. Specifically PC2 placed most of its emphasis on the DRS-2 Construction subtest in bvFTD. With regards to PALPA language subtests PC revealed the highest variance coming from word rhyme judgment (palpa15) and lexical-decision tasks (palpa27) repetition of nonreversible sentences (palpa12) and spelling (palpa41) showing largely overlap between bvFTD and nfvPPA. Further PC revealed an increased number of verbal-related errors on the Token syntax test and lower reading of nonreversible sentences (palpa37) in nfvPPA compared to bvFTD. Behaviorally increased NBRS apathy/blunting rating score was correlated with PC values on DRS-2 construction syntax test and reading. In contrast planning/insight rating scores were associated with PC lexical decision values (all  $p < .05$ ). Conclusion: These results identified specific clinical tests where scores were predictive of clinical syndromes elucidating several distinct qualitative patterns of symptoms that differentiated bvFTD from other dementia samples (e.g. nfvPPA) and further characterizing presentation of these diseases.

Sunday May 05

## Impact of Psychiatric Comorbidities on Quality of Life Among Patients with Epilepsy

ZIHAN CHEN B.S. M.S. Candidate; Margaret Gopaul PhD MSCP; Hamada Altalib D.O.

**BACKGROUND:** Approximately 50 million people worldwide have epilepsy a chronic brain disorder that can significantly impact the quality of life (QOL) for individuals of all ages. Psychiatric disorders especially depression and anxiety are common in patients with epilepsy (PWE) but often receive less attention than seizure control. This study examines psychiatric comorbidities and QOL in PWE focusing on well-controlled poorly controlled and refractory seizure cases. Unlike past studies with mixed patient groups this research delves into how these factors differ based on seizure control status. **METHODS:** Retrospective analysis used the Human Epilepsy Project database that collected data from 34 sites in the USA Canada Europe and Australia between 2012 and 2020. It consisted of two cohorts: one with well-controlled and poorly controlled seizure patients (based on seizure length) and another with refractory epilepsy patients (based on medication resistance). Participants completed the MINI-International Psychiatric Interview and a self-administered survey to assess the baseline QOL score (QOLIE-10-P) ranging from 0-5. Three-way ANOVA was used to analyze the interaction between seizure control psychiatric comorbidities and QOL in PWE. **RESULTS:** A total of 397 PWE were categorized into three groups: well-controlled ( $n = 108$ ) poorly controlled ( $n = 143$ ) and refractory ( $n = 146$ ) and subsequently analyzed. The prevalence of psychiatric comorbidities among PWE remains high; at least one-third of participants in our cohort exhibited a history of at least one psychiatric disorder at baseline. The QOLIE score was 0.57 points lower among those patients than those without psychiatric comorbidities ( $p < 0.0001$ ). The three-way ANOVA model revealed the main effect of depressive episodes on QOL scores and the independent significance of seizure control status. Patients with a history of depressive episodes generally scored 0.77 points lower in QOLIE ( $p < 0.0001$ ). Moreover seizure control status also exhibited a substantial independent effect on QOL scores. Specifically patients with refractory epilepsy reported an overall QOLIE score of 0.41 points

lower across different psychiatric disorder histories than those with well-controlled new-onset epilepsy ( $p < 0.0001$ ). No significant interactions were observed between depressive episodes anxiety disorder and seizure control status. **CONCLUSION:** The results confirm existing literature that depressive episodes and anxiety are associated with poor QOL for PWE. Moreover patients with refractory epilepsy experience the poorest QOL among different seizure control groups. However the finding suggests that seizure control status may affect QOL in PWE with even six months of seizure-free significantly improving the subjective QOL in newly diagnosed patients. These findings emphasize the importance of addressing psychiatric comorbidities in epilepsy management to enhance PWE's overall well-being.

Sunday May 05

### In depressed older people *T.gondii* protects against frailty

Hira Mohyuddin M.D.

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Complejo Hosp Univ de A Coruña Servizo Galego de Saúde A Coruña Spain UDC Grupo NanoToxGen Centro Interdisciplinar de Química e Biología Depart de Biol Facultad de Ciencias Campus A Zapateira s/n A Coruña Spain and Instit de Investigación Biomédica de A Coruña A Coruña Spain **Background:** Chronic infections exacerbate inflammation associated with aging (“inflammaging”) and as we reported for toxoplasmosis are linked with frailty. Certain chronic infections may be immunomodulatory. We hypothesized that positive links between serointensity and frailty will only be present in *Toxoplasma gondii* (*T.gondii*) seropositives without concurrent depression (another trigger of low-grade-inflammation). **Methods:** Older adults were recruited from Spain and Portugal to participate in this study [N = 601; mean age (SD) 77.3 (8.0) 61% women]. Scales included: the Geriatric Depression Scale (GDS) for depression the Fried Frailty criteria for frailty and enzyme-linked immunosorbent assay (ELISA) for plasma *T. gondii* IgG serointensity/seropositivity. Serointensity was dichotomized by its median (low vs. high). Analysis included logistic and linear regressions with adjustment for age and stratification by depression and seropositivity. **Results:** Seropositivity was negatively associated with frailty in individuals with depression (OR 0.21 95% CI 0.06-0.75  $p < 0.016$ ). Among euthymic seropositives there was a positive association between frailty and high dichotomized-serointensity (OR 3.97 95% CI 1.29-12.27  $p < 0.017$ ) but not with continuous serointensity ( $p < 0.79$ ). In depressed seropositives there was no significant association with dichotomized serointensity ( $p < 0.74$ ). **Conclusion:** Our results are limited by the cross-sectional design and bear replication in longitudinal studies. Among depressed older individuals reported to have upregulated low-grade inflammation chronic infection with *T. gondii* may be frailty-protective rather than risk elevating suggesting a possible context-dependent immunomodulatory role of chronic toxoplasmosis.

Sunday May 05

## **INNOVATIVE EDUCATIONAL STRATEGIES FOR PRIMARY MENTAL HEALTH TRAINING OF COLLABORATIVE CARE TEAMS: A BRAZILIAN EXPERIENCE**

Andre Luis Bezerra Tavares M.D.

**INTRODUCTION:** Mental Health disorders reach up to 20% of Brazilians. The National Health System (SUS) in Brazil is universal publicly funded and based on Primary Care but these teams do not have good training in Mental Health and the development of collaborative care with specialized providers is still incipient. **OBJECTIVE:** to evaluate innovative strategies of education in mental health and psychosocial care for primary and mental health care providers together in Brazilian northeast region improving assessment access adequate management follow-up and quality of longitudinal care of people with mental neurological and substance use disorders. The Mental Health Gap Program Intervention Guide (mhGAP-IG/WHO) was used been adapted to different types of training. It also aimed to strengthen mental health networks by increasing collaborative and stepped care. **INTERVENTIONS:** The state of Ceará includes several interior areas with low IDH levels. The SUS Primary Care is the most important source of health care and since 2017 educational actions with the mhGAP-IG/WHO have been used to qualify its teams. During COVID-19 pandemic an educational project (Care in mental health and psychosocial care: evaluation management and follow-up in the territories - SMAPS-CE) began to amplify mental health and psychosocial care by primary care. Educational resources were adapted to different e-learning formats: actualization courses (238 providers trained); part of the curriculum of family medicine psychiatry and multidisciplinary residencies and as short self-instructional online courses (2.255 trained). They enabled the development of telehealth care skills using mainly role play activities and support from telehealth teams. It also offered face-to-face courses (196 trained) qualifying and strengthening integrated care in Ceará. A total of 2.749 providers were trained developing resolute clinical

management and reducing health expenses with collaborative and stepped care models. **RESULTS:** A survey evaluated the educational strategies and the effect of training using access quality indicators and the guarantee of longitudinal care among trained providers integrated network. In 2022 1151 evaluation forms were filled in (41.5% came from the capital and 58.5% from interior regions). The least well-evaluated criteria was the high workload of the trainings. The majority assigned an excellent grade to the didactic material and stated that they felt fully confident in applying the knowledge acquired in the courses. It also helped reducing stigma with the use of active motivating educational methodologies. The results of 2023 were not totally analysed. **CONCLUSION:** The project is universalizing access to primary mental health care training in the state through e-learning courses and motivating providers to work within collaborative care trainings and also helping primary and mental health providers to work together.

Sunday May 05

## **Innovative use of Project ECHO (Extension for Community Healthcare Outcomes) for Veterans Mental Health**

Errol Aksu; Ritika Baweja M.D.; Kathleen Dougherty M.D.; Daniel Waschbusch

**Background:** Veterans have specific strengths but reintegration into the civilian workforce can be challenging and can lead to negative outcomes if not addressed (1). In 2016 the institute for Veterans and Military Families found nearly half of veterans leave their first job within one year (2). Depression rates are 5 times higher in veterans and about 17 commit suicide every day (3). Veterans with mental health (MH) disorders who served in combat experienced more difficulty in work reintegration (4). Diverse challenges faced by veterans may be addressed via education community support and outreach (5).

Methods: Project ECHO (Extension for Community Healthcare Outcomes) is an established learning platform originally created to provide specialist expertise to primary care practitioners via telehealth mentoring by a combination of brief didactic presentations and case discussions empowering attendees to manage complex scenarios. When approached by a community veteran-led program Charter Homes & Neighborhoods to collaborate on improving veterans' MH we adapted this approach into an innovative outreach program. We created an employer peer-support program through Project ECHO connecting mental health experts with employers to help them identify warning signs of emotional difficulties and provide resources to support veteran employees. Sixteen sessions were run in 2 cohorts covering topics such as Post Traumatic Stress Disorder depression drug and alcohol use understanding veteran employees difficult conversations with agitated employees stress management suicide prevention and resources for veterans and employers. Results: 40 employers attended the sessions with 39 completing the survey. Around 1/3 of the participants were veterans themselves. Participants were primarily employers from a large university-based health system others were from government agencies or nonprofits. Within their organizations participants worked in human resources (N-21) or management (N-16). Participants reported improvement in knowledge and skills pertaining to MH issues faced by veteran employees. They also reported feeling more confident in providing a supportive work environment. A few participants reported implementing changes during the series while one-half reported planning to implement change within 3 months and about two-thirds in six months. Participants liked interactive and engaging discussions of real-world case scenarios a broad range of experts the opportunity to learn about the challenges faced by veterans and the resources. Participants wanted the involvement of more organizations and leaders in future sessions. Conclusion: This innovative virtual ECHO series for employers of veterans was very well received. Participants learned about the challenges the veterans face after their service and learned about

resources that can be provided to smooth this transition.

Sunday May 05

### **Nicotine Addiction and Cognitive Functions Among Rural Older West Texans Using Data from Project FRONTIER Conducted at the Garrison Institute on Aging**

Eri Shoji M.D.; Boris Decourt; Volker Neugebauer

Background: Although smoking is a risk factor for all-cause dementia nicotine is known to improve cognition. Administration in animal models improves attention working memory and long-term memory. (1) In addition to its short-term effects prolonged nicotine exposure is linked to the overall upregulation of nicotinic acetylcholine receptors (nAChR). Such changes are observed in animal models and in humans by PET imaging and post-mortem studies. (2) (3) The central cholinergic system plays an essential role in cognition and loss of cortical nAChR has been noted specifically in Alzheimer's disease. Thus it is a target of treatment for various dementias. (4) Although studies have been conducted on nicotine and its effect on cognitive function no known research has addressed nicotine addiction and neurocognitive function in an epidemiological cohort study. By assessing this relationship we aim to evaluate the net impact of the neuroprotective effects of nicotine and the hazardous effect that smoking imposes on cognitive function. Methods: All participants were enrolled in the Project FRONTIER study (Facing Rural Obstacles to Healthcare Now Through Intervention Education & Research) a longitudinal epidemiological study examining the relationship between biological environmental and psychosocial factors between cognitive aging in rural West Texas operating under the Institutional Review Board at Texas Tech University Health Sciences Center. The Statistical Package for the Social Sciences (SPSS) Version 26 was



used for descriptive and analytical calculations. The Fagerstrom Test for Nicotine Dependence (FTND) was used to assess the degree of nicotine dependence and the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) score was chosen as a measure of cognitive function. We calculated a third-order partial correlation coefficient between the FTND score and the scores of the total and each cognitive domain. We controlled for the effects of age gender and educational attainment. Results: The first-visit data of 1288 Project FRONTIER subjects was examined. 173 people were current smokers of which 72 were male (41.6%) and 101 were female (58.4%). Age ranged from 40 to 83 years old with a mean of 55.4 years old and standard deviation of 10.3 years. The mean numbers of education ranged from 0 to 20 years with a mean of 9.9 years and an SD of 3.7 years. There was a statistically significant relationship between the Total Fagerstrom Score and RBANS total score  $r = .17$   $p$  (two-tailed)  $< .05$  and RBANS language score  $r = .29$   $p$  (two-tailed)  $< .05$ . Conclusion: There is a very weak positive correlation between nicotine dependence level and overall cognitive function and a weak positive correlation between language function. There may be a net beneficial effect of nicotine dependence versus the hazards of smoking in cognitive functioning.

Sunday May 05

### **Participatory Policy Co-Design: A new approach to interprofessional collaboration for policy development in a psychiatric setting.**

Ellen Blair DNP APRN PMHCNS-BC NEA-BC CPHQ FAAN; Michael Dewberry; Sonia Perez; Javeed Sukhera M.D.;Ph.D.; Tess Atkinson

Background: Organizational policy influences the quality of psychiatric care. However psychiatric organizations often review policy without inviting diverse perspectives. Psychiatric organizations may experience challenges with balancing their

need to remain compliant with broader regulation and risk mitigation with perceptions of trust and concerns regarding coercive practices within mental health organizations. Participatory policy co-design is an approach that might address this gap by fostering the development of inclusive policies that address the needs and concerns of all stakeholders. In this project the authors implemented a participatory-policy co-design process within a large psychiatric organization. Methods: A participatory policy review team was implemented consisting of interdisciplinary colleagues and patient and family advisors. The process involved publicly posting policies due for review using a web-based application and inviting input from throughout the organization. A mixed-methods approach was used to evaluate the process including both correlation analyses and qualitative thematic analysis. Twenty-six respondents participated including members of organizational administration providers nurses psychiatric technicians as well as recovery support specialists and patient and family advisors. Results: Overall participants described that the process was inclusive and the experience of participating was positive ( $p < 0.05$ ). Participants also noted that reviewing and providing meaningful input required a significant amount of time which was considered a barrier to the process. Participants also emphasized the need for more education and meetings to accompany the review process so that their feedback is as constructive as possible. Conclusions: Despite challenges implementation of a participatory policy-review process within a psychiatric organization has potential benefits allowing for the inclusion of diverse perspectives which can lead to more comprehensive and innovative policies. Moreover it promotes transparency accountability and authenticity by involving stakeholders in decision-making and acceptance of policies increasing the likelihood of successful implementation. Further implementation would be enhanced through recognition of participants' time education and support for policy reviewers.

Sunday May 05

## Patient Perspectives on the Process of Engagement in Specialty Geriatric Mental Health Services

Nicole Del Rosario; Corey Mackenzie; Reece Ramkissoon MD; Malissa Mailey

**Background:** Older adults experience many barriers to accessing specialty geriatric psychiatry and psychology services. Research examining barriers to older adults' mental health service use and experiences of seeking mental health specialty services frequently identify stigma attitudes and beliefs of symptoms and treatment as well as a lack of participation in treatment planning as barriers to the optimal goal of improved outcomes. Fortunately recent research has shifted to identifying and addressing these barriers to improve patient engagement. Raue and Sirey (2011) proposed a theoretical treatment engagement model for older adults outlining steps from the initial identification of mental health problems to treatment. **Objective:** Using the theoretical treatment engagement model as a guide the current study aimed to explore patient perspectives of their experience with the referral process to geriatric mental health services. The current study also aimed to identify opportunities to enhance patient engagement in this process. **Method:** Thirteen geriatric patients (7 psychology 6 psychiatry) presenting with concerns of anxiety depression and/or stress were interviewed. Interviews were analyzed according to the framework analytic method. **Results:** Themes emerged as predicted by Raue and Sirey's model including attitudes toward treatment (e.g. stigma) treatment expectations and treatment preferences. In addition new themes emerged related to the patient as a passive recipient of care mental health literacy and ageism as barriers to engagement. Participants noted opportunities for psychoeducation self-guided resources and family involvement as potential targets of treatment engagement interventions. **Conclusions:** This is the first study to examine the applicability of Raue and Sirey's theoretical

engagement model in a clinical sample. Findings both support and expand the model and offer several recommendations for improving treatment engagement for older patients. Our findings provide a nuanced understanding of the experiences of older adults with non-cognitive concerns accessing specialty mental health care. Opportunities for enhancing engagement in treatment require a greater understanding of older patients' attitudes preferences expectations and knowledge towards treatment.

Sunday May 05

## Peripheral insulin sensitivity modulates effort-based behavioral response to intranasal insulin in individuals with mood disorders

Aniqa Tabassum

Mood disorders (i.e. major depressive disorder (MDD) and bipolar disorder (BD)) and metabolic disorders (e.g. type-2 diabetes (T2D)) have a bidirectional epidemiological association. To uncover mechanisms underlying the mood-metabolic disorders comorbidity this study investigated the role of peripheral insulin resistance (IR) in effort-based reward behaviour in individuals with mood disorders. This randomized crossover trial assessed effort-based decision-making in seventeen participants (10 BD 7 MDD) using the Effort-Expenditure for Rewards Task (EEfRT) in a functional MRI paradigm after intranasal insulin and placebo. Peripheral IR was calculated using the Homeostatic Model Assessment for Insulin Resistance (HOMA-IR). Peripheral IR moderated the behavioural response to intranasal insulin (Condition [insulin vs placebo] by IR interaction: Wald  $\chi^2=10.907$   $p=1.3$ ) showed no differences in likelihood of choosing the hard over the easy task on the EEfRT between the conditions (insulin 38% SE=6.8 placebo 41% SE=6.6). In contrast insulin sensitive participants (HOMA-IR<1.3) were more likely to select the hard

task in the placebo (67% SE=7.3) vs. the insulin condition (49% SE=7.2). There were no effects of BMI and adjustments for age sex MADRS scores and medications did not modify the moderating effect. Insulin-induced differences in reward-seeking behaviour between insulin sensitive and resistant individuals provides support for a neurobiological association between mood and metabolic disorders. The data collected from fMRI is expected to elucidate potential underlying differences in brain activity.

**Sunday May 05**

### **Principal components of telemedicine unreadiness in geriatric psychiatry outpatient referrals**

Blaine Greenwald; Amir Nikzad

Background: Telemedicine unreadiness is defined by the presence of technical/physical factors that hinder effective telecommunication between patients and healthcare providers. The evaluation of telemedicine unreadiness requires administration of relevant questions that are frequently interrelated. For example patients' access to internet-enabled devices is often linked with their access to internet connectivity. In this study based on a comprehensive survey a principal component analysis was conducted to isolate potential latent factors within the main domains of telemedicine unreadiness: digital access digital literacy and digital assimilation. Methods: New referrals (n = 800) to the Geriatric Psychiatry Clinic at Zucker Hillside Hospital at Northwell Health were surveyed for digital access (Wi-Fi and/or broadband internet and equipment availability) digital literacy (facility to engage in different aspects of digital technologies) and digital assimilation (actual use and caregiver support to achieve effective functionality). 'Yes' and 'No' responses to each survey question were normalized as z-scores. Within each survey domain principal component analysis (PCA) was conducted to identify latent factors that explain 0.95 of variance in the data. Relationships

between principal components and survey responses age and personal disabilities of the participants were explored using Spearman's correlation with Bonferroni correction (adjusted  $p = 0.0003$ ). Results: Digital access: A general access component significantly correlated with all survey questions ( $r = 0.48 - 0.86$ ; 49% of variance). In contrast an access mode component positively correlated with owning a desktop computer and wired internet capability ( $r = 0.35 - 0.55$ ) and negatively correlated with having a smartphone tablet and Wi-Fi access ( $r = -0.26 - -0.42$ ; 14% of variance). Digital literacy: A general literacy component showed multiple correlations with all the questions ( $r = 0.73 - 0.87$ ; 66% of variance). An audiovisual literacy component showed specific correlations to camera/microphone and videochat app use ( $r = 0.62 - 0.65$ ; 13% of variance). Digital assimilation: An actual use component correlated with recent texting emailing and internet use ( $r = 0.81 - 0.87$ ; 52% of variance). An interest/support component had strong correlations with interest in telepsychiatry and availability of caregiver support ( $r = 0.71 - 0.73$ ; 25% of variance). Conclusion: PCA identified latent factor components within telemedicine unreadiness survey questions that could potentially inform interventional targets. The audiovisual literacy component supports specific training initiatives that promote use of cameras microphones and speakers even in those older individuals who are already digitally literate. The interest-support component suggests that both cultivating interest (e.g. through enhanced competency training) and encouraging adjunctive human support may facilitate telemedicine readiness.

**Sunday May 05**

### **Professional Experience: Treating 4 patients with Narcissistic Personality Disorder using Transference-Focused (TFP-N) during psychiatric residency t**

NYNNY GUTIERREZ residente de psiquiatría en el hospital universitario

**Objective:** This study aims to share the professional experience as a psychiatric resident treating 4 patients diagnosed with narcissistic personality disorder using Transfer-Focused Psychotherapy for Pathological Narcissism and Narcissistic Personality Disorder (TFP-N).  
**Methodology:** The professional experience and progress of 4 patients (3 males and 1 female aged 23 to 25) were documented. They were diagnosed and treated by a resident in training at the Department of Psychiatry of the Dr. José Eleuterio González" University Hospital Autonomous University of Nuevo León Mexico. Patients were initially evaluated and supervised using clinical tools such as DSM-5 IPO and STIPO-R. They were diagnosed with Narcissistic Personality Disorder with a borderline dysfunctional personality structure. Treatment with TFP-N was initiated and after 18 months the same clinical tools were applied for progress evaluation. **Results:** After 18 months of treatment with two weekly psychotherapy sessions measurable indicators of clinical improvement were found. In the IPO of the 4 patients a significant change in identity and the use of primitive defense mechanisms was identified. STIPO-R showed improvement in identity conflicts aggression object relations and moral values while reality testing remained preserved. **Conclusions:** Patients with Narcissistic Personality Disorder treated with TFP-N demonstrated significant clinical improvement in functioning after 18 months of treatment. Transfer-focused psychotherapy proves to be an effective and efficient treatment particularly friendly for residents in training due to its operationalized and manualized nature. It is an ideal tool for working with borderline patients"

**Sunday May 05**

## **Psychotherapies and pharmacotherapies for military posttraumatic stress: A meta-analysis**

Jenny (Jing Wen) Liu; Anthony Nazarov; J. Richardson M.D.

Data estimate that up to 1 in 5 Veterans are diagnosed with posttraumatic stress disorder (PTSD) in their lifetime. Given the high rates of PTSD in military and Veteran populations the provision of care with consideration for the characteristics of the population and treatments are of critical importance. This poster will overview overall findings from a meta-analysis that evaluates the relative effectiveness of psychotherapies pharmacotherapies and combination therapies for PTSD in military and Veteran populations with data from 172 studies. Meta-analytic findings indicate significant heterogeneities in the literature and found that the pooled estimate of effects for psychotherapies and pharmacotherapies were comparable overall ( $g$  of 1.06 - 1.12 CI(0.95 1.28)  $p < .001$ ). However the combination of psychotherapy with pharmacotherapy was significantly higher  $g = 2.48$  CI(1.68 3.29)  $p < .001$ ). Results indicate that combining psychotherapy and pharmacotherapy contributed to significantly larger effects compared to psychotherapy or pharmacotherapy alone. These findings hold strong implications for future directions in treatment development and practice recommendations.

**Sunday May 05**

## **Strengthening Mental Health Literacy through social media and Volunteer Engagement in Low-Resourced Setting**

Sanjay Yadav M.D.; Riju Kafle; Prakriti Pokhrel; Avilasha Singh; Shreedhar Paudel

Nepal faces a significant mental health care gap characterized by deep-seated stigma inadequate mental health care resources and underinvestment<sup>12</sup>. Increasing mental health literacy (MHL) represents a crucial step in

addressing these inequities<sup>3</sup>. The Nepal Institute of Mental Health (NIOMH) is a health initiative dedicated to integrating mental health care across multiple sectors promoting accessibility mental health advocacy and awareness. NIOMH launched "NIOMH-Aware" a meticulously designed volunteer-driven awareness program targeting the general population. The program's primary objective is to disseminate consistent and validated mental health information through social media (SM) platforms. **Methods:** Over 12 months we created "Let's Fight Depression" an awareness campaign in alignment with the Nepali calendar year 2079 focusing on depression-related themes monthly. We utilized SM platforms like Facebook Instagram TikTok and Twitter in both Nepali and English languages. Continuous feedback and discussions during the first year allowed us to refine our approach. We expanded our efforts to include more in-person activities particularly engaging with schools and colleges. In the second year we initiated the theme "It's okay to not be okay: let's talk about anxiety" with scheduled feedback sessions to ensure that our program remained relevant and responsive to the evolving needs of the communities. **Results:** After undergoing peer-reviewed content development and finalization NIOMH disseminates illustrative MHL material every week. This material takes the form of single or multi-slide posters and animated videos. Additionally MHL content is delivered through interactive webinars radio talks awareness competitions live videos and polls throughout the year. NIOMH's SM pages facilitate communication fostering self-efficacy and addressing user queries ultimately encouraging steps toward mental health care-seeking behavior. The program's impact is assessed through SM metrics with increased participation in in-person activities content promotion and volunteer involvement. NIOMH has also been collaborating with local organizations that have approached via SM for mental health awareness seminars and workshops utilizing a substantial group of committed volunteers from mental health field for conducting these programs. Furthermore NIOMH is enhancing its database emphasizing the creation of fact-checked resources and patient

fact sheets enhancing the accessibility and reliability of mental health information including critical topics like pathways to care and suicide prevention. **Conclusion:** Leveraging SM platforms NIOMH has established a cost-effective MHL program aimed at achieving a sustained reduction in stigma and the promotion of mental health care-seeking behavior. The program's impact as evidenced by increased SM engagement and awareness underscores the potential of innovative digital approaches to deliver MHL."

**Sunday May 05**

### **SUBTHALAMIC STIMULATION NORMALIZES MULTI-ATTRIBUTE DECISION AND CONFIDENCE IN PARTICIPANTS WITH OBSESSIVE-COMPULSIVE DISORDER**

Mircea Polosan; Audrey Kist; Arnaud Pouchon; Stephan Chabardes

Various studies have shown that the subthalamic nucleus (STN) is involved in value-based decision-making. In this study we examined how the associative-limbic area of the STN explored in participants with Obsessive-Compulsive Disorder (OCD) is linked to choice confidence and mood reports in multi-attribute decision-making. Participants were instructed to either accept or reject a challenge based on the expected monetary reward monetary punishment and anticipated difficulty of the upcoming challenge. Additionally we collected subjective confidence and mood reports. For each participant we applied previously published computational models of multi-attribute choice and mood. Contrasting the reports and model parameters in 13 participants with OCD both on- and off-stimulation in a double-blind randomized setting and in 18 healthy control participants matched in age sex and education we demonstrated that switching stimulation off increased sensitivity to monetary loss compared to control participants



(2-ways ANOVA main effect of stimulation  $F[2, 82] = 6.27$   $p$ -value  $< 0.01$ ) diminished confidence (generalized linear mixed model main effect of stimulation  $p$ -value = 0.033) all the while increasing sensitivity to the difficulty (interaction between stimulation and choice  $p$ -value  $< 0.001$ ) towards normalization and increased the overall mood level (2-ways ANOVA main effect of stimulation ( $F[2, 164]$   $p$ -value = 0.01). These results confirm the involvement of the STN in multi-attribute decision-making confidence and mood processes. They also shed new light on how STN stimulation can alleviate symptoms related to these three clinically relevant cognitive dimensions in OCD.

Sunday May 05

### Telehealth Satisfaction Among Ethnic Minorities in a Sample of Pediatric Epilepsy Families

Swati Pandruvada M.D.; Tatiana Falcone M.D.; Jane Timmons-Mitchell

Background: More than 50 million people are diagnosed with epilepsy; 80% of who live in low to middle income communities [1]. Telehealth is a powerful tool that can help improve access and limit barriers to care in these populations. Studies analyzing the effect of telehealth on pediatric epilepsy families have shown positive outcomes and patient and caregiver satisfaction including reduced missed school and work hours more regular follow up and improved access to medication and less out of pocket costs [2-3]. Previous work on addressing minority needs in epilepsy care has found that describing differences in access to care between minority and non-minority patients is needed. Literature has also shown that ethnic minority households have less vehicle access but comparable access to internet devices & services [4]. This study evaluated the usage and satisfaction of telehealth in ethnic minority families with pediatric epilepsy.

Methods: As part of a HRSA funded study Project IMPACTT patterns of telehealth usage by minority and non-minority caregivers were assessed. A total of 166 caregivers were included in 2 analyses using Bonferroni correction. Of these 30 caregivers reported minority status while 136 did not. Using questions developed by the cross-site evaluators at the American Academy of Pediatrics we asked about advantages and barriers to telehealth use. Surveys were sent to caregivers in REDCap a secure research environment. Data files were downloaded from REDCap for analysis. We created a “minority” dichotomy categorical variable 1 equaling “White Hispanic” “African-American” “Asian or Pacific Islander” “Native American” or “More than one race” and 0 equaling “White Non-Hispanic” to analyze the data. Results: The caregivers reported race and ethnicity including 81% white non-Hispanic; 7% more than one race; 3% Hispanic or Latino; 3% white Hispanic; and 2% African-American. Of interest there was not a statistically significant difference in having had a video visit or preferring video visits between minority and non-minority caregivers. Results reaching a reportable level of significance include: My child missed fewer hours from school  $\chi^2 = 4.12$   $p = .04$ ; I felt less stressed/burdened:  $\chi^2 = 3.78$   $p = .05$ ; I gained more independence in managing my child’s epilepsy  $\chi^2 = 5.67$   $p = .02$ . Conclusion: The Cleveland Clinic’s implementation of telehealth visits allows caregivers to conduct the visit from their own homes as opposed to the hub and spoke model of telehealth. This may contribute to the equivalency between video and in-person visits for both minority and non-minority patient families. As ethnic minorities may have relatively more barriers to healthcare further investigation regarding minority patient and caregiver attitudes towards telehealth and what improvements can be made to better the experience is crucial; telehealth can be the solution to increasing access to epilepsy care in these communities.

Sunday May 05

## **The Power of Participation: Reducing GAD-7 Scores Using a Collaborative Care Model in a Safety-Net Hospital System**

Marsha Stern; Hans Verkerke; Savannah Ngo; Tianwen Ma; Jasmine Taylor M.D.

**BACKGROUND:** The GAD-7 is a brief validated clinical screening tool for generalized anxiety disorder (GAD) which was developed for the primary care environment. Collaborative care is a standardized system of behavioral health integration proposed to treat common mental health conditions including GAD. Collaborative care models seek to improve outcomes by implementing and evaluating common screening tools like the GAD-7 to tailor treatment and referrals to individual patients. Our study aimed to examine changes in GAD-7 scores over time among patients seen within Grady Health System's (GHS) Integrated Behavioral Health (IBH) clinic a collaborative care program serving patients at Georgia's largest tertiary care hospital. **METHOD:** This retrospective chart review included adult patients seen by GHS IBH between 2018 and 2023. To evaluate changes in GAD-7 scores over time we included patients who were screened at least two times using the GAD-7 instrument and seen by behavioral health care managers. Spaghetti plots of individual and population averages of GAD-7 scores were produced against the visit number. We examined the overall change in the GAD-7 scores between the baseline and the last score recorded within 12 months of the first visit and summarized the changes in numbers and proportions between the two-time points by discretizing GAD-7 scores into four levels: minimum (0-4) mild (5-9) moderate (10-14) and severe (15-21) using Wilcoxon-signed rank and Friedman tests respectively. In addition we fit a linear mixed model (LMM) to evaluate the effects of age gender race/ethnicity and visit number on GAD-7 scores over time. **RESULT:** Among 1068 patients with 2602 behavioral health visits the median GAD-7 score decreased from 14 at baseline to 12 within 12 months after the first visit ( $p < .001$ ). The number and proportion of patients with severe symptoms decreased from 466 (45.4%) to 363 (35.3%) while the number and

proportion of patients with minimal symptoms increased from 93 (9.1%) to 182 (17.7%) ( $p < .001$ ). The LMM model suggested that GAD-7 scores collected at later visits were associated with a 0.68-point decrease ( $p < .001$  95% CI: [0.54 0.81]); The GAD-7 scores for patients above 65 were significantly lower than other age groups ( $p < .001$ ); Female patients on average had a 0.84 higher GAD-7 score than male patients ( $p = 0.038$  95% CI: [0.05 1.64]). No significant race effect was observed. **CONCLUSION:** This study shows that patients seen within a safety-net hospital system's IBH program showed improvement in GAD-7 scores over the course of their engagement with a collaborative care model. These findings prompt further evaluation of GAD-7 screening in integrated models to identify systemic treatment-related or individual factors contributing to changes in self-reported GAD symptoms over time.

Sunday May 05

## **The relationship between anxiety and subjective cognitive impairment with peripheral biomarkers in older women at risk for Alzheimer's disease**

Hanadi Ajam Oughli M.D.

**Background:** Older women with cardiovascular risk factors and subjective memory complaints are at greater risk for Alzheimer's disease (AD). We examined the relationships between anxiety and Subjective Cognitive Impairment (SCI) and AD peripheral biomarkers including AB40 AB42 AB42/40 ratio and phosphorylated-tau (p-tau). **Methods:** We recruited 79 women <sup>3</sup> 60 years old with subjective memory complaints and high cardiovascular risk as defined by the ACC/AHA Guideline on the Assessment of Cardiovascular Risk for participation in yoga versus memory training randomized clinical trial. Participants completed the Hamilton Anxiety Rating Scale (HAM-A) 36-Item Short Form Survey (SF-36) for

quality of life and Memory Functioning Questionnaire (MFQ) for subjective memory reports. We obtained blood samples at baseline. Whole blood was centrifuged at 2000 rpm for 10 minutes and plasma was immediately stored at -80°C. The Simoa Human Neurology 3-Plex A assay (Quanterix Billerica MA USA) was applied on the automated Simoa HD-X Analyzer platform (Quanterix). The measurement range was 0–540 pg/ml for AB40; 0-240 pg/ml for AB42 and 0-400 pg/ml for p-Tau. Samples were diluted 1:4 as per manufacture's instruction. Results: A total of 79 patients (KY=40; MET=39) were randomized and 63 completed the 24-week follow-up. There were no group differences in AD biomarkers at baseline. At baseline HAM-A correlated with AB42 ( $r = 0.30$   $p=0.03$ ) and AB40 ( $r=0.29$   $p=0.03$ ). There was also a negative correlation between MFQ seriousness of forgetting and AB42 ( $r=-0.32$   $p=0.01$ ) and AB40 ( $r=-0.28$   $p=0.04$ ). Furthermore there was a negative correlation between the Physical Composite Score of SF-36 and p-tau ( $r=-0.27$   $p=0.04$ ). Conclusion: Our findings indicate that higher levels of AB40 and AB42 are associated with higher levels of anxiety and lower levels of perceived memory functioning. Meanwhile increased physical functioning is associated with lower levels of p-tau. Our findings support prior reports of increased stress and anxiety that can accelerate AD while physical activity could have protective effects.

Sunday May 05

### **The shared genetic architecture of neurological and psychiatric disorders: a genome-wide analysis**

Olav Bjerkehagen Smeland MD PhD; Gleda Kutrolli; Alexey Shadrin; Oleksandr Frei; Ole Andreassen

Background: Neurological and psychiatric disorders rank among the leading causes of disability and mortality worldwide. Despite their

shared link to the brain the disorders have generally been considered to reflect distinct pathogenic entities as emphasized by their separate classification in the International Classification of Diseases. However findings in neuroscience over the past decades combined with clinical and epidemiological observations have challenged the validity of this clinical distinction. Yet the extent to which the conditions share pathobiological mechanisms remain unclear. Methods: Here we aimed to conduct a comprehensive cross-disorder analysis using recent large-scale genome-wide association study data involving nearly 1 million cases across ten neurological diseases and ten psychiatric disorders. To this end we applied statistical tools that capture distinct forms of genetic overlap and we interpreted the genomic data using a variety of biological resources. Results: Using complementary statistical tools we demonstrate widespread genetic overlap across neurological and psychiatric disorders indicating that they partly share genetic etiology. In particular migraine essential tremor stroke and multiple sclerosis were genetically correlated with several psychiatric disorders. Furthermore biological interrogation revealed that neurological diseases were associated with heterogenous biological processes while psychiatric disorders consistently implicated neuronal biology. Conclusion: Altogether the study indicates that neurological and psychiatric disorders share key etiological aspects contrasting their clinical distinction. The results represent a conceptual advance in our understanding of the common genetic variation underlying brain-related disorders suggesting that a large set of genetic variants influence a wide range of pathogenic processes in which disorder specificity is determined by the distribution of effect sizes. The study may have important implications for disease classification genomic precision medicine and clinical practice in both neurology and psychiatry. This study was supported by the American National Institutes of Health (NS057198 EB000790 1R01MH124839 R01MH120219 RF1AG073593) the Research Council of Norway (RCN) (229129 213837 324252 300309 273291 223273 248980 326813) the South-East Norway Regional Health Authority

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**Sunday May 05**

### **Unique approaches in care management shown to improve physical health of rural patients with serious mental illness**

My Nim M.D.; Pari Noskin; Michael Foust

**Background:** Those with mental illness have higher rates of morbidity and mortality compared to the general population. When taken into account additional barriers of those with mental illness living in rural there can be even worse health outcomes. This study contributes to the literature by examining how unique approaches to care management including use of peer support workers and community health workers interchangeably can improve the physical health of those with mental illness in rural communities. **Methods:** We pooled patient data for clients in a rural mental health clinic at baseline at 6 months from baseline and at 12 months from baseline via subjective questionnaires hospital records and vital sign and lab measurements. We looked at outcome variables of life function overall health serious psychological distress living condition satisfaction housing stability emergency room visits hospitalizations and health measurements including blood pressure triglycerides BMI lipids and hemoglobin A1C. **Results:** We conducted chi-squared tests to assess independence between the three time points and the outcome variables and F-tests to assess mean differences between the time points for the outcome variables. We identified that there is a statistically significant relationship between the timepoints and individuals with serious psychological distress (Chi squared-test  $p$ -value $<0.001$ ) and that there is a statistically significant difference in mean number of individuals with psychological

distress over the three timepoints (F-test  $p$ -value $<0.001$ ) at a confidence level of 95%. Proportion of clients with serious psychological distress reduced over time significantly. Similar conclusions are drawn for emergency room visits systolic blood pressure triglycerides BMI HgbA1c and Lipid HDL. **Conclusion:** Use of novel approaches to care coordination was associated with improved health outcomes for those with mental illness living in a rural community. These results inform mental health centers on an approach to improve the physical health of their clients.

**Sunday May 05**

### **Poster Session 7**

**Sunday May 05**

### **A literature review of technological and community-based interventions for Alzheimer Disease in Japan**

Anna Mori-Kreiner

**Abstract** **Background:** Japan has an ageing society with an increasing prevalence of dementia with Alzheimer Disease (AD) as the most common cause. While disease-modifying therapies are currently being explored through clinical trials Japan still confronts issues of healthcare social and informal caregiver costs and burdens which have pushed for research on AD. The government implemented the New Orange Plan a national dementia initiative in 2015 that includes novel-low cost applications in technology and legal requirements to detect mild cognitive impairment in older adults. Here we review literature of Japanese studies that focus on prevention supportive care and early detection of AD or mild cognitive impairment (MCI) using community or

novel technology-based interventions. Methods: Using PubMed and Google Scholar a literature review was conducted for studies of AD patients in Japan. Keywords used were: “Alzheimer disease” or “mild cognitive impairment” or “dementia” and “Japan” and “supportive care” and “environment.” Studies involving biomarkers imaging and pharmacological therapies were excluded. Articles that were published between 2018 to 2023 were used. Results: A total of 64 papers were retrieved from the two databases. Of those 7 were found to be relevant to the topic of interest and used in the literature review. A recent report describes implementation of home-based sensors that alerts family members of MCI patients when there is a decline in teapot use and the requirement of cognitive assessments to renew driver’s licenses as part of the national dementia initiative.<sup>3</sup> One case report details a practical use of AI through robots that serve as conversational partners for AD patients as intellectual stimulation is beneficial to preserve cognitive function.<sup>4</sup> Development of dementia-friendly communities is a national initiative that is prioritized in Japan.<sup>5</sup> Two studies found that accessibility of sidewalks are associated with lower incidence of dementia<sup>6</sup> and lower grocery store availability is associated with increased incidence of dementia<sup>7</sup> thus supporting an infrastructure that allows elderly patients activities that may minimize risk of dementia. Conclusion: Japan and the United States both have national initiatives that encourage research on AD prevention which is needed to alleviate caregiver burden attenuate the decrease in quality of life for AD patients and reduce economic burden. In Japan there is also a simultaneous effort for research in interventions for those already with AD which is necessary to preserve functional decline and decrease mortality. Recent literature findings support the improvement of living environments for older adults through infrastructure and technology. Across the globe populations are ageing. Other countries may consider similar strategies to improve healthcare for AD patients and older adults.

Sunday May 05

## A Pre-Implementation Evaluation of Contextual Barriers and Facilitators to Use of Long-Acting Injectables and Clozapine for Early-Phase Psychosis

Avram Kordon; Allison Carroll PhD

Background: Early intervention services for early-phase psychosis improve psychosis symptoms. Long-acting injectable (LAI) medications and clozapine are effective yet underutilized medical therapies in these settings. The purpose of this study was to conduct a pre-implementation evaluation of the contextual determinants of early intervention programs to implement future innovations to increase LAI and clozapine use. Methods: Semi-structured interviews (March-Sept 2023) explored barriers and facilitators to implementing LAIs and clozapine in early intervention services. Participants were: Prescribers (prescribing health care professionals) non-prescribing clinicians (therapists peer support specialists) Administrators (organizational leaders administrative staff) Clients (people with lived experience of early-phase psychosis) and Caregivers (relatives or live-in partners of clients). The interview guide was developed using the Consolidated Framework for Implementation Research (CFIR 2.0; domains of Innovation Outer Setting Inner Setting Individuals Process). Data were analyzed using Rapid Turnaround Qualitative Analysis. Results: The sample included 2 Prescribers 5 non-prescribing clinicians 3 Administrators 3 Clients and 3 Caregivers representing 5 early intervention clinics. Participants were supportive of using LAIs while most (excepting prescribers) were unfamiliar with clozapine (Innovation). Most participants described giving LAIs as straightforward although barriers included transportation insurance coverage and costs (e.g. financial time). Most participants stated critical incidents (e.g. COVID-19) did not significantly interfere with implementation while barriers included that no LAI performance measures currently existed; stigma affected patient willingness to take medication; and many described clozapine as a “last resort” (Outer Setting). No physical



infrastructure barriers were identified and the treatment culture was described as collaborative. Most participants indicated LAI use was compatible with clinic workflows but some were in need of resources (e.g. individuals trained to administer LAIs and draw blood for clozapine monitoring; Inner Setting). Participants on the healthcare team expressed confidence in their roles and family education and collaborative decision-making were recommended to improve client engagement (Individuals). Participants related the importance of tracking medication compliance addressing client concerns and providing prescribers with updated treatment guidelines (Process). Discussion: Overall participants felt positively about LAIs and uncertainty about clozapine. Strategies to increase LAI and clozapine use included reducing stigma training staff in medication administration and supporting clients/families to use these medications. These results can aid the implementation of early intervention services seeking to increase the use of LAIs and clozapine for early-phase psychosis.

**Sunday May 05**

### **A Qualitative Analysis of Multilevel Perspectives on the Implementation of Collaborative Care for Depression and Anxiety**

Avram Kordon; Allison Carroll PhD; Lisa Rosenthal MD; Justin Smith PhD; Jeffrey Rado

Background: Depression and anxiety are major contributors to disability worldwide and adults frequently present to primary care clinicians for behavioral health treatment. The Collaborative Care Model (CoCM) is an effective interdisciplinary intervention for depression and anxiety involving consulting psychiatrists primary care clinicians and behavioral care managers (BCMs). A greater understanding of factors contributing to successful CoCM implementation

is needed. Methods: This study was a secondary analysis of the Collaborative Behavioral Health Program (CBHP) study (NCT04321876) in which CoCM implementation was tested in 11 primary care clinics (October 2018–January 2023) in a randomized roll-out trial. CBHP implementation included screening for depression and anxiety referral to CBHP and treatment with BCMs. Interviews were conducted 4- and 15-months post-implementation with BCMs practice managers and primary care practice champions. We used framework-guided rapid qualitative analysis with the Consolidated Framework for Implementation Research Version 2.0 focused on the Individuals domain to analyze response data. These data directly and indirectly represented the roles of Mid-Level Leaders (practice managers) Implementation Team Members (clinicians clinic staff) Innovation Deliverers (BCMs) and Innovation Recipients (primary care/CBHP patients) and their characteristics (i.e. Need Capability Opportunity Motivation). Results: Mid-level leaders were enthusiastic about CBHP (Motivation) appreciated integration of behavioral health services into primary care (Need) had time to assist clinicians (Opportunity) and relayed team member communication (Capability). Although CBHP lessened the burden for implementation team members (Need) some respondents were hesitant to reallocate patient care to CBHP (Motivation). Innovation deliverers were eager to deliver CBHP (Motivation) and confident in assisting patients (Capability); their opportunity to deliver CBHP could be limited by clinician referrals (Opportunity). CBHP alleviated behavioral health access barriers for patients (Need) but it was difficult to secure services for those with severe disorders (Capability) and certain insurance coverage (Opportunity). Conclusion: Overall respondents favored sustaining CoCM and highlighted the positive impacts on the clinic health care team and patients. Barriers to CBHP implementation included ensuring appropriate patient referrals providing treatment for patients with higher level needs and incentivizing clinician engagement. Nonetheless participants emphasized the benefits of integrating behavioral health services into primary care and the ways in which CBHP lessened the burden on clinicians

while providing patients with comprehensive care. Future CoCM implementation should include strategies focused on education and training encouraging clinician buy-in and preparing referral paths for patients with severe or diverse disorders.

**Sunday May 05**

### **Age stigma and recovery: the case of electroconvulsive therapy.**

Hector Rincon Reques; Gonzalo García Cepero PGY2; maria eva roman mazuecos

Introduction: Electroconvulsive therapy (ECT) is an effective and well-tested course of treatment for some of the most severe psychiatric disorders (treatment-resistant depression catatonia psychotic disorders...). With few side effects and nearly no contraindications it can be one of the safest options to address mental conditions that resist conventional treatment in elderly patients. Still some studies suggest that ECT is underused probably because of the stigma associated with an act of care that is perceived by the general public as archaic and unsafe. In this descriptive study we explore the indications sociodemographic profile and outcome of the 37 patients over 65 years of age that have undergone ECT between 2007 and 2023 while admitted to an acute care psychiatric ward in Madrid Spain. Methods: A database has been designed and built using the clinical reports available. From these variables such as age gender DSM-5 diagnosis time spent until ECT referral course of treatment and clinical response have been collected and assessed statistically using SPSS software. Descriptive and comparative analyses have been used to identify relevant differences in elderly population (over 65 years-old). Results: Among the 122 patients referred to ECT between 2007 and 2023 37 (32%) were over 65 years old. Most of them (81%) were women; nearly all had a previous mental health record (91%) and an overwhelming majority (93%) experienced a significant recovery after receiving a full course of

treatment. On the other hand elderly patients were more prone to experiencing side effects after the procedure had a higher rate of early readmissions after being discharged from the ward and were more likely to have had previous experience with ECT. clinical profile also differed between the groups: mood disorders (both with and without psychotic symptoms) were more common in seniors patients while their younger counterparts usually experienced treatment-resistant psychosis. Substance abuse was not a relevant feature in those over 65 years of age while drugs played some kind of role in the psychopathology of some (7%) of those below that threshold. Discussion: Our study summarizes the unique clinical and sociodemographic portrait of a population of elderly patients affected by mental health disorders that require intensive treatment to achieve symptom control. These results emphasize the different requirements of those experiencing Severe Mental Disorders (SMDs) late in life insinuate the role of organic comorbidity in their response to conventional treatment and emphasize the importance of considering electroconvulsive therapy in their treatment plan particularly when a speedy response is needed and other strategies do not provide the required improvement. Even though older adult psychiatry has become a respected and well-known area of expertise among mental health professionals further research is needed to address such a vulnerable population.

**Sunday May 05**

### **Burnout and Depression to Discharge: A Military Case Series**

Kyle Hardwick M.D.; Andrew Rumble D.O.

Contemporary research highlights the effects of burnout but the military experience imparts unique factors not easily replicated in civilian studies. A median of 19% of service members (SMs) report high emotional exhaustion. While not an inevitable precursor burnout can catalyze

major depressive disorder (MDD). With an approximate prevalence of 6% within the military MDD accounted for the most use of inpatient bed days in the military in 2021. This case series delves into the transition from burnout to depression within the military setting shedding light on factors unique to this context that jeopardize continued military service. SM 1 was diagnosed with adjustment disorder due to assuming substantial responsibilities of the unit and eventually received a MDD diagnosis after significant disillusionment of the command team. The resulting depression necessitated hospitalization and intensive outpatient care leading to medical discharge after a change of unit. SM 2 was referred for insomnia and chronic pain. Psychiatric evaluation revealed MDD. Patient citing limited time for attending to family after a sister's passing as contributing to worsening depression. Intensive outpatient treatment culminated in medical board referral. SM 3 was diagnosed with chronic pain and adjustment disorder. Chronic relocations hindered consistent medical engagement. Diagnosis shifted to MDD upon psychiatric evaluation. Symptoms worsened due to supporting a friend through a sexual assault trial and facing an AWOL investigation while on emergency leave following the loss of their mother. With a significant amount of military service time SM 3 retired shortly after diagnosis. This series illuminates a recurrent pattern of burgeoning burnout prompting escalated healthcare engagement culminating in psychiatric referral and MDD diagnosis eventually necessitating medical discharge. Despite the military's efforts to destigmatize behavioral health services service members often resist seeking treatment due to fears of jeopardizing their careers. The potential benefit of earlier intervention is overshadowed by the fear of career jeopardy. In conclusion this series underscores the urgency of early intervention to mitigate the progression from burnout to severe depression. The military endeavors to destigmatize mental health. Yet cases persist where service members forgo treatment despite burnout's debilitating effects. Improved communication of mental health services and targeted efforts to educate command units are crucial. Additionally

psychiatrists liaise between patients and commands addressing precipitating factors prior to the emergence of severe depression. Such comprehensive measures hold promise to augment mental health services elevate patient outcomes and curtail unwarranted separations.

Sunday May 05

### **Case Series: Treatment of Agitation in Major Neurocognitive Disorder Secondary to Traumatic Brain Injury in Two Younger Nursing Home Adults**

Tamara Murphy M.D.

According to the Global Burden of Diseases Injuries and Risk Factors Study (GBD) 2016 the world's largest cause of disability is neurological disorders. Traumatic Brain Injury (TBI) ranks seventh worldwide for disability-adjusted life years (DALYs). DALYs measure overall disease burden including number of years lost due to disability poor health or early death (GBD 2016 Neurology Collaborators). In the United States TBI is a leading cause of death and disability (Lueckel et. al.). In many states state-level nursing placement of adults younger than 65 is growing. Many disorders are responsible for this trend including TBI (Ari Ne'eman et. al.). Evidence in recent studies also supports a relationship between TBI and cognitive decline later in life (Al-Dahhak et. al.). This case series discusses the course of treatment for two patients younger than 65 who are in a state psychiatric nursing home in West Virginia. They were both diagnosed as having moderate major neurocognitive disorder secondary to TBI. Patient 1 in her forties suffered a TBI due to anoxic brain injury secondary to a suicide attempt involving overdose on her insulin. Patient 2 in his 30s also had an anoxic brain injury due to suffering from protracted seizures. Both patients despite their young age are unable to live independently due to the severity of their TBIs. Both patients have experienced behavioral

disturbance in the form of severe agitation including restlessness aggressiveness and emotional distress. For both a combination of lamotrigine and other psychiatric medications have helped to improve their quality of life increase participation in care and reduce agitation and safety concerns of staff and co-residents. We were unable to find similar case studies when reviewing the literature for a combination of keywords such as nursing home "traumatic brain injury" "adult under 65" and major neurocognitive disorder. It is our hope that this presentation will add to the discussion regarding this patient population and to help guide treatment decisions for similar patients."

Sunday May 05

### **Clozapine plus Risperidone: A Dangerous Combination for Some**

Kelly Akah M.D.; Andrea Weir D.O.; Emily Bray D.O.

Background Clozapine augmented with risperidone is a widely used strategy in managing treatment-resistant schizophrenia (TRS). Both medications share metabolism at cytochrome P450 2D6 (CYP2D6)<sup>3</sup>. In poor metabolizers medication interactions can lead to increased clozapine levels<sup>2</sup>. Poor metabolization at CYP2D6 is underrecognized in the African American (AA) population and according to a recent meta-analysis up to 39.46% of AA in the United States are non-normal metabolizers<sup>2</sup>. We describe a case in which an acute exacerbation of TRS was managed with this well-established augmentation strategy and caused an unintended increase in clozapine levels. Clinicians should be aware of the treatment implications of non-normal metabolism at CYP2D6 and how it may impact vulnerable populations. Case A 52-year-old non-smoking AA woman with TRS and multiple medical comorbidities was admitted to the psychiatric unit after attempting self-immolation. On day two of hospitalization she was found to have a critical clozapine level of 1396 µg/L. Over the course of

several weeks her clozapine dose was tapered and augmented with risperidone. Rather than an expected decrease in clozapine levels after augmentation her levels increased. The patient's clozapine: norclozapine metabolic ratio (MR) ranged from 2-2.5 suggesting poor metabolization and decreased activity at CYP2D6. Only with a reduction of clozapine by greater than fifty percent did her levels stabilize to a nontoxic range. Discussion Genetic variation at CYP2D6 affects drug metabolism and bioavailability thus impacting drug safety and efficacy<sup>3</sup>. In the AA population the prevalence of poor metabolizers at CYP2D6 often exceeds those of other ethnicities<sup>2</sup>. Studies suggest that a variant allele CYP2D6\*17 has reduced activity and occurs with a higher frequency in the AA population<sup>1</sup>. In these individuals a MR can be beneficial in understanding clozapine's metabolism. A MR greater than 2 suggests a poor metabolizer or exposure to CYP2D6 inhibitors and results in increased plasma clozapine levels<sup>4</sup>. Conclusion There is considerable racial variability in CYP2D6 metabolism<sup>1</sup> and yet there is a dearth of literature on prescribing practices for AA patients. Many medications including psychotropics are metabolized through the CYP2D6 pathway<sup>3</sup>. Psychiatrists should be aware of the clinical implications of these differences and aim to establish judicious prescribing practices in at risk populations.

Sunday May 05

### **Comparative Analysis of First Episode Psychosis Management in a Military Setting**

Kyle Hardwick M.D.; Andrew Rumble D.O.

Behavioral health conditions accounted for 31.3% of military inpatient encounters in 2021 and the highest hospitalization rate involved psychosis. Given that psychotic disorders commonly manifest before age 30 and a substantial military segment is under 26 (44.4%) first episode psychosis (FEP) becomes a significant concern. This study juxtaposes two cases to elucidate

differences in service duration before separation presentation challenges and potential enhancements. Patient A was medically evacuated from station central Europe for inpatient treatment after command noted derealization and suicidal ideation. Diagnosed with major depressive disorder with psychotic features they returned stateside for subsequent intensive programming due to auditory hallucination. Despite an additional inpatient admission total outpatient treatment of three months culminated in medical discharge with minimal symptoms. Patient B self-referred for nightmares with progression to visual and auditory hallucinations underwent extensive evaluation including psychological testing medical workup for potential confounding factors and medication titration requiring ten months of outpatient treatment for a diagnosis of other specified psychotic disorder before initiating discharge through a medical board with reduced symptoms. Highlighted aspects of military patient care include proactive identification of symptoms efficient medevac services and swift initiation of medical board proceedings. For patient A swift medical board initiation after medical evacuation aided the transition out of the military prioritizing well-being and highlighting the military's proactive approach to treating psychosis. Conversely patient B depended on self-reporting symptoms. Due to the need to properly evaluate the symptoms and accurately diagnosis with proper medical and psychological testing the duration of time in service was extended and relied heavily on administrative efficiency and access to specialized care. While safety can be maximized through profiling and contact with command the patient's exposure to military stressors was extended. In conclusion this analysis sheds light on the variable paths FEP cases can take within a military setting. Initiating the medical board process as soon as service-disqualifying symptoms are found ensuring specialized care access and promoting administrative efficiency markedly influence the patient's journey. These findings emphasize the necessity of a comprehensive coordinated strategy for managing FEP in military settings. Such a strategy would aim to identify treat and transition individuals

experiencing such challenges. Further research can further refine protocols for improved mental health care during military service and allowing for safe and expedient transition when needed.

**Sunday May 05**

### **Complex Clinical Convergence: Delirium Mania and Dementia in a Geriatric Patient**

Poojajeet Khaira M.D.; Elizabeth DeOreo M.D.; Lendita Haxhiu-Erhardt M.D.

Background: Delirious mania a rare clinical entity presents an intricate diagnostic challenge when combined with dementia. This poster presentation delves into a captivating case study of a patient who exhibited a unique amalgamation of delirium mania and dementia. Case Presentation: Patient G 65-year-old Caucasian female presented with a complex medical and psychiatric history including hypertension CAD fibromyalgia downbeat nystagmus recurrent falls bipolar I disorder and tardive dyskinesia. Ms. G's presentation to the emergency department was marked by disorganized behavior psychosis and manic symptoms attributed to medication nonadherence. She had been on lithium therapy for an extensive 44 years before this episode. Upon admission to the psychiatric unit Ms. G displayed an expansive mood increased energy insomnia tangentiality disorganized behavior and grandiose delusions. Early in her admission she was transferred to the medical floor due to sepsis stemming from prepatellar bursitis. Her hospital course was further complicated by acute kidney injury (AKI) due to Bactrim usage and nephrogenic diabetes insipidus (DI) due to lithium. Upon returning to the psychiatric floor Ms. G experienced multiple falls without loss of consciousness or injury necessitating 1-to-1 observation for safety precautions. Throughout her hospitalization Ms. G's MoCA scores worsened and her attention and orientation fluctuated during the day raising concerns about persistent delirium. Some of her bizarre



statements such as using different names for staff members may have represented schemas or memory aids often causing distress when her memory failed her. Aricept was initiated during her hospitalization to address cognitive impairment with acknowledgment that its effects might not be fully realized during her hospital stay. Over her three-month hospitalization Ms. G underwent trials of various medications including zyprexa haldol abilify lithium seroquel depakote high-dose zofran thorazine risperdal and ativan. The patient exhibited the most improvement during a trial of ativan which aimed to manage her delirious manic symptoms akin to excited catatonia. However due to ativan's impact on her fall risk and her age it was transitioned to an as-needed medication. Multiple consultants were involved but limited symptom improvement led to family-acquired guardianship. Subsequently she was discharged to a long-term care facility with a regimen comprising low-dose risperdal aricept and as-needed ativan. Conclusion: This case underscores the necessity for a comprehensive evaluation and management approach when dealing with delirious mania within complex clinical scenarios. It highlights the need for adaptable treatment strategies to address comorbid conditions ensure patient safety and plan for long-term care particularly in the context of cognitive challenges.

**Sunday May 05**

### **Demographic Factors Increasing Risk for Mental Health Conditions Resulting in Separation From the United States Navy in the Outpatient Setting**

Aaron van Dyne M.D.; Artemisa Zuazo; William Hoover

Military psychiatrists bear a unique burden to evaluate patient's suitability for service in addition to providing treatment. One important outcome measure for military psychiatrists is the number of

patients separated due to being unsuitable for continued service. Psychiatrists must balance the benefit of separation for the patient versus the costs associated with separating large numbers of sailors. We must be cognizant of cases where there are discrepancies in rate of separation based on factors such as race gender and ethnicity. During fiscal year 2008 alone 20.7% of US Navy Sailors failed to complete their first enlistment term and we know that in general 40% of administrative separations are performed due to mental health conditions (specifically adjustment disorders). This study builds on a prior study that investigated separations that occurred after inpatient psychiatric hospitalization at a large military treatment facility. In that study women and African Americans were overrepresented and Hispanic individuals were separated at a lower rate than would be expected based on their representation Navy-wide. In this study we examined these same trends in the outpatient and operational settings such as sailors separated by a psychiatrist or psychologist assigned to their ship to compare how sailors separated from these settings are similar to and different from those separated from the inpatient setting. We were additionally able to compare the average time in service between sailors separated in the operational outpatient and inpatient settings. This study further underscores the racial and gender disparities of those separate from the Navy while raising question as to why various settings give differing results. With this information we aim to propose interventions to reduce these disparities and improve diversity equity and inclusion within the United States Navy.

**Sunday May 05**

### **Efficacy of Naltrexone in the Treatment of Compulsive Sexual Behaviors: A Systematic Review of Clinical Trials**

Jonathan Stone BS; Mohan Gautam D.O.;M.S.; Jonathan Stone BS

Background: In the realm of "Confronting Addiction from Prevention to Recovery" Compulsive Sexual Behavior Disorder (CSBD) stands as a poignant challenge. Characterized by uncontrolled repetitive sexual impulses leading to behaviors that disrupt social and emotional well-being CSBD inflicts marked distress on affected individuals. With limited treatment avenues available the path from prevention to recovery is intricate. Central to this journey is the identification and understanding of effective treatments. This review delves into the potential of naltrexone an opioid receptor antagonist as a beacon of hope in the therapeutic landscape of CSBD. Objective: To synthesize evidence from recent clinical trials to assess the effectiveness of naltrexone in treating CSBD. Methods: A systematic review was conducted following PRIMA-P guidelines. Searches were made in PubMed and EMBASE using the terms "(naltrexone) AND (Compulsive sexual behavior)". A total of 90 results were identified with 14 from PubMed and 76 from EMBASE. After deduplication 4 clinical trials utilizing pharmacotherapy were identified. All trials were RCTs focusing on the use of pharmacotherapy. Results: Studies consistently underscored naltrexone's potential in managing CSBD. Two RCTs observed a significant temporal effect on CSBD symptom severity gauged by Hypersexual Behavior Inventory. Naltrexone dosing ranged between 25-100mg across studies with 50mg being predominant. An acute negative impact on sexual arousal was attributed to naltrexone in one study. The rise in prolactin levels potentially mediating sexual satiation elucidates naltrexone's positive effects in CSBD treatment. Both paroxetine and naltrexone were deemed safe and well-tolerated by men with CSBD and outperformed placebo in symptom reduction. One RCT on Parkinson's disease patients indicated that naltrexone led to a significant decrease in the impulsive sexual behaviors in Parkinson's disease over time compared to placebo although global assessments did not show significance. Conclusion: Naltrexone emerges as a feasible treatment for CSBD demonstrating symptom reduction superiority over placebo. Its potential in mediating sexual satiation via prolactin levels

offers a unique insight into naltrexone's efficacy. The study on Parkinson's disease patients further broadens the scope of naltrexone's applicability suggesting its potential benefits beyond the primary CSBD population. Further studies are warranted to solidify treatment protocols and explore long-term outcomes. Contribution to Existing Literature: This review stands as the first comprehensive examination of clinical trials representing high-quality data on the topic of naltrexone's efficacy in treating CSBD. By consolidating evidence from multiple RCTs this review offers a holistic perspective on naltrexone's role in CSBD treatment bridging gaps in the literature and providing a foundation for future research and clinical practice."

Sunday May 05

### **Evaluation of an Interprofessional Educational Intervention in Mental Health and Intellectual and Developmental Disability for Trainees**

Yona Lunsky PhD; Anupam Thakur

Background: For adults with intellectual and developmental disabilities (IDD) and mental health or psychiatric diagnoses health service needs are often not adequately met. There is limited training for health and social service providers on the mental health needs of adults with IDD. Interprofessional educational interventions for social service and health providers results in practice changes and increased self-efficacy in managing mental health needs for adults with IDD. However no such interventions have been investigated in trainees. Methods: A virtual and synchronous 4 session course based on the Project Extension for Community Healthcare Outcomes (ECHO) Ontario Mental Health program was developed for health professional trainees in medicine nursing psychology occupational therapy behavioral therapy social work and college level disability

support worker training programs. The course utilizes a “Hub and Spoke” model of teaching where the Hub consists of an interprofessional team of social and health service providers as well as individuals with lived experience with expertise in mental health and IDD and the Spoke consists of students from across health disciplines. The Project ECHO philosophy is to create a community of practice where “all teach all learn” to encourage knowledge sharing collaborative learning and capacity building. Sessions were 90 minutes and consisted of 40 minutes of didactic teaching from the Hub followed by a 40 minute discussion of an anonymous case. Students completed weekly feedback surveys following each session as well as pre- and post-course surveys. Results: Of the 50 students registered in the course a total of 34 met inclusion criteria (mean age: 26.4 82.4% women). Trainees' educational backgrounds were 35.2% from social services programs and 64.7% from health programs. Overall the course sessions received positive feedback from participants (average rating of 4.47 of 5). Participants also demonstrated a marked increase in self-efficacy regarding effective communication ( $p < 0.001$ ) management of mental health needs ( $p < 0.001$ ) and working across health and social systems ( $p < 0.001$ ) with respect to individuals with IDD. Regarding knowledge about caring for adults with IDD trainees felt more knowledgeable about common comorbidities ( $p < 0.001$ ) assessing behavioral challenges ( $p < 0.001$ ) role of interdisciplinary professionals ( $p < 0.001$ ) and community resources ( $p < 0.001$ ). Trainees also noted that this model of teaching was novel to them and they appreciated the key components such as interprofessional collaboration lived-experience perspective and discussion of real cases. Conclusion: The evaluation of the pilot Project ECHO for health and social service trainees in adult IDD mental health demonstrated high participant satisfaction and positive impact on students' self-efficacy and knowledge. This model of learning may also have value for other low frequency complex patient populations.

Sunday May 05

### **Evaluation of the major genetic polymorphisms of CYP450s for achieving better pharmacotherapeutic outcomes in psychiatric patients**

Aleksandar Obradovic M.D.;Ph.D.; Michela Traglia; Russell Amato; Lioubov Leontieva

Background: Individuals with psychiatric disorders are clinically clustered by a set of symptoms over a certain period. For decades this was a suboptimal approach to understanding the full character of mental health diseases including the broad range of psychiatric comorbidities and the dramatic clinical differences across patients with identical diagnoses. A gene-environment framework is a promising new approach that utilizes GWAS and QTL analysis to generate the most efficient and personalized algorithm for choosing a better diagnostic profile and optimal psycho-pharmaceutics. The present study describes the distinctive nature of a cohort of psychiatric patients used to evaluate individual drug metabolism rates and how it is influenced by genetic factors. Method: We conducted a retrospective investigation of genotype and phenotype profiling of CYP450s genes in a cohort of 54 patients during their hospitalization at the acute psychiatric unit of an academic hospital. We measured combinations of alleles for each of the genetic variations in CYP450s detected by the Genomind® PGx Test and provided information on the approximate frequency of these variations. Then we used the categorical phenotypes such as the metabolism rate derived by their genotype of common single nucleotide polymorphisms in CYP450s genes. We calculated the Gower's distance between patients using age and six CYP450 genotype-derived metabolism rates and we performed hierarchical clustering using the R statistical tool. Results: Across all CYP450 genotypes reported normal metabolizers comprise 35-87% and intermediate metabolizers comprise 17-33% of patients. While rapid and ultrarapid metabolizers are present between 9-41% poor metabolizers correspond to 4-7%. Using

patient age and the categorical metabolic rate derived by the individual CYP450 genotypes we found clusters defined by metabolic rate signature. The 2C19 2D6 2B6 and 2C9 genes show significant intermediate metabolic activity with up to 30 % and 43% of patients showing rapid and ultra-rapid levels of activity on the 2C19 variant. Interestingly only a small number of patients have genetic variants with poor metabolism rates 8% on average. The highest level of variability is observed in the 2C19 variant known to be responsible for the majority of drug metabolism regarding antidepressants (e.g. citalopram and amitriptyline) and the 2B6 variant a major isoform catalyzing both ketamine as well as some antipsychotics. Conclusion: The findings may provide insights into a better understanding of gene-pharmaceutical interaction influencing psychiatric disease progression and prognosis to help physicians curtail the therapy in a way that would be most beneficial and with the least side effects.

**Sunday May 05**

### **Examining the Relationship and Prevalence between Marijuana Legalization and Psychiatric Emergency Department Admissions: A Retrospective Study**

Riley Hartnett; Briana Silva

**Abstract:** Background: Cannabis one of the most frequently used recreational drugs worldwide is a modifiable risk factor for the development and exacerbation of mental illness. This retrospective longitudinal study evaluated a trend and increased rate of decompensation within the BronxCare Health System's psychiatric adult patient community following the legalization and destigmatization of recreational marijuana use. **Methods:** Patient data was analyzed utilizing patient charts who underwent psychiatric evaluation with an acute cannabis intoxication seen on initial urine toxicology through the comprehensive psychiatric emergency services (CPEP) BronxCare Health System admissions

records from March-May 2019 March-May 2020 March-May 2021 March-May 2022 March-May 2023 respectively. Our sample size (n) consisted of all patients aged older than 18 years who have been evaluated and/or admitted with a positive urine sample with cannabis. Charts from 2019 are considered the "pre-legalization" group and charts from 2023 are the "post-legalization" group as recreational marijuana was legalized in March 2021. Patients were assessed for length of stay within the inpatient psychiatric unit the presence or absence of readmission within the timeframe of the study the psychiatric comorbidities and diagnoses seen as well as the use of antipsychotics sedatives and/or anxiolytics to treat these patients. Other factors assessed included concomitant illicit substance use. Conclusion: In this study of adult patients with acute cannabis intoxication at BronxCare it was observed that most patients were males with schizophrenia. Additionally there was a 10% increase in admissions following cannabis legalization in 2021. The study acknowledges that various factors including urbanicity marital status childhood trauma socioeconomic status employment and the COVID-19 pandemic influenced patient admissions and psychiatric reasons for admission. The conclusion highlights a complex bidirectional relationship between cannabis use and mental illness particularly schizophrenia and psychosis though causality remains unclear. The need for further research with better control of variables to understand this relationship is emphasized. This research received no specific grant from any funding agency in public commercial or not-for-profit sectors.

**Sunday May 05**

### **Exploring Ancient Genetic Contributions: Implications for Mental Health and Drug Response - A Contemporary Literature Review**

PRACHI PATEL; Victoria Narici

**Background:** Recent genetic breakthroughs illuminate an intriguing connection between human evolution and contemporary mental health. Neanderthals and Denisovans our closest ancient relatives have left an enduring mark on our genome. Approximately 2.1% of modern human DNA originates from Neanderthals while Denisovans contribute about 5%. This genetic overlap hints at potential implications for drug metabolism and the effectiveness of psychiatric medications. **Methods:** Exploring the Cytochrome P450 (CYP450) enzyme system central to drug metabolism reveals that ancient genetic variations may influence individual responses to psychoactive drugs. The Human Leukocyte Antigen (HLA) region on chromosome 6 containing genes linked to immunity autoimmune diseases and severe drug reactions holds further promise. Variants in HLA genes with ancient roots could shape responses to psychoactive agents. **Results:** The extent of interbreeding between modern humans and Neanderthals/Denisovans remains uncertain and understanding how ancient genetic contributions affect responses to psychotropic drugs requires ongoing research. **Conclusion:** This emerging research holds significant promise for personalized medicine allowing clinicians to finely tune mental health treatments according to individual genetic profiles. The integration of insights from ancient DNA into psychiatric drug development may yield more efficient and safer therapies ultimately enhancing patient well-being. These findings underscore the profound influence of our prehistoric ancestry on contemporary mental health treatment presenting the genetic legacy of Neanderthals and Denisovans as a compelling frontier for the advancement of personalized mental health care.

Sunday May 05

## Exploring the Relationship Between COVID-19 and Depression Among Chilean Health Workers

Nidhi Bhaskar; Robert Kohn M.D.

**Background:** The COVID-19 pandemic has strained global healthcare systems particularly impacting frontline workers. This study examines depression risk factors among Chilean healthcare workers during the pandemic. Depression is characterized by persistent low mood and various symptoms including feelings of worthlessness reduced sleep and appetite. Risk factors include occupational stress perceived stress social isolation and personal challenges. Frontline workers face heightened stress due to their demanding roles infection risk and heavy workloads often leading to anxiety and depression. **Methods:** This study included 625 healthcare workers working at public hospitals and primary care centers in the Bío-Bío region of Chile who responded to an online survey. Participants had a probable diagnosis of major depression determined using a PHQ-9 score of 10 or greater. The sample had a mean PHQ-9 score of  $8.2 \pm 5.5$  with 33.4% reporting major depression. The majority were female (80.8%) aged between 19 and 65 (mean  $37.8 \pm 10.0$ ) and worked full-time in hospitals (57.1%). Approximately 24.3% self-identified as having a pre-existing mental disorder and 19.5% had pre-existing medical conditions that could increase COVID-19 susceptibility. **Results:** Factors associated with an increased risk of major depression included being female living with others having a larger household having an adult over 65 in the household higher education and working as nursing assistants. Pre-existing medical and mental disorders also increased the risk. COVID-19-related factors such as increased tobacco and alcohol use working in proximity to COVID-19 patients knowing an infected co-worker and having family and friends with COVID-19 were associated with higher depression risk. Poor family function lack of emotional support fear of COVID-19 and perceiving the pandemic's adverse impact on life were additional risk factors. Logistic regression identified sex living with others premorbid medical



illness with obesity and prior mental illness as significant predictors of major depression. The final model included COVID-19-related factors such as increased alcohol use family members with COVID-19 poorer family function lack of emotional support fear of COVID-19 and perception of pandemic impact on life. Discussion: This study highlights the prevalence of major depression among healthcare workers in Chile during the COVID-19 pandemic. While work-related factors played a role the study found that factors outside of work such as living arrangements family infections poor family function and emotional support significantly contributed to depression risk. Fear of COVID-19 and its perceived impact on life were also crucial factors. Addressing these risk factors including providing mental health support and interventions is essential for healthcare worker well-being during and beyond the pandemic.

**Sunday May 05**

### **Health of Migrant Peoples in Transit Through Darien Panama: A Multidisciplinary Evaluation of their Health Needs**

Justo Pinzon Espinosa M.D.; Eugenia Millender Ph.D. RN PMH-APRN CDE FAAN; Amanda Gabster Ph.D.; Jennifer Toller Erausquin PhD MPH

**BACKGROUND:** Forced migration represents a challenge to the health of migrants refugees and asylum seekers worldwide and the health systems tasked with their care. The COVID-19 pandemic worsened their well-being already vulnerable due to precarious living economic and health conditions. In Panama a 20-fold increase year-over-year of migration through the dangerous Darien Forest (with no access to basic human needs such as healthcare or drinking water) has stressed humanitarian and public health systems in the Americas. There is an urgent need to assess the health and well-being needs of migrants.

**AIMS:** To assess and describe the mental health and quality of life of migrants in transit through

Darién Panama. **METHODS:** Cross-sectional study with random sampling of migrant peoples in transit at a Migrant Reception Station in Darién Panamá between January 4-11 2022. After recruitment (?12 years and speak and write basic Spanish English Haitian Creole French or Portuguese) data collection included a self-applied questionnaire (?18 years) on self-reported demographics migration r and basic health data. Participants were initially screened using the Refugee Health Screener (RHS-15) questionnaire and asked to fill out the 8-item WHO Quality of Life (WHO-QoL-8) survey to evaluate the self-perceived QoL. Those with a positive RHS-15 were offered the possibility to be assessed on-site using the Mini International Neuropsychiatric Interview (MINI). Descriptive analyses were used to report findings. Ethical approval by number 260/CBI/ICGES/21. **RESULTS:** A total 138 people (n=129 adults) were included in the mental health assessment; n=135 (912% of eligibles) were screened with RHS-15. Two-thirds (n=93) of those screened presented emotional distress and 57% (n=77) were assessed by a mental health specialist on-site. Sixty-one (45%) participants with a positive RHS-15 were assessed with the MINI; a third (n=20) had a previously diagnosed mental health condition. N=50 (80%) met criteria for a current mental disorder with post-traumatic stress state being the most common diagnosis (60% n=30). Alcohol use disorder (n=7 14%) and other substance use disorder (SUD) (n=5 10%) were also prevalent in the assessment conditioned by availability. A total of n=128 (92%) responded to the WHO-QoL-8 questionnaire with 25% (n=33) rating their overall QoL as "poor" or "very poor". It should be noted that 50% (n=68) reported their overall QoL as "neither good nor bad". **CONCLUSIONS:** To the best of our knowledge this is the first systematical assessment of the mental health and quality of life of migrants in transit in through the Darien Forest in Panama. We found the majority presented emotional distress while only a third had a previous mental health condition including SUDs; most migrants presented acute post-traumatic stress and sub-optimal QoL. There is a need for mental healthcare provision at MRS that

receive migrant peoples in transit through Panamá."

**Sunday May 05**

### **Holistic Approaches to Mental Health: From Curcumin to Dietary Interventions**

fnu Komal preet kaur; Ravraj Singh Dhaliwal; Kanuja Sood; Ashi Sachdeva

**Introduction** Delve into the world of holistic mental health with this poster as we investigate the role of natural remedies and dietary interventions like curcumin ashwagandha probiotics creatine and the Mediterranean diet. Discover the scientific connections between inflammation brain function stress management and gut health offering new insights into comprehensive mental wellness strategies. **METHODS** A comprehensive search across reputable databases including PubMed ScienceDirect and Wiley Online Library was conducted. We systematically reviewed articles from 2013 onwards focusing on meta-analyses and RCTs investigating holistic mental health interventions. **Findings** 1- Curcumin and Mental Health: Depression and inflammation are intertwined. Curcumin the active compound in turmeric exerts anti-inflammatory effects through Cox inhibition and antioxidant properties offering promise in reducing depressive symptoms linked to neuro-immune interactions. 2- Ashwagandha and Stress Management: Ashwagandha a versatile shrub stands out for its effectiveness in alleviating stress and anxiety. Rich in steroidal alkaloids and lactones this adaptogenic herb offers a multifaceted approach to mental wellness impacting inflammation immunity and neuroprotection. 3- Gut Microbiota: Dysbiosis in the gut microbiota is associated with various CNS disorders. Decreased levels of beneficial bacteria like Bifidobacterium and Lactobacillus are observed in conditions like major depressive disorder and Alzheimer's. Communication pathways through neurotransmitters and short-

chain fatty acids contribute to this bidirectional link. 4- Probiotics: Probiotics particularly strains like Lactobacillus and Bifidobacterium hold promise in modulating mood anxiety and depression. By influencing inflammation neurotransmitters and the HPA axis these beneficial bacteria offer a novel avenue for mental health interventions. 5- Creatine: Abnormalities in brain bioenergetics are common in mental health disorders. Creatine a natural compound exhibits potential in replenishing depleted levels particularly in regions associated with mood regulation. Its influence on the mTORC1 pathway suggests a new approach to addressing depression. 6- Mediterranean Diet: Shared biological risk factors underlie depression cardiovascular disease and dietary habits. Embracing the Mediterranean diet rich in plant-based foods and heart-healthy fats presents a protective shield against mental health challenges showcasing the power of nutrition in holistic well-being. **Conclusion** Curcumin Ashwagandha Probiotics and Dietary Interventions stand as beacons of hope in the landscape of mental health. This holistic approach underpinned by scientific evidence encourages collaboration between healthcare professionals and nutritionists for personalized comprehensive well-being solutions

**Sunday May 05**

### **Impact of Introducing a Capacity-Based Mental Health Legislation: A Longitudinal Qualitative Exploration of Stakeholders' Perspectives**

Jacob Jorem; Tonje Lossius Husum; Jørgen Dahlberg; Reidar Pedersen

**Background:** Decision-making capacity (DMC) is widely used in health law to give due weight to patient autonomy. Lacking DMC was introduced as a condition for involuntary admission and treatment following amendments to the

Norwegian Mental Health Care Act in 2017. This study explores stakeholders' perspectives on introducing a capacity-based mental health law. Methods: The study used a longitudinal qualitative design. Semi-structured interviews were carried out in 2018 with 60 informants affected by the legislative amendments including patients family psychiatrists psychologists general practitioners and lawyers. 26 of the same informants participated in follow-up interviews in 2022–23. The transcribed interviews were analyzed using manifest and latent forms of thematic analysis. Results: The informants shared similar experiences with the impact of introducing a DMC criterion in mental healthcare in 2018 and 2022–23. Several informants described increased awareness of patient autonomy improved legal safeguards and more comprehensive assessments when considering coercion. In parallel many informants reported the threshold for involuntary admission and treatment as becoming higher while the threshold for discharge was lowered following the legislative amendments. According to them the new criterion made it more difficult to admit patients until they became seriously ill and harder to retain once DMC was regained. Patient groups with significant fluctuations in DMC such as patients with manic symptoms and substance misuse were particularly impacted. Several informants described an increased responsibility and burden for family following the introduction of DMC. Conclusion: Several changes in mental healthcare post-2017 were attributed to the new DMC criterion due to biased perspectives on developments e.g. an increased number of readmissions ultimately proved to be inaccurate. Other factors both within mental healthcare and society at large must be considered when assessing the impact of introducing DMC as a criterion for involuntary admission and treatment. Additionally experiences with a DMC criterion should be viewed in conjunction with its inadequate implementation including insufficient training absence of validated tools and overly strict legal interpretation. Inadequate implementation of DMC may have rendered the use of formal coercion more flexible than before 2017 in the face of other changes e.g. a reduced

number of available inpatient beds. The 2017 amendments also mandated formal coercive measures when incompetent patients did not resist admission or treatment. The threshold for accessing healthcare to patients with severe mental illness seems to have been altered beyond the DMC criterion possibly leading to an increase in the use of coercion – contrary to the objectives of the legislative amendments. Thus the post-2017 increase in coercive use might be related to several factors in addition to introducing DMC.

**Sunday May 05**

### **Impact of the Covid-19 Pandemic on College Student Acute Care Psychiatric Visits at a Public University**

Monica Feliz Castillo M.D.;M.S.; Elizabeth Hitchcock LCSW; Kristen Duarte PhD; Savita Bhakta MD DFAPA

Introduction Mental health concerns among college students were on the rise prior to the COVID-19 pandemic and the exacerbation by the pandemic resulted in a youth mental health crisis. As colleges transitioned from remote to hybrid to in-person courses due to the pandemic students experienced disruptive changes to educational plans academic performance career goals finances and living situations. College campuses reported increasing rates of mental health service requests during- and post-pandemic. Importantly high utilization of emergency rooms and inpatient psychiatric hospitals is associated with high risk of morbidity and mortality in college students while timely outpatient mental health follow-up after acute care visits (ACVs) are linked to fewer repeat ACVs improved function and increased treatment adherence. We conducted a retrospective analysis of the impact of the pandemic on college students' ACVs and mental health follow-ups during the pandemic (2021-2022) and post-pandemic (2022-2023) and compared with published pre-pandemic (2017-2019) ACVs. Methods Mental health ACVs were systematically tracked pre- during- and post-

pandemic at the University of California - San Diego. College students who presented to the emergency room or urgent care or who were hospitalized for psychiatric reasons were tracked by a licensed social worker. Safety check-ins were conducted with these students within 72 hours of discharge and they were scheduled for outpatient psychiatrist appointments within 5 business days. Demographics clinical presentation utilization patterns and rates of mental health follow-up were analyzed across academic years 2017-2019 (Galles et al. 2023) 2021-2022 and 2022-2023. Results Ages of students ranged from 17 to 56 years old. ACVs doubled from 231 pre-pandemic over two academic years 2017-2019 to 232 ACVs post-pandemic in academic year 2022-2023. Similarly the percentage of students with ACVs connected to follow-up care increased from 50.6% over 2 years pre-pandemic to 59% in one academic year post-pandemic. Pre-pandemic 67.5% of ACVs were for suicidal ideation which dropped to 53.5% during-pandemic and 61% post-pandemic. However ACVs for self-harm behavior overdose depression anxiety psychosis and substance use presentations exponentially increased during- and post-pandemic compared to pre-pandemic. Conclusion Increased rates of ACVs during- and post-pandemic relative to pre-pandemic add to accumulating evidence that the pandemic exacerbated student mental health and underscore the need for early mental health screening in students upon matriculation to college. More campuses may benefit from implementing a model of having a liaison between acute and outpatient settings and offering rapid access to outpatient mental healthcare access following ACVs to improve student well-being and functioning and to prevent recurrent ACVs.

Sunday May 05

## Implications of Racial Bias on the diagnosis of Oppositional Defiant Disorder

Rijah Chhapra M.B.B.S.; Ashley Filbeck

**Abstract:** Background: Race has been well documented as an influencing factor in mental health diagnoses. This report examines the relationship between race and the diagnosis of oppositional defiant disorder (ODD). While there is previous research on this topic this report is aimed at sharing an individual experience working with a patient with ODD and exploring the implications that experience entails- from the stigmatization of people of color in the field of psychiatry to social biases regarding the diagnosis of ODD. An 18-year-old black male with a psychiatric history of ODD anxiety depression post-traumatic stress disorder bipolar disorder and autism spectrum disorder presented to the emergency department with suicidal ideation. Prior to entering the patient's room clinicians were aware of his ODD diagnosis however they may not have been aware of biases that unconsciously shaped their perception. It is important to recognize the possible stigma associated with ODD both from provider and patient perspective. This patient has carried this diagnosis throughout most of his life a diagnosis which can be considered stigmatizing affecting the way he is perceived by the healthcare system[1]. **Methods:** A PubMed review of literature was performed using the search terms "oppositional defiant disorders" and "race" "outcomes" and "bias." **Results:** Per literature review diagnosticians assigned psychotic and childhood disorder diagnoses to black people more often than to white people [2 3]. White Americans in comparison were more likely to receive a diagnosis of adjustment disorder and ADHD than black Americans [34]. Adjustment disorder was categorized as a "residual" diagnosis in this study meaning it is a milder diagnosis than ODD [1]. Patients with a similar symptom burden diagnosed with a milder affliction is an example of systemic racism in the United States healthcare system. While diagnosticians may not have outright discriminated against these patients unconscious biases and underlying societal structures may have led to a more severe diagnosis in black Americans than white Americans. **Conclusion:** More research on the impact of an ODD diagnosis on perception of patients by teachers healthcare workers and

families would help in determining if the terminology surrounding this diagnosis is appropriate. Further investigation into the reasons behind the discrepancy in psychiatric diagnoses between white and black Americans needs to be done as well so that all patients receive equitable high quality care.

**Sunday May 05**

### **Literature Review of the Relationship of ADHD and Creativity**

Drew Fleming

Background: Receiving a diagnosis of ADHD is for many similar to having been sentenced to a less than optimal life. A life in which they must learn to compensate either medically or behaviorally for a mainstay disorder largely associated with addictive personality risk-taking behavior and comorbidity. However consistent across the research domain of ADHD is acknowledgement that there are some positive aspects of ADHD. This literature review evaluated one of the most commonly reported positive aspects of ADHD creativity. Methods: 20 research publications were reviewed for their discussion of the intersection of ADHD and creativity. Google scholar served as the search engine and the parameters used were the search terms "ADHD" "creativity". These research publications were chosen based on their noted acknowledgment of a relationship between ADHD and creativity in the conclusion section of each paper. Results: In the majority of the research articles there is discussion of the presence of ADHD and the direct acknowledgement of higher performance on creative tasks as a possible by-product of the disorder. There is frequent discussion of high scores of ADHD students on the alternative use tasks measure considered by most researchers to be a strong test of divergent creativity. The few that do not directly acknowledge the connection introduce discussion of the need to further entertain an indirect relationship between ADHD and

creativity. Several of these studies further differentiate linear from nonlinear thinking and imply that nonlinear thinking is a positive attribute of the diagnosis as it predisposes one to creative thought processes. Also common is the differentiation of divergent from convergent creativity and the recurring stance that the ADHD population tends to perform very strongly on divergent tasks of creativity but inversely on tasks of convergent creativity. Conclusion: Many articles in the last five years substantiate a connection between creativity and ADHD. More specifically there are trends to acknowledge the difference between divergent and convergent creativity recognizing the ADHD population to perform superiorly on tests of divergent creativity. Consistent across many articles is the tendency to state that people with ADHD have creative insights and that this association needs to be further explored. The majority of the articles discuss the use of subjective assessment of creativity such as the alternative use task index. Very few articles have captured a way to identify creativity in the ADHD population aside from subjective assessments.

**Sunday May 05**

### **Low dose Naltrexone any unexplored role in managing excoriation disorder?**

Xiaofeng Yan M.D. Ph.D.; Kevin Varghese; Fei Cao

Background: Excoriation (skin-picking) disorder (ED) is a psychogenic condition characterized by recurrent picking at the skin which results in skin lesions and significant functional impairment. Patients are often aware of their behavior but are unable to stop leading to feelings of shame and a lack of control. Skin-picking can occur at multiple body sites including the face hands arms and legs. Onset typically occurs during the peri-pubertal period and it is more common in females. Established treatments include selective serotonin reuptake inhibitors N-acetyl-cysteine and adjuvant cognitive-behavioral therapy however treatment outcomes are often



unsatisfactory. Low-dose naltrexone (LDN) has been successfully studied as an immunomodulatory and anti-inflammatory therapy in various dermatologic conditions including psoriasis systemic sclerosis and lichen planopilaris among others. LDN is an appealing treatment option due to its minimal side effects low potential for abuse and cost-effectiveness. There have been reports of self-abusive behavior reversal with high-dose Naltrexone (HDN) resulting in reduced skin picking and pruritus. This suggests a hypothesis that HDN works by blocking the endogenous reward from the release of opioids which may occur with excoriation. However there have been no reports of using LDN in managing excoriation disorder. Case description: We present the case of a 51-year-old female with a history of depression fibromyalgia and ED who sought evaluation at a Pain Medicine clinic for her uncontrolled fibromyalgia. Her medication regimen included Gabapentin 1200 mg PO TID. She had previously undergone various medication trials to manage her fibromyalgia depression and ED including Pregabalin Duloxetine Milnacipran Amitriptyline Venlafaxine Sertraline Fluoxetine etc. without experiencing significant benefits. She initiated treatment with Naltrexone at a dose of 4.5 mg PO daily with the intent of managing her fibromyalgia. Unexpectedly during the follow-up visit two months later the patient reported a significant decrease in her skin-picking behavior (approximately an 80% reduction according to the patient's report) with significantly reduced compulsion to itch her skin and enhanced healing of existing lesions. Interestingly when LDN was temporarily suspended for elective surgery due to opioid use during the perioperative period her skin-picking behavior returned. However her skin picking decreased and her lesions significantly improved once she resumed the medication further confirming LDN's effects on her ED. Conclusions: The effectiveness of LDN in our case suggests its potential role in managing excoriation disorder possibly due to its immunomodulatory and anti-inflammatory effects. Due to its overall better safety profile including fewer drug-drug interactions and improved tolerance we believe that LDN might

play a significant yet unexplored role in treating ED.

Sunday May 05

### **Memantine as Adjunct Treatment for Obsessive Compulsive Disorder and Excoriation Disorder: Two Case Reports and Review of the Literature**

Sabina Goldstein M.D.; Daniel Pearlman; Joshua Delaney; Alejandro Rodulfo

Background: Selective serotonin reuptake inhibitors (SSRIs) are the first-line treatment for obsessive-compulsive disorder (OCD) and excoriation disorder. In our patient population up to 50% of patients are treatment-resistant requiring augmentation with antipsychotics mood stabilizers or even surgical intervention. In addition many patients cannot tolerate the high doses of SSRIs typically needed to effectively treat these conditions. Growing evidence implicates glutamatergic dysfunction in the pathogenesis of OCD and excoriation disorder which has led to additional augmentation strategies. One such agent is the glutamate modulator memantine whose off-label use as an adjunct to SSRIs has been shown to be effective and well-tolerated for OCD in a 2019 meta-analysis. Here we present two cases in which the adjunctive use of memantine led to meaningful improvement in severe OCD and excoriation symptoms. Case presentations: Case #1 is a 21-year-old female with a history of schizophrenia intellectual disability and OCD who had been psychiatrically hospitalized over twenty times. She most recently presented for swallowing foreign objects at home which is her primary compulsion. During two prior hospital admissions she ingested metal screws that she unscrewed from the window frame requiring colonoscopic retrieval. At that time the frequency of this behavior decreased after adding sertraline titrated to 400 mg daily to her antipsychotic regimen that consisted of

paliperidone 234 mg monthly and loxapine 150 mg BID. Sertraline was later switched to fluoxetine titrated to 120 mg daily when she developed psychogenic polydipsia including drinking her own urine from the toilet. During this recent admission we started memantine titrated to a dose of 10 mg BID. At 3-month follow-up in clinic patient's caregiver reported no episodes of ingestion and the patient relayed that she no longer feels compelled to do so. Case #2 is a 37-year-old female with a history of OCD and excoriation disorder diagnosed in her late teens who presented to our clinic for transfer of care. Treatment with escitalopram 20 mg over the preceding six years was associated with an approximately 50% reduction in symptoms per serial YBOCS scores but the patient still had marked social and occupational disability. Increasing escitalopram to 40 mg daily improved OCD symptoms but not her excoriation. She was eventually hospitalized for cellulitis around the area of skin picking. We started memantine titrated to 15 mg at bedtime which was associated with significant improvement in both excoriation and OCD symptoms. Conclusion: In two cases of severely disabling OCD and excoriation disorder complicated by serious medical sequelae augmenting SSRIs with memantine was associated with clinically significant improvement. This adds to the existing data evidencing adjunctive memantine as a well-tolerated and effective treatment option for even severe forms of these conditions.

Sunday May 05

### **Most common causes of nonpsychiatric hospitalizations in patients with schizophrenia in the United States.**

Akash Venkataramanan; Jonathan Kaplan

Introduction: Patients with schizophrenia (PS) die much earlier than the general population and this is mainly due to medical illness. Understanding

the most common causes of hospitalization in patients with mental illness could provide clues on how to improve preventive health monitor adverse effects of medications and provide better in-hospital care. With these objectives in mind we utilized a national database to perform a retrospective analysis which aims to identify the most common reasons for medical admissions for patients with schizophrenia. Methods and materials: Data was compiled from the National Inpatient Sample (NIS) database between 2016 and 2019. The NIS tracks state-level data on inpatient hospitalizations covering more than 97% of the population. We excluded hospitalizations involving patients less than 18 years of age. The 10 most common primary diagnoses for admission of patients with schizophrenia and patients without schizophrenia were obtained through analysis of the database. A multivariate logistic regression was then performed to look at how schizophrenia affects the odds of being admitted with each of the primary diagnoses. To truly understand non-psychiatric causes of admissions for patients with schizophrenia we analyzed proportions of each diagnosis and odds ratio for admission after excluding admissions for schizophrenia. Similarly obstetric causes of admission were excluded in the non-schizophrenia group to better compare the two groups as patients with schizophrenia are known to have lower fertility. Characteristics of patients of each diagnosis with and without schizophrenia were compared. Outcomes of hospitalization such as total hospitalization charge length of stay and in-hospital mortality were also compared. Results: Schizophrenia related diagnoses accounted for 35% of admissions and other causes for admissions accounted for 65% of admissions in patients with schizophrenia. Sepsis COPD exacerbation acute renal failure pneumonia urinary tract infection and hypertensive heart failure were present in the top 10 diagnoses for admissions in both groups. Hyponatremia aspiration pneumonia and acute hypoxic respiratory failure were notably absent in the patients without schizophrenia group. NSTEMI and osteoarthritis of the knee were absent from the schizophrenia group. PS were found to have significantly higher odds of being admitted for most of the medical illnesses except for heart

failure with chronic kidney disease NSTEMI and knee osteoarthritis. PS were found to be less likely to die from sepsis acute hypoxic respiratory failure and aspiration pneumonia. PS also had significantly longer lengths of stay for all diagnoses and higher total hospitalization charges for most diagnoses. Conclusions: Our results can guide future directions for targeting disparities in healthcare for patients with schizophrenia and illustrate possible areas of research.

**Sunday May 05**

### **National and Geographic Analysis of Changes in Medicare Reimbursement for Psychiatric Procedures from 2013-2022**

Ezra Smith BS; Carson Bateman BS; Alexander Dorius MBA; Yasin Ibrahim MD

Introduction: In recent years Medicare reimbursement for many medical procedures has been declining despite yearly increases in Original Medicare enrollment. This is in spite of a mental health crisis in the United States that calls for more mental health resources as opposed to less. Conducting a geographical analysis of Medicare reimbursement trends for psychiatric procedures across the United States is critical to identify the locations where psychiatrists are at risk for being most affected now and in the future as patients in these locations could become prone to declining access to care. Methods: Changes in Medicare reimbursement for psychiatric procedures were calculated for all U.S. states from 2013 to 2022. The Current Procedural Terminology (CPT) code range for psychiatric procedures was acquired from the American Psychiatric Association (90785-90899). The reimbursement for each CPT code for a given state was identified with the Medicare Administrative Contractor codes. An index of the specified codes was used and weighted by their gross revenues to determine price fluctuations by state. An inflation-adjusted yearly percent change was calculated using the consumer price index for each U.S. state. Results: From 2013 to 2022 the national average

yearly inflation-adjusted change in Medicare reimbursement was -0.17%. The states most impacted were Illinois (-0.75%) Michigan (-0.50%) Kansas (-0.35%) Wyoming (-0.33%) and Florida (-0.30%). The states impacted the least were Washington (0.35%) Massachusetts (0.23%) Texas (0.07%) Alabama (-0.01%) and Oregon (-0.02%). Procedures such as group psychotherapy (90853) psychotherapy without medical evaluation (90838) and electroconvulsive therapy (90870) have been the most impacted by declining reimbursements. These procedures have average yearly changes of -2.93% -2.85% and -2.74% respectively. The figure below gives a visual representation of the average yearly changes in reimbursement by state where the colors of the states represent the average percent changes according to the key. Conclusion: Our study shows that the changes in Medicare reimbursement rates for psychiatric procedures differ between U.S. states with some states being more affected than others. Differences in reimbursement rates can potentially encourage psychiatrists to practice in certain states leaving patients in other states with an inadequate number of psychiatrists. Further research is needed to identify how the care of patients in negatively impacted states could be harmed by these trends. Because of this patients and physicians alike must advocate for adequate Medicare reimbursement to ensure that patients across all states have access to quality mental health care.

**Sunday May 05**

### **Nature Therapy: Healing Sick Buildings In the Era of Work From Home**

Winni Yang BA;M.Sc.; Kishan Shah M.D.; Yu Kong M.D.; Jaewoo Shin MD

Introduction: Initiated by the COVID-19 pandemic around 27% of the U.S. workforce was working from home remotely as of August and September 2022. While this shift has successfully

helped reverse the trajectory of the pandemic it has disrupted the social processes that foster mental health leading to increased emotional distress. Moreover prolonged containment in a “flawed” indoor working environment can result in sick building syndrome (SBS) a diagnosis used to describe when inhabitants begin to develop acute health-related symptoms that are directly linked to the time spent indoors. Biophilic design emphasizes fostering an interconnected and positive relationship with nature in an indoor environment through the inclusion of natural light vegetation natural textures and materials and views of nature. This poster aims to highlight evidence on how different elements of biophilic design and smart home automation in an indoor space can enhance mental health and ameliorate detrimental health-related manifestations related to SBS. Methods: A search of Google Scholar and PubMed databases was conducted using the search terms “COVID-19” “work from home” “biophilic design” and “sick building syndrome” in various permutations. A literature review was conducted using 8 of 54 articles directly addressing utilization of biophilic design during COVID-19 and 7 articles addressing sick building syndrome during COVID-19. Results: Comprehensive literature validates that in most studies that used display stimuli such as photos 3D images virtual reality and videos of natural landscapes viewing natural scenery led to more relaxed body responses than viewing the control. Exposure to real stimuli had positive effects on the prefrontal cortex and autonomic nervous activities compared with the control. Technological integration and smart home automation is also a powerful concept that provides more control to the owner and has shown various mental health benefits for all age groups such those suffering from seasonal affective disorder can benefit from smart lights and light therapy; patients with a history of post-traumatic stress disorder or trauma can find relief with monitors security systems or calming livestreams; and older adults or individuals requiring slightly higher level of care can explore various applications for indoor relaxation exercise and safety. Conclusions: In the age of remote work long hours spent at the desk with

subsequent disruption of social processes and flawed indoor environments have contributed to detrimental effects on health. Increased visual textile and auditory stimulation with natural elements can help mitigate this and combat SBS. Incorporation of biophilic design and smart technology into our working environments can be beneficial to the mental health and productivity of a generation of workers who are confined indoors for the majority of their day.

Sunday May 05

### **Neuropsychiatric Syndromes in Fahr’s Disease: A Diagnostic and Therapeutic Challenge; Literature Review in Relation to a Case Report.**

NYNNY GUTIERREZ residente de psiquiatría en el hospital universitario; Alfredo Bernardo Cuellar-Barboza; Guillermo Medina profesor del departamento de psiquiatría UANL; Antonio Anaya-Escamilla neurólogo; Mariana Mercado profesora en departamento de radiol

Objective: This study highlights Fahr's disease as a significant differential diagnosis for neuropsychiatric syndromes. First described in 1855 it's characterized by neuropsychiatric symptoms linked to basal ganglia calcifications. Methods: We present the clinical case of a patient evaluated and treated at the Psychiatry Department of the Dr. José Eleuterio González" University Hospital of the Autonomous University of Nuevo León. The patient approved the presentation of her clinical case through informed consent. Also we provide a literature review about this disease its neuropsychiatric implications and treatment strategies. We used search terms such as Fahr's Disease Fahr's Syndrome neuropsychiatric symptoms intracerebral calcification and basal ganglia calcification in PubMed MedLine EMBASE and PsycINFO databases. The review included studies published from 2019 to August 2023. Case Presentation: A

37-year-old woman with no relevant family history was evaluated. In the three years preceding her visit to our department she received multiple psychiatric and neurological diagnosis that were refractory to treatment with psychotropic drugs electroconvulsive therapy and other interventions. At the time of evaluation the patient exhibited mood fluctuations sadness anxiety impaired memory insomnia intention tremor in the upper limbs vocalization difficulty and facial expressionlessness. Physical examination revealed tremor and rigidity in the cogwheel of the upper limbs generalized hyperreflexia micrographia dysarthria festinating gait and normal laboratory tests. A simple brain MRI showed calcifications in both putamen caudate nuclei thalami pontine tegmentum dentate nuclei and subcortical level predominantly in the occipital and cerebellar regions. This was confirmed with a simple skull CT scan which identified widespread cortical and juxtacortical involvement both supra and infratentorial. Literature Review Results: about 12% of brain scans detect idiopathic calcifications when these findings correlate with neuropsychiatric symptoms Fahr's disease should be suspected however any metabolic endocrine or organic disorders that could explain such symptoms should be investigated the treatment remains primarily symptomatic. However there have been explorations into potential treatments with bisphosphonates and vitamin D which have shown to reduce mortality in individuals with Fahr's disease. Conclusions: Upon the diagnosis of Fahr's disease secondary causes of cerebral calcinosis must be discarded. Treatment is symptomatic. Seeking genetic counseling is important although the prognosis is discouraging."

Sunday May 05

## **Non-communicable disease risk factors in patients with major depressive disorders**

Shubh Singh M.D.;M.B.B.S.; Arnab Pal

Introduction: Non-communicable diseases (NCD) are usually chronic diseases which result from a combination of genetic physiological environmental and behavioral factors. NCDs are increasingly recognised as significant contributors to morbidity and mortality in developing and developed countries. NCD risk factors can be thought of as variables associated with an increased risk of developing an NCD. NCD risk factor (NCDRF) screening has become prominent owing to the burden of NCDs. WHO STEPS is one such screening method. Major depressive disorders (MDD) and NCDs seem to share a bidirectional relationship. However data regarding NCDRF is biased towards severe mental illnesses. This study was carried out to assess patients with MDD for NCDRFs based on the WHO STEPS framework. Methods: The study protocol was approved by the Institute ethics committee and was carried out in patients attending the outpatient psychiatry clinic of a tertiary hospital in North India. 200 patients (120 males and 80 females) aged 18-69 years with a diagnosis of MDD (not severely depressed at time of assessment) were assessed for socio-demographic and clinical profile and NCDRFs derived from the WHO STEPS framework. Assessment included behavioral profiling physical measurements and measurements of biochemical parameters. Data were analyzed. Results: The results indicated that patients with MDD had significant NCDRFs including current and lifetime tobacco and alcohol use unhealthy dietary patterns low levels of physical activity obesity as indicated by body mass index and waist circumference hypertension and deranged lipid profiles. Results were broadly comparable to epidemiological data in the general population that has been published elsewhere. Conclusions: NCDRFs may contribute to increased morbidity and mortality seen in MDDs. Assessment of NCDRFs and modification of eligible risk factors should be included in the management of patients with MDD.



Sunday May 05

### **Pandemic Precipitation: A case report of new-onset OCD in an 8-year-old Female precipitated by social isolation protocols during the COVID-19 pandemic**

Katherine Peake; Howard Levin; Dustin Wong

The COVID-19 pandemic has had a significant psychological impact on children and adolescents. Not only were routines interrupted through social isolation protocols but stringent government-mandated precautions regarding health and hygiene (e.g. handwashing and masking) became ubiquitous without careful consideration of the impact on children's mental health. These environmental stressors associated with the pandemic have been postulated to be precipitating factors in Major Depressive Disorder Anxiety Disorders Obsessive Compulsive Disorder (OCD) and psychosis in children and adolescents. We present a case of an 8-year-old girl with new-onset OCD and anxiety during the post-pandemic period. This patient had no significant psychiatric history at baseline pre-pandemic. Of particular note the patient was observed to be a calm toddler without anxious tendencies had screened negative for autism and was given a Gifted Individualized Education Plan. The patient's kindergarten year AY 2020- 2021 was atypical in the sense it was a virtual format due to the pandemic. Upon returning to a more typical in-person format for her first-grade year AY 2021-2022 the patient's parents noted a sudden-onset of severe OCD symptoms including contamination obsessions ritualistic routines perfectionistic behavior new-onset toe-walking violent outbursts head-shaking and secondary nocturnal enuresis. During this academic year the patient's OCD symptoms were exacerbated when COVID-19 restrictions such as mask mandates were lifted. Given the sudden onset of OCD and abnormal behaviors in the context of a viral pandemic an immunological work-up was completed ruling out autoimmune-mediated syndromes such as Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS) and Wilson's Disease. Treatment was initiated with sertraline

and individual psychotherapy which gradually led to a full remission of her OCD symptoms. The patient's OCD symptoms had completely resolved by her second-grade year AY 2022-2023 coinciding with the reduction of environmental stressors from the COVID-19 pandemic and the return to "normal schooling;" therefore no longer necessitating the need for medication. Thus this novel case illustrates the need to balance safety and social isolation precautions taken during a pandemic with the mental health of a vulnerable population for conditions such as OCD.

Sunday May 05

### **Primary and Specialty Care Engagement Prior to Psychosis-specific Care in Maine: A Pilot Project**

Emma Millard M.D.; Kinza Hussain; Elizabeth Bernier; Kristen Woodberry

Background: While acute care settings are often the first touchpoint for individuals with psychosis primary care settings may be an opportunity for early detection and linkage to care. This analysis examined the degree to which a pilot sample of patients had contact with primary care between the onset of psychosis prodrome and the initiation of psychosis-specific treatment known as the duration of untreated illness (DUI). Methods: Electronic healthcare data were collected from adolescents and young adults with symptoms consistent with a psychotic disorder or clinical high-risk syndrome who participated in a study of pathways to care in Maine. They were recruited from MaineHealth's emergency room as well as the PIER Program Maine's only coordinated specialty care program. The onset of prodromal syndromes acute psychosis and psychosis-specific care was determined by trained clinical interviewers and consensus review. Information was collected on the number/type of diagnoses at primary care visits the number/type of diagnoses at specialty care visits documented referrals to

mental health and the number/names of psychiatric medications. Results: This analysis included five individuals with complete medical records (mean age = 20.5; 50% female). The average time between prodrome and psychosis-specific care was 60.4 months with the shortest DUI at 53 months and the longest at 72 months. Between the onset of the prodrome and the most appropriate psychosis-specific care only 40% of patients engaged with primary care while 60% engaged with specialty care including mental health clinics. At primary care visits mental health diagnoses of behavioral change adjustment reaction bipolar disorder anxiety and post-traumatic stress disorder were identified but psychosis-related illnesses were not identified. At specialty care visits mental health diagnoses of attention deficit hyperactivity disorder autism spectrum disorder and psychosis were identified. During this timeframe 40% of patients had documented referrals to mental health care and 100% of patients received psychiatric medications. Conclusions: In spite of advances in the early detection and intervention of serious mental health disorders there are long delays and thus many missed opportunities in diagnosing individuals with psychosis. This pilot study suggests that less than half of the participants had contact with primary care providers between the onset of prodromal symptoms and appropriate psychosis treatment a period of 4-6 years. Even when primary care providers were seen psychotic symptoms were not identified. These preliminary data raise important questions about the potential role of primary care in identifying early psychotic symptoms and highlight the need for strategies and protocols to support earlier detection in these settings.

Sunday May 05

### Quality of Traditional Media Reporting of Stephen 'tWitch' Boss's Suicide

Tina Guo M.D.; Mark Sinyor MD MSc FRCPC

Background: The Werther effect is the phenomenon by which dissemination of news about a suicide leads to an increase in subsequent suicide rates depending on the content of the media reporting. Media coverage about suicide in notable figures such as celebrities is particularly prone to a Werther effect. This study examines the quality of reporting of Stephen 'tWitch' Boss's suicide in December 2022 based on putatively harmful and protective reporting characteristics identified in previous studies. Methods: Google News and the University of Toronto archives were searched using the keywords ("tWitch" OR "Stephen Boss") AND ("suicid\*" OR "die\*" OR "dead" OR "death") to extract all traditional news articles about tWitch's suicide. Online news consisting only of audiovisual content without transcriptions were excluded. The articles were coded according to whether they contained 59 variables pertaining to suicide including putatively harmful and protective characteristics identified from previous studies details pertaining to tWitch's suicide and a gestalt narrative code for each article referring to the overarching message or focus of the article. Coding is currently in progress and full data will be available at the time of the conference. Results: A total of 1609 articles were collected. Of those 1139 were published in the USA; 678 were published on December 14 2022 the day immediately after tWitch's suicide. Of the 1220 articles that have been coded thus far the most common putatively harmful characteristics included identification of tWitch as a celebrity (n=1170) a photo of tWitch (n=1153) interviews with or quotations from the bereaved (n=1105) and favourable characteristics of tWitch (n=1104). The most common putatively protective characteristics included identification of alternatives to suicide (n=690) statements encouraging those in need to seek help (n=675) and crisis resource information (n=674). A majority (n=1054) of the articles had a gestalt narrative focusing on suicide whereas 38 31 and 97 articles focused on survival another positive message or a neutral message respectively. Discussion: As expected the Stephen 'tWitch' Boss media event was characterized by articles with a gestalt narrative focusing on suicide with

very few accompanying articles emphasizing survival or other positive messages about suicide and its prevention. The fact that key putatively protective elements were present in about half of all articles is somewhat encouraging. Nevertheless this media event has the characteristics often seen in celebrity suicides prompting Werther effects. Future directions for this study include comparison of the quality of reporting between different geographical regions around the world and most importantly an investigation of the association with subsequent suicide rates.

**Sunday May 05**

### **Rapunzel Syndrome: Treatment of Trichotillomania and Trichophagia**

Anna Deleon M.D.; Jahanzeb Khan; Harrison Livingston

In this case report patient is a 13-year-old African American female admitted for intractable abdominal pain. The patient's medical history is significant for hemoglobin sickle C Disease and two prior small bowel obstructions. During the admission an exploratory laparotomy was performed and necrotic antimesenteric small bowel was revealed and opened to remove an approximately six-foot long trichobezoar. Trichobezoar is defined as a foreign body resulting from accumulation of ingested hair. Rapunzel syndrome is a rare gastric trichobezoar that has a long tail and extends throughout the small bowel and beyond. Following surgery the child psychiatry consult-liaison team was consulted for trichotillomania. During psychiatric evaluation additional differential diagnoses considered included anxiety depression post-traumatic stress disorder eating disorder obsessive compulsive disorder and pica. When medically and surgically stabilized treatment with fluvoxamine was initiated with the patient. Fluvoxamine is a selective serotonin reuptake inhibitor FDA approved for treatment of obsessive-compulsive

disorder (OCD) in pediatric patients 8 to 17 years of age and adults. Fluvoxamine is frequently used off label for bulimia nervosa generalized anxiety disorder major depressive disorder panic disorder posttraumatic stress disorder and social anxiety disorder. Following discharge the patient was followed in outpatient child psychiatry clinic with improvement of trichotillomania and trichophagia while on fluvoxamine therapy.

**Sunday May 05**

### **Save the Mind Body and Planet: Psychiatrists' Role in Addressing Climate Refugee Mental Health**

Aditi Agrawal M.D.; Raman Marwaha M.D.; Madhuri Jakkam Setty M.B.B.S.; Grace An M.D.

Introduction: The most feasible adaptation strategy for frequent climate crisis events which is our new reality is climate-induced migration leading to climate refugees (CR). A CR is a person who has been forcibly displaced due to the effects of climate change. The United Nations High Commissioner for Refugees (UNHCR) reports a rise in climate refugees. By 2050 at least 1.2 billion people could be displaced. CRs face extreme distress from various biopsychosocial stressors including the loss of livelihood homestead and culture which can lead to psychiatric problems. This review aims to understand the impact of climate-induced migration on mental health promote awareness and advocate for inclusive psychiatric care. Methods: We performed a systematic literature search on Pubmed and Google Scholar from 2011 to 2023 using keywords "climate change refugee" "mental health" "climate migration" and "psychiatry." Results: Studies show that climate change causes trauma from displacement causing pre- and post-traumatic stress disorder extreme anxiety depression and substance use. Climate change migration disrupts social ties and negatively impacts mental health with increased

feelings of isolation. There is a causal association between violence and aggression and extremely high temperatures and precipitation. An exploratory case study showed that migrants perceived mental health as important but prioritized physical health concerns pointing to need for awareness initiatives among refugees to promote mental health care seeking behaviour. Education advocacy and collaboration with multidisciplinary teams are critical to mitigate the crisis. Research highlighted that proactive approaches and solutions are needed for the population at risk of climate displacement due to its association with high pre-traumatic anxiety. Vulnerable population groups included the elderly women children disabled indigenous peoples and those in a lower socioeconomic status or working outdoors. These groups require additional targeted measures. Telemedicine effectively increased access to psychiatric care and further research regarding appropriate settings for its use and methods to establish standard of care is needed. Conclusion: CRs face unique challenges with pre-traumatic and post-traumatic stressors and loss of identity culture and social connections. They are vulnerable as they face barriers to accessing basic human rights including healthcare education and employment. Recognition of CRs through political reform and mental health resources is essential. Education and engagement are critical to fostering a global sense of responsibility and solidarity and providers must increasingly utilize culturally appropriate mental health care. Global cooperation and policy intervention community involvement and professional training in providing trauma-informed culturally inclusive accessible care for climate refugees are essential.

Sunday May 05

**The Crossroads of Military Psychiatry:  
Balancing patient privacy and trust with  
duty to uphold the mission and national  
security.**

Kaitlin Snyder M.D.; Richard Maguire M.D.;  
Heather Shibley M.D.; James Hegarty D.O.

A 38yo male presented to psychiatry after endorsing suicidal ideation in the setting of excessive fear that he was being investigated for an act of spillage - when classified information or controlled unclassified information (CUI) is transferred onto an information system not authorized for the appropriate security level or not having the required CUI protection or access controls. The patient feared he was soon going to be apprehended and prosecuted for treason under the Espionage Act. In your average civilian patient such concerns may quickly be seen as an obvious delusion. He however was not your average patient. This patient was an active-duty service member working in the cybersecurity field with a top-secret security clearance and access to classified materials. While fitness for duty is something that any psychiatrist may be asked to do from time to time it is part of every appointment for a military psychiatrist. If a patient reveals an incident that could compromise national security military psychiatrists must walk the line between maintaining patient privacy and their duty to inform command. If this service member has special duty requirements such as a security clearance working regularly with classified information maintaining confidentiality may result in harm to national security. Department of Defense instruction 6490.08 outlines when a military medical provider must break that confidentiality not only if there is threat of harm to self or others but harm to the mission as well. If a service member's ability to maintain a special duty status is called into question military psychiatrists may be asked to evaluate a service member to aid the Defense Counterintelligence and Security (DCSA) Consolidated Adjudication Services if determining in that service member can obtain or maintain their security clearance. It is the goal of the authors to create a dialogue and educate non-military psychiatrists regarding the duty to inform commands of certain patient information and the process of reviewing special duty statuses in individuals with a mental health concern.

Sunday May 05

## The Prevalence of Psychiatric Manifestations in Various Subtypes of Encephalitis

Paris Bean BS; Rodrigo Hasbun; Rajesh Gupta; Arun Venkatesan; Ralph Habis

Background: Encephalitis is a serious and life-threatening condition that can manifest in a variety of ways. There are many different etiologies of encephalitis including viral and autoimmune. Psychiatric symptoms are a well-documented manifestation of autoimmune encephalitis specifically but few studies examine psychiatric symptoms in a wider range of etiologies. This study aimed to identify the prevalence of psychiatric symptoms in patients presenting with encephalitis. Methods: The cohort of patients used in our study included viral and autoimmune etiologies along with patients with unknown or other rarer etiologies. Data was collected in a retrospective manner from 649 adult patients (age > 18) across two different institutions who met the 2013 International Encephalitis Consortium (IEC) criteria by 2 physicians. Results: In our cohort of 647 patients 391 had psychiatric symptoms at some point during their course. Of those 388 patients 174 (44.5%) had an autoimmune etiology 99 (25.3%) had a viral etiology 41 (10.5%) had other etiologies including fungal or bacterial and 74 (18.9%) had an unclear etiology. This is in comparison to the 256 patients without psychiatric symptoms 30 (11.7%) had autoimmune etiology 113 (44.1%) had viral etiology 60 (23.4%) had other etiologies and 59 (22.9%) had unclear etiologies. The psychiatric symptoms included were in the categories of behavior psychosis mood speech sleep disturbances and catatonia. The most prevalent symptom cluster observed in our cohort of patients was behavior with agitation being a very common presenting symptom. Of the 388 patients presenting with psychiatric symptoms 191 required the use of an antipsychotic at some point during their hospitalization most often for

agitation. 78 of these patients had prior psychiatric history with depression and anxiety being the most common history. The most common service patients initially presented to was medicine; 28 patients initially presented to a psychiatric hospital and were later transferred out. As compared to patients without psychiatric symptoms these patients were more likely to present with seizures and also more likely to be admitted to the ICU. Conclusion: This study is one of the first that demonstrates the prevalence of psychiatric symptoms in encephalitis in etiologies other than autoimmune. If not treated early encephalitis can lead to devastating long-term consequences. According to these results while patients presenting with psychiatric symptoms still have a higher chance of an autoimmune etiology it does not necessarily exclude other etiologies. This demonstrates that these patients should likely have full neurologic work ups in order to better identify etiology to facilitate early treatment. These results aim to contribute to the growing volume of literature describing the psychiatric manifestations of encephalitis in order to guide psychiatrist's decisions on escalation of care.

Sunday May 05

## The tragedy of forced deinstitutionalization due to the pandemic

Boung Chul Lee MD; Joo Eon Park

The Republic of Korea's forced deinstitutionalization began with the coronavirus. After the initial outbreak occurred in a psychiatric hospital opinions emerged that the crowding of 10 beds per unit made infection control difficult. In order to reduce the density of patients and at the same time reduce the number of psychiatric beds all psychiatric hospitals had to reduce the number of beds per unit from 10 to 8 before March 2021. Subsequently a policy was implemented to reduce the number of beds from eight to six by January 2023. With insufficient preparations for



deinstitutionalization during the corona period the forced 20% reduction has had serious side effects. We used national health insurance claims data to compare the composition of discharged patients during and after deinstitutionalization. During deinstitutionalization period in 2021 patient discharge was increase about 23.2% on average from the previous period. Approximately 30000 additional patients had been discharged. Before this process people thought chronic elderly inpatient who does not need medical care would be major portion of discharge group. However we compared discharged patient group during this deinstitutionalization with patient group after downsizing hospitals. Among patients who were discharged during the deinstitutionalization period patients aged 60 or younger were 25.35%p more than comparison. The rate of Medicaid was also low at -5.35%p. Additionally for serious hospitalized disease the rate of patients with schizophrenia and mood disorders were higher 8.2%p and 17.39%p each in deinstitutionalization period group . These findings can be interpreted as indicating that more young seriously ill patients rather than chronic patients are being discharged from the hospital. After that crimes committed by mentally ill people became an issue in broadcasts. Comparing inmates in 2021 with 2020 the number of inmates receiving mental health medicine and telemedicine increased to 34.4% and the number of inmates attending external hospitals for mental health treatment increased to 55.4%. There was a 13.6% increase in suicide cases and suicide accidents within correctional facility. We think this change could be indirect effect of unprepared abrupt deinstitutionalization.

**Sunday May 05**

### **Transcranial Pulse Stimulation (TPS) – New Perspectives in Treatment of Dementia in Alzheimer´s Disease?**

Cassandra Penkov; Vanessa Rößner-Ruff; Daniel Clark; Christina Hauser; Marc Ziegenbein

**Background:** Dementia is one of the most common mental illnesses. The impairment of a normal symptom-free life according to DALY is next to depression the second most pronounced with deficits in social and everyday behaviour. Early and adequate treatment is of high relevance. Dementia in Alzheimer's disease is often associated with depressive symptoms. A psychiatric clinic in Lower Saxony (Wahrendorff clinic Germany) has focused on treating patients with this diagnosis as early as possible on an outpatient basis. For this purpose TPS is used. With the aim of releasing growth factors and contributing an improvement in cerebral blood flow low-frequency sound pulses are introduced into brain regions in order to promote and maintain cognitive performance. Some studies have found positive effects although more research is needed. The aim of the current study is to investigate the development of cognitive performance and depressive symptom severity over the course of treatment with TPS focus on the question if there is an improvement. **Methods:** Cognitive performance (Montreal Cognitive Assessment MOCA) and depressive symptom severity (Geriatric Depression Scale GDS) are assessed at the beginning of the treatment (t1) and every three months during the course of treatment from patients with a diagnosis of Dementia in Alzheimer's disease who have undergone treatment with TPS since June 2021 (n = 80) in the outpatient setting of Wahrendorff clinic. In this study a follow-up until 9 months of treatment (t3) should be considered. **Results:** Analysis of variance with repeated measurement show a minimal increase in mean values of MOCA from the different measurement points without statistical significance (mean value MOCA t1 = 1294 vs. t2 = 1305 p n.s.). Analysis of variance with repeated measurement show that there is a statistical significant difference in the mean values of GDS from the different measurement points with a decrease of depressive symptom severity (mean value GDS t1 = 891 vs. t2 = 672 p ? .05). **Conclusion:** Results suggest that TPS could lead to maintaining the cognitive performance of patients with Dementia in Alzheimer's disease over the course of treatment. Furthermore treatment with TPS could lead to an improvement

of depressive symptom severity. The TPS might be helpful in the treatment of Dementia in Alzheimer's disease and its symptoms and might give new perspectives in the treatment especially as patients report high treatment tolerance and few side effects. Further data should be collected so the study is being continued and not yet concluded.

**Sunday May 05**

### **Understanding patients' experiences managing pain from advanced cancer using opioids and psychological coping skills**

Kyla Smith; Desiree Azizoddin; Ashton Baltazar

Background: Pain affects 40-90% of patients with advanced cancer. Supplementing pharmacologic therapy with behavioral skills may improve pain outcomes. We sought to evaluate patients' perspectives when coping with cancer pain to inform development of a pain-cognitive behavioral therapy (CBT) mobile health (mHealth) intervention for cancer pain. Methods: We recruited patients from the Stephenson Cancer Center in Oklahoma City OK to review our newly developed pain-CBT app. Eligible patients were >21 years old had an incurable solid malignancy chronic cancer-related pain and were using opioids. We excluded hospitalized patients and those with pain from a recent surgery dementia/delirium or an opioid use disorder. In individual semi-structured qualitative interviews patients shared their experiences coping with cancer pain reviewed pain-CBT content modified for cancer and provided feedback on the relevance of the content. Similar interviews were previously conducted at the Dana-Farber Cancer Institute in Boston MA and feedback was compared. Interviews were transcribed and coded to evaluate relevant themes relating to current experiences coping with cancer pain. Results: Fourteen patients (50% female) with various cancer types reviewed their experiences and pain-

CBT app content. Six subthemes regarding patients' current pain management approaches were identified. Themes included using physical coping skills such as engaging in physical activities utilizing psychological coping such as accepting their pain and the importance of social support. Patients endorsed complex relationships with opioids including guilt related to use or difficulty understanding prescription instructions. Most patients emphasized the relationship between sleep stress and pain as central to their pain management and that they wished their clinicians explained this relationship earlier. Additional subthemes were identified in the Oklahoma cohort including: feelings of guilt regarding delaying seeking care wanting to maintain independence after their cancer diagnosis and the importance of psychological coping - "I'm super-independent so this cancer pain...just being down is a struggle for me." Patients also discussed the positive and negative aspects of the support they received from their healthcare team including barriers to being prescribed opioids after an advanced cancer diagnosis - "It was just the pain part that she just didn't get - Tylenol doesn't cut it." Prior pain management education and usage of and access to technology were also discussed. Conclusion: Patients in Oklahoma may face additional challenges when coping with cancer pain compared to patients in Boston. Patients' examples of psychological and behavioral coping skills and their barriers with opioids were then integrated to the app educational content to improve validity of the content with this population. This study was supported by The National Palliative Care Research Center.

**Sunday May 05**

### **Utilization of naltrexone for hypersexual obsessions and compulsions: two case reports and brief review**

Dora Mell MD; Alice Hou; Mohan Gautam  
D.O.;M.S.; Nikita Lee

**Background.** Obsessive compulsive disorder (OCD) is a highly studied psychiatric disorder and treatments such as exposure and response prevention have been well documented to help alleviate obsessive thoughts and compulsive behaviors. However in OCD patients with obsessive hypersexual thoughts and compulsions this therapy may be less effective and longer treatment periods may be necessary. Additionally serotonin reuptake inhibitors (SRIs) which serve as the standard initial pharmacological treatment of OCD often take weeks or months to take effect. This leads to prolonged patient suffering especially in patients with sexual obsessions who have been found to be more treatment resistant than other OCD patients. Initiating dual medication therapy with both a SRI and naltrexone in patients with OCD with hypersexual obsessions and compulsions may alleviate symptoms faster.

**Cases.** Two patient cases were studied at an inpatient psychiatric hospital in the Midwest. Both patients were admitted for suicidal ideation secondary to severe recurrent hypersexual obsessions. Patient A was suffering from constant distressing sexual obsessions and compulsions in addition to a pornography addiction. Patient B reported obsessions focused on both sex with children and incest neither of which he had ever acted upon. Both patients were initiated on both a SRI as well as a starting dose of naltrexone. Upon initiation of this medication combination both patients reported significant improvement in symptoms of obsessive hypersexual thoughts within a day. Because SRIs typically take weeks to months to alleviate symptoms of OCD it can be assumed that naltrexone which has been noted in past literature to have fast onset of action to alleviate symptoms of addiction contributed to the significant subjective decrease in distressing symptoms of hypersexual obsessions.

**Discussion.** Due to the growing anecdotal evidence showing the positive effects of naltrexone in treatment of obsessive sexual thoughts and compulsions more randomized controlled trials need to be conducted to fully

evaluate the efficacy and safety of the drug as both a monotherapy and augmentation.

**Sunday May 05**

### **What's all that shaking about? Understanding myoclonic jerks as a psychiatrist.**

Namita Arboleda M.D.; Rubiahna Vaughn

**Background:** Myoclonic jerks are sudden brief and involuntary muscle spasms. They are distinguishable from tremors due to their lack of rhythmicity and from tics due to their insuppressible nature<sup>1</sup>. While positive myoclonus is due to abrupt muscle contraction negative myoclonus is due to interruption of muscle contractions and is typically associated with toxic metabolic causes<sup>2</sup>. Workup includes laboratory tests but then may also require head imaging lumbar puncture and electroencephalography (EEG). The differential work-up and treatment of myoclonus is an essential skill for a psychiatrist given its multifactorial nature and association with numerous psychotropics. **Results:** Here we propose a helpful infographic and mnemonic for the assessment of myoclonus using illustrative case examples. **Discussion:** While many psychiatric medications including antipsychotics such as clozapine have been associated with myoclonic jerks<sup>3</sup> they are a non-specific finding that require thorough investigation. If associated with other neurological symptoms myoclonus may be due to underlying disease such as epilepsy genetic disorders or other syndromes. However acute or subacute myoclonic jerks are more typically associated with systemic illness which can be caused or worsened by medications<sup>1</sup>. It's also important to note that while myoclonic jerks can be difficult to definitively diagnose they can ultimately be precursors to tonic-clonic seizures<sup>4</sup>. Our cases illustrate the complex nature of myoclonic jerks that may sometimes be multifactorial in etiology. Our infographic aims to aid psychiatrists in their identification and understanding of myoclonus as

they may interface with patients who experience this symptomatology. Furthermore as psychiatrists routinely work with the serious mentally ill advocacy to obtain proper medical workup is crucial when myoclonus is present to avoid assumptions based on psychiatric medications alone. Conclusion: Psychiatrists should recognize the multifactorial nature of myoclonic jerks basic workup and associated psychiatric medications.

Sunday May 05

### Whatever happened to do no harm? – Role of Medical Advertising

Petar Gajic; Kenisha Santiago; George Ghaly; Lidia Klepacz; Adil Bilal

Objectives: The modern landscapes of medical practices and patient behaviors have been influenced by medical advertising particularly in the pharmaceutical industry. This poster hopes to highlight historical trends and contemporary implications of medical advertising in the pharmaceutical industry on patient's behaviors regarding drugs such as marijuana alcohol and opiates. Methods: A systematic approach was taken to include papers relevant for this review study. Articles were included if they were published within the last two decades. Data synthesis involved a thematic approach in which categories based on common themes were grouped together and analyzed. Results: The review articles that were used provided us with data on patterns of advertising and historical contexts of drug use. When it comes to the historical aspects of drug use alcohol was commonly used in medicine in the late 19th and early 20th centuries. Some studies on alcohol found that alcohol advertising and promotion increases the likelihood that adolescents will start to use it and drink more if they are already using alcohol. In the case of opiates several medical institutions were funded by opioid manufactures and endorsed their use. As well as these

manufacturers sponsoring training conferences and education programs for pharmacists physicians and nurses. Opioid prescription sales and deaths quadrupled from 2000 to 2015. Regarding marijuana a review of existing literature shows that higher exposure to medical marijuana advertising is associated with higher-than-average use intentions to use positive experiences and negative consequences. Our review found that money spent on advertising increased from \$17.7 billion to \$29.9 billion in the period from 1997 to 2016 with the most rapid increase being in direct-to-consumer advertising (DTCA). When it comes to DTCA there are few barriers to entry for social media-based drug marketing and such marketing has globalized outside US borders. There is a lack of consistent policy creating potential problems in patient care Conclusion: The study highlights the role media and medical professionals played in the use of marijuana alcohol and opiates in the patient population. It emphasizes the need for consistent regulations and policies in medical advertising to mitigate potential harm in patient care and curb the negative influences of advertising.

Sunday May 05

### A Retrospective Review of the Effectiveness of a Fall Evaluation Checklist Implemented in Inpatient Psychiatric Units

Namriha Manoharan D.O.; Tara Krog; Samuel Hand; Gilbert Ramos; Bikash Bhattarai

Background: Approximately 700000 people fall in hospital settings in the US annually. The incidence of falls in inpatient psychiatric units are noted to be much higher than hospital medical units. The mortality increased cost extended length of stay and considerable morbidity resulting from falls and trauma from falls make this a significant metric for many hospital systems. A Fall Evaluation Checklist (FEC) was developed to track and potentially decrease the number of fall events

at Valleywise Behavioral Health Center in Maricopa County Arizona. This investigation's aim is to assess the impact of the FEC on primary and recurrent fall rates in inpatient psychiatry. Methods: The FEC was implemented in February 2021 on adult psychiatric units at Valleywise Behavioral Health Center. Investigators reviewed nursing fall event reports and the electronic medical record reports of all admitted adult patients from January 2020 to March 2022. Patient falls were manually sorted as one two or recurrent falls for the 13 months occurring prior to or 13 months post FEC implementation (excluding Feb 2021). Frequency of all falls and the rate of recurrent falls between the two periods were compared using chi-square test analysis. Injury levels and demographics were also compared between the two periods of assessment. Results: A total of 5799 and 5437 admissions were included from the pre- and post-FEC. There were 411 fall occurrences in the pre-FEC period among 291 patient stays (fall rate of 5.02%). In the post-FEC period there was a total of 477 recorded fall events among 309 patient stays (rate of 5.68%  $P=0.117$ ). Comparing the secondary falls the rate was higher at 28.16% in the post-FEC as compared to 24.74% in the pre-FEC. Among patients who did experience falls 22.87% of falls resulted in an injury in the pre-period vs. 25.3% in the post-period ( $P= 0.387$ ). Comparing injuries themselves 2.76% of falls resulted in major or moderate injuries in the pre-FEC compared to 4.56% in the post-FEC period ( $P= 0.211$ ). Conclusion: Analysis revealed that the fall rate did not reduce after the implementation of the FEC in the post-period. Although the current p-values are not significant the difference between the two time periods for primary or secondary falls does not appear to be significantly high and the change in the rate of falls seem to be <1% and <4% for single and secondary falls respectively. Many factors including manual recording errors confinement and quarantine procedures during the COVID-19 pandemic may have influenced fall documentation and results.

Sunday May 05

## A systematic review to assess the use of psilocybin in the treatment of headaches

Tavneet Walia; Vivian TSANG MD MPH

Introduction: Psilocybin is a naturally occurring psychedelic compound whose effects have been seen in studies for treatment of depression anxiety and pain management. Given its structural similarities to 5-hydroxytryptamine a monoamine controlling brain modulation of pain input preliminary studies sought to test the pain-alleviating properties of psilocybin for the treatment of headaches. Objectives: This systematic review explores the efficacy of psilocybin as treatment for individuals with headaches defined in this review to include migraines essential headaches cluster headaches and unclassified head pains. Methods: Six major databases were searched with inclusion criteria consisting of human participants with any type of headache using psilocybin as a treatment. Each study was independently screened by two reviewers at two stages with inconsistencies reviewed by a third senior reviewer. Results: In total 393 articles were found through database searching and 10 were included in analysis. With psilocybin as treatment one study reported a decrease in headache frequency three studies reported a decrease in intensity and one study indicated a decrease in both frequency and duration. In one study psilocybin increased the average length of remission between headaches for 91% of participants. Conclusions: Improvements to headaches were reported to be clinically significant in five studies and statistically significant in three studies. However psilocybin remains illegal in many countries presenting both the difficulty and imminent need for further regulated research.

Sunday May 05



## **An Analysis of the 'Revolving Door' Phenomenon in Psychiatric Care: Risk Factors and Strategic Interventions in Brazilian Healthcare**

Manoela Pozzolo Pedro; Maria Pozzolo Olivia Pozzolo; João Maia; Cassandra Siqueira  
Psychiatrist

**Background:** The phenomenon of repeated hospital readmissions known as the “Revolving Door” in psychiatric hospital institutions has been a challenge since the Psychiatric Reform in Brazil which began in the late 1970s. This issue burdens the healthcare system and reinforces the stigmatization of patients. Readmissions particularly in cases of substance use disorders (SUD) are often linked to a lack of adherence to treatment. The absence of community support family conflicts judicial mandates inconsistent medication treatment misinformation about SUD and social maladjustment also contribute of this scenario. **Methods:** Data collection was carried out by a single researcher to ensure confidentiality using the report issued by the Health Care Management System of the Unified Health System (GSUS). The data were collected in October 2023 and refer to admissions in the female Substance Use Disorders (SUD) ward of a psychiatric hospital located in the South of Brazil occurring from September 1 2021 to September 1 2023. **Results:** During the period there were 615 admissions of which 186 were readmissions (30.2%). Out of these 79 patients were readmitted at least once representing 30% of the total. It is also noteworthy the among these 19 patients were readmitted more than twice (3.0%) and one patient was treated six times. Regarding the type of discharge the majority received medical discharge (150 patients) characterized by the completion of treatment. Ten patients were transferred to another service ten patients were given an administrative discharge due to conduct issues and lack of cooperation which made their continued stay in the hospital unfeasible fifteen were discharged upon request and one patient absconded. The average length of stay fro all admissions was 30 days. Most patients were in the age range of 19 to 24 years and 30 to 35 years.

The most common diagnoses at discharge were for the use of multiple substances and their subcategories followed by alcohol use disorder. **Conclusion:** The study contributed to the analysis of the “revolving door” phenomenon by characterizing the population at higher risk suggesting by the importance of the support network in the rehabilitation of these patients and the need to diverse and comprehensive health and social interventions aimed at increasing adherence rates and more successful treatment outcomes. The decision to hospitalize is considered essential for care in cases of vulnerability and is strategic measure specifically adopted When outpatient alternatives are insufficient.

**Sunday May 05**

## **Antipsychotics and Covid-19: treating psychotic disorders during the pandemic and beyond**

Xavier Boland M.B.B.S.; Luiz Dratcu M.D.;Ph.D.

Patients with psychotic disorders have not fared well during the Covid-19 pandemic. Medical comorbidity social-economic disadvantage and high rates of smoking and obesity have all been implicated as factors for worse outcomes to Covid-19 in this patient group as compared with the general population. Whether treatment using antipsychotics might increase patients' vulnerability to Covid-19 has also been the subject of debate potentially calling into question standard prescribing practices during a crisis. **Method:** Our 20 bedded inner-London all-male acute psychiatric inpatient unit has an annual throughput of approximately 250 patients and has remained fully operational throughout the pandemic. All of our patients are of working age and most have a diagnosed psychotic disorder for which they are prescribed antipsychotic treatment. There is also a high rate of medical comorbidity (>60%). We carried out a retrospective

study of all acutely unwell patients with psychotic disorders admitted over a twelve month period during the pandemic (March 2020-March 2021) prior to the introduction of Covid-19 vaccines. We monitored for the occurrence of Covid 19-related medical complications and deaths. Results: None (N=0) of the patients under our care who contracted Covid-19 during the period of the study suffered any complications of Covid-19 requiring medical intervention and all fully recovered from Covid-19. There were no deaths related to Covid-19 during this period. Discussion: Close medical supervision of patients strict adherence to infection control protocols frequent testing of staff and patients and early use of isolation for Covid-19 positive cases will together have contained many Covid-19 associated risks. Also common to all our patients however was the regular use of antipsychotics adherence to which was ensured in the inpatient setting. As reported in other similar observational studies our findings suggest that rather than increase the risk of Covid-19 complications in patients with psychotic disorders antipsychotics may in fact be protective against Covid-19. Firstly effective symptom control with antipsychotics may counter-balance vulnerabilities to Covid-19 associated with untreated psychosis. Secondly and more specific to SARS-Cov-2 infection known anti-inflammatory properties of antipsychotics may play a role in tempering hyper-inflammatory states seen in severe complications of Covid-19. Conclusion: As Covid-19 transitions from a pandemic to an endemic phase it becomes more essential than ever that patients with psychotic disorders have access to the psychotropic treatment they require and receive support in adhering to it. Moreover further research into the immuno-modulating properties of antipsychotics is necessary not only to better understand their function in the treatment of psychotic disorders like schizophrenia but also to explore potential therapeutic applications these may have beyond psychotic disorders alone.

Sunday May 05

## Association between Lifetime Hallucinogen Use and Valvular Heart Disease: Findings from the All of Us Research Program

Miranda Rasmussen; Jaclyn Bergstrom MS; Alison Moore MD MPH; Kevin Yang M.D.

**INTRODUCTION:** The relationship between hallucinogen use and valvular heart disease has garnered increasing interest in the medical community.<sup>1-4</sup> Traditional risk factors for valvular heart disease are well-established<sup>5</sup> but recent evidence suggests a potential link between the use of certain hallucinogenic substances and the development of valvular abnormalities hypothesized to stem from activation of the serotonin 5HT<sub>2B</sub> receptor.<sup>12</sup> Understanding this potential link will be essential to healthcare professionals researchers and policymakers in formulating effective harm reduction strategies and ensuring safe informed patient care in the context of psychedelic use. **METHODS:** We analyzed cross-sectional data from the National Institutes of Health All of Us Research Program a large observational cohort study encompassing a diverse US population. We focused on adults aged ≥ 18 who completed the Lifestyle survey including questions about lifetime hallucinogen use (e.g LSD acid mushrooms PCP Special K ecstasy). We excluded participants with congenital heart disease rheumatic heart disease and Marfan syndrome to mitigate pre-existing condition bias. We used descriptive statistics and chi-square tests to compare sociodemographic characteristics other substance use and health conditions associated with valvular heart disease as identified from electronic health records based on lifetime hallucinogen use status. Multivariable logistic regression models were then employed to assess the association between lifetime hallucinogen use and valvular heart disease adjusting for age sex race smoking status obesity diabetes hypertension and coronary arteriosclerosis. **RESULTS:** The sample consisted of 399368 adults (mean age 50.9 [SD] 16.8 60.5% female 55.2% White). Among them 11.2% reported lifetime hallucinogen use. These individuals were typically younger male White

Non-Hispanic more likely to be divorced or never married employed insured and had some college education (all  $p < 0.001$ ). They had fewer health conditions including valvular heart disease (3.6% vs. 4.6% chi square  $p < 0.001$ ) but were more likely to use other substances in the past year. When adjusting for potential confounders the multivariable models showed a modest but statistically significant association between lifetime hallucinogen use and valvular heart disease (aOR = 1.07 95% CI: 1.01-1.13) ( $p = 0.0236$ ). **CONCLUSION:** Lifetime hallucinogen use was observed in 11.2% of the AoU sample and was characterized by distinct sociodemographic substance use and health profiles. Despite a lower prevalence of health conditions including valvular heart disease the multivariable analysis indicated a modest but significant association between lifetime hallucinogen use and valvular heart disease. This finding underscores the importance of further exploring the mechanistic pathways and clinical implications of hallucinogen use in relation to cardiovascular health.

Sunday May 05

### **Associations between Alexithymia and Borderline Personality Symptoms in Borderline Personality Disorder**

Jasmine Modasi MS; Margaret McClure; Antonia New MD; Maria Mercedes Perez-Rodriguez MD PhD

**Background:** Alexithymia is an emotion processing deficit characterized by difficulties recognizing identifying and describing emotional experiences. While the literature reports high prevalence of alexithymia in borderline personality disorder (BPD) and associations with BPD diagnosis less is known about the relationship between alexithymia and individual BPD symptoms. Studies in both clinical and nonclinical populations have demonstrated associations between alexithymia

and emotion dysregulation but other symptoms of BPD have yet to be explored. Given the variability in the combinations of symptoms for BPD diagnosis understanding which symptoms are related to alexithymia provides a more specific target for intervention. This study explored the associations between alexithymia and BPD symptom criteria to elucidate which aspects of BPD are most strongly correlated with alexithymia. **Methods:** A sample of 507 individuals (153 with BPD 213 with other personality disorder (PD) 141 population controls) were assessed by a clinician using the Structured Clinical Interview for DSM-IV (SCID) and Structured Interview for DSM-IV Personality Disorders (SIDP). Alexithymia was measured continuously using the Toronto Alexithymia Scale (TAS-20) with scores ranging from 20-100. BPD symptoms were dichotomized as present if scored  $\geq 1$  (definitely present) on the SCID/SIDP. Logistic regression analysis was used to examine specific relationships between alexithymia and BPD symptom criteria measured by the SCID. Separate analyses were done for individuals with BPD diagnosis and without. **Results:** Consistent with previous findings alexithymia was significantly associated with BPD diagnosis (OR=1.029  $p < .0001$ ). Among those with BPD identity disturbance (OR=1.039  $p < .005$ ) and suicidal behaviour (OR=1.040  $p < .01$ ) were related to alexithymia. Only the relationship with identity disturbance survived at a Bonferroni-adjusted significance level of  $p = .005$ . In those without BPD including clinical and nonclinical controls only anger (OR=1.027  $p < .005$ ) and chronic feelings of emptiness (OR=1.035  $p < .001$ ) were statistically significant when adjusting for multiple comparisons. Efforts to avoid abandonment ( $p = .03$ ) unstable interpersonal relationships ( $p = .03$ ) identity disturbance ( $p = .006$ ) impulsivity ( $p = .006$ ) and affective instability ( $p = .03$ ) approached significance in this group. **Conclusion:** In individuals with BPD alexithymia was most strongly associated with identity disturbance. In contrast alexithymia was related to symptoms of intense anger and chronic feelings of emptiness in those without a BPD diagnosis. These findings challenge previous assumptions about the role of alexithymia in symptoms related to emotion dysregulation and introduce

alexithymia as a potential target for improving identity disturbance in individuals with BPD.

**Sunday May 05**

### **Building a resilient workforce in healthcare: Impact of resilience training in a large urban health system**

Scarlett Ho PhD; Sydney Starkweather MA; Ryan Primrose MA

Background: Healthcare workers' (HCW) mental health and wellbeing have received increased attention since the COVID-19 pandemic. Although the pandemic has been declared over HCW continues to experience elevated risk for depression anxiety PTSD and burnout. The Center for Stress Resilience and Personal Growth (CSRPG) at the Mount Sinai Health System developed and offered on-site training to provide HCW with evidence-based strategies to enhance resilience during and after the COVID-19 pandemic. Rooted in prior research these 60-minute workshops help HCW foster resilience by identifying existing strengths learning coping skills for ongoing stressors increased awareness of mental health symptoms that may impact their wellbeing and delivery of care. The resilience workshops focused on modifiable resilience factors including realistic optimism facing fears active coping and self-care. A 15-minute "huddle" training format was developed to reduce training barriers (time requirement workload) for specific workers including security staff and nurses. The huddle curriculum includes psychoeducation modules including psychological first aid substance use depression and suicide risk and managing moral distress. Methods: As of August 2023 CSRPG facilitated 464 workshops and 134 huddles reaching 3750 HCW across both formats. Attendance and work-related demographics (e.g. job role unit) were collected before each session. A brief post-survey was administered after each session. The post-survey assessed self-reported

resilience stress and whether the training provided tools to cope with stressors at and outside of work. Descriptive statistics and variability in feedback scores by job role and training format were assessed. Results: Out of N=1712 workshop attendees N=182 were nurses N=667 were medical residents/trainees. Comparatively out of N=2265 huddle attendees N=444 were nurses and N=107 were security officers. N=888 and N=351 participants completed the workshop and huddle post-survey respectively. Workshop (N=698; 78.6%) and huddle (N=241; 68.7%) participants endorsed that the training gave them the tools to do their jobs well and N=717 (80.7%) workshop and N=240 (68.4%) huddle participants endorsed that the training provided them tools for life outside of work. Workshop and huddle participants also endorsed less stress (N=409; 46.1% and N=179; 51% respectively) and increased resilience (N=456; 51.4% and N=202; 57.6% respectively) post-training. Conclusions: Both the workshop and the huddle formats of training are effective in increasing HCW resilience and well-being. Post-survey scores highlighted the need to tailor the delivery and content of resilience training to the unique needs of different HCW roles. This work was supported by the Health Resources and Services Administration (HRSA).

**Sunday May 05**

### **Computational Mechanisms of Social Influence on Risky Decision-Making in Alcohol Use Disorder**

Manjae Kwon M.D.; HeeYoung Seon; Dongil Chung Ph.D.; Young-Chul Jung

Background: Alcohol Use Disorder (AUD) has been associated with risky behavioral patterns. Whilst real-life decision-making rarely occurs in isolation it remains unclear how social information influences risky decision-making in individuals with AUD. To address this gap we conducted a functional neuroimaging study in conjunction with a computational modeling approach to explore

how individuals with AUD process others' decisions when making risky decisions. Methods: Sixty male participants (30 with AUD and 30 healthy controls [HC]) underwent fMRI scans. During the scan they made a series of choices between a 'safe' gamble (lower payoff variance) and a 'risky' gamble (higher payoff variance) alone ('Solo' trials) and among two other players ('Info' trials). Particularly in Info trials participants observed others' choices before making their decisions. The Info trials included three types: 'risky-risky' where both other players chose risky gambles; 'safe-safe' where both others chose safe gambles; and 'mix' where one player chose safe and one player chose risky gamble. To quantify the influence of social others we constructed a computational model hypothesizing that observing others adds additional utility to the option others chose (Other-conferred utility; OCU) to the decision process. Descriptive and model-based parameters were compared between HC and individuals with AUD. Results: HC and individuals with AUD showed comparable risky choices in Solo trials. Both groups were significantly influenced by others' choices such that they made riskier choices in 'risky-risky' trials compared to 'safe-safe' trials ( $p < 0.05$ ). In Info trials regardless of others' choices HC showed a significantly higher probability of choosing the risky gamble compared with individuals with AUD ( $p < 0.05$ ). Directly comparing the 'risky-risky' trials HC compared to individuals with AUD tended to make riskier choices ( $p=0.086$ ). Individual-level model parameters confirmed that HC indeed placed higher utility on others' risky choices than individuals with AUD did ( $p < 0.001$ ) while the utility influence that HC and individuals with AUD showed was comparable. This pattern was consistent with neuroimaging results. Blood-Oxygen-Level Dependent responses in the ventromedial prefrontal cortex a region associated with subjective valuation showed significant differences between the AUD and HC groups only for the contrast between trials conformed and not conformed to others' risky choices ( $p=0.05$ ) and not for the contrast involving others' safe choices. Conclusion: Our results from model-based behavioral and neuroimaging analyses highlight a

distinct utility conferred from others' risky choices in individuals with AUD. Understanding these differences in social influence among individuals with AUD could be crucial for unravelling the underlying mechanisms of risky behaviors associated with alcoholism. Funded by the Ministry of Health & Welfare South Korea (HI22C0404)

**Sunday May 05**

### **Connectome Based Predictive Modeling of Somatic Symptoms in Trauma-Exposed North Korean Refugees**

Manjae Kwon M.D.; Jooyeon Im Ph.D.; Sang Hui CHU; Woo-Young Ahn Ph.D.; Young-Chul Jung

Background: Somatic symptoms are common psychopathologies afflicting non-western refugees and are among the most prevalent psychiatric symptoms reported by North Korean refugees. Despite the significant distress caused to refugees the limited understanding of their underlying neurobiology hampers further research and the development of treatments. To address this gap we utilized connectome-based predictive modeling of resting-state functional MRI to understand the neurobiology underlying this psychopathology. Methods: A resting-state functional MRI scan was conducted on 94 North Korean female refugees who had experienced trauma. Somatic symptoms were measured using the Somatic Symptom (SS) subscale of the Depression and Somatic Symptoms Scale. We performed connectome-based predictive modeling to understand the neural connections that can predict somatic symptoms. The nodes of the functional network were defined based on the Shen-268 brain atlas. The relationship between the connection strength of positive/negative networks and the SS score in individual North Korean trauma survivors was examined using a leave-one-out cross-validation approach. Results: Our analysis revealed a statistically



significant positive network model ( $r = 0.42$   $p = 0.0002$ ) that predicts the severity of somatic symptoms based on functional connectivity patterns. Conversely negative networks did not provide a reliable prediction. Each node in our analysis was assigned to one of 10 canonical functional networks. Significant predictive value was found in connections involving the medial frontal network (MF) with particularly strong connectivity to networks involved in visual and sensorimotor function (primary visual network (V1) secondary visual network (V2) and motor network (MO)). Heightened connectivity within the salience network (SN) and its connection to the motor network was also demonstrated. Increased connectivity from VII to the visual association network (VA) as well as from visual networks (VI and VII) to the motor network also contributed to the prediction. Conclusion: Our findings reveal that connectivities both between and within the medial frontal network salience network visual networks and motor networks play a crucial role in predicting somatic symptoms in North Korean refugee trauma survivors. Notably the nodes and edges of the predictive network are frequently implicated in top-down control of pain assignment of attention to stimuli and processing of sensory information. This study provides insights into the underlying neurobiology of somatic symptoms among this population. This work was supported by the National Research Foundation (NRF) of Korea (2019R111A2A01058746)

**Sunday May 05**

### **Designing Effective Wellness Curricula for Psychiatry Resident Physicians**

Jinal Patel M.B.B.S.; Anetta Raysin D.O.; Sophia Mikityanskiy D.O.

Background: The demanding nature of psychiatry residency training places significant stress on resident physicians leading to increased rates of burnout depression and other mental health

challenges (1)(2). Integrating wellness didactics into residency curricula has emerged as a potential solution to address these issues and promote well-being among residents (3). We aimed to effectively design and deliver key wellness topics through various common scenarios experienced by psychiatry resident physicians while exploring ways to build resilience share resources and discuss available supports. Methods: The wellness talks and didactic sessions were co-designed by the program faculty and residents. The design and structure of the talks were informed by resident focus groups and feedback via group discussions as well as committee members from the program's anti-racism task force to advocate for the needs of minority and international medical graduate residents. In our didactics we highlighted significant events that can potentially occur during residency such as bereavement physical or mental illness and immigration-related issues to contextualize the key resources and coping strategies shared. We also incorporated information on topics such as hospital policy resident union benefits stress management resilience building and self-care. Additionally debriefs were conducted before and after the didactics with program directors faculty and residents to evaluate their content and effectiveness. Results: We designed a didactics series tailored to the common needs and issues faced by residents. Our approach utilized a combination of lectures and group discussions to improve awareness of key policies and benefits available to residents and access to various resources for support including mental health resources. Feedback collected via post-didactics debriefs and discussions with program directors faculty and residents suggested the initiatives contributed to increased awareness of potential challenges residents may face during training and equipped residents with the tools resources and information they may need during periods of stress adverse life events and burnout. Conclusion: Integrating wellness didactics co-created and co-led by resident and faculty staff into psychiatry residency training is a promising approach to mitigate the negative impact of stress adverse life events and burnout on resident

physicians. By addressing the unique challenges and stressors faced by psychiatric residents highlighted by examples of sensitive and emotionally demanding situations these sessions can equip them with essential tools and resources to navigate the rigors of training while fostering a culture of self-care awareness and support. Simultaneously this helps training directors better understand the needs of trainees and resources available for support while also adhering to the policies and expectations of training programs.

**Sunday May 05**

### **Differential Expression of microRNAs Associated with Opioid Use in Adults with and without Spinal Cord Injury**

Dean Wundrach; Katherine Weir; Nguyen Nguyen; Leslie Morse

**Background:** The goal of this study is to assess the association of differential expression of microRNA (miR) 92b-5p and 132-3p and current opioid medication use in individuals with and without a spinal cord injury (SCI). Research suggests that over 80% of patients with a SCI experience pain and over 58% classify that pain as severe or excruciating. Additionally in SCI patients increased pain severity has been associated with higher rates of depression and suicide ideation indicating a need for effective pain management. MicroRNAs serve as important biomarkers and molecular mediators in nervous system processes such as synaptic plasticity and axonal growth. Consequently miRs impact important biochemical pathways involved with addiction depression and neuronal repair. A better understanding how opioids affect miRs will expand the knowledge of neuropsychiatric disorders and may lead to the discovery of new potential therapeutic targets to improve pain management in patients following a SCI. **Methods:** We conducted a cross-sectional secondary analysis of data from a convenience sample of adult participants with and without SCI enrolled in ongoing clinical trials and an

observational study. There were a total of 66 participants with 13 acute SCI (within 3 months of injury) 30 chronic SCI (?3 years post injury) and 23 control participants with no history of SCI were enrolled. Of these participants there were 13 patients taking opioids and 53 patients not taking opioids. Main outcome measures included the examination of serum expression of over 30 miR known to be involved in CNS function. MicroRNA levels were normalized using deep sequencing counts that were quantified from plasma samples. Participants' demographic factors injury characteristics pain severity medication use and health habits were collected via questionnaire. Results: miR-92b-5p and miR-132-3p were found to have differential expression with opioid use. Individuals who use opioids had a decreased expression of miR-92b-5p of  $21.44 \pm 6.41$  ( $p=0.002$ ) and an increase in expression of miR-132-3p of  $26.82 \pm 8.98$  ( $p=0.004$ ). Additionally increase in pain severity was significantly associated with increased expression of miR-92b-5p of  $2.20 \pm 1.08$  ( $p=0.05$ ) and decreased expression of miR-132-3p of  $-3.01 \pm 1.24$  ( $p=0.02$ ). **Conclusions:** Prior research has examined the role of miR-132 and miR-92b in nervous system processes such as synaptic plasticity axonal growth and cortical development. Target validation of these two miR include proteins which have been known to play important roles in addiction and depression. Further research is needed to confirm and expand on these novel findings regarding miR differential expression. Our findings suggest that patients who use opioids have a differential expression of two miR's which might serve as potential therapeutic targets.

**Sunday May 05**

### **Does the presence of autistic traits modify the treatment response of N-acetylcysteine in pediatric populations with bipolar disorder?**

Hannah O'Connor; Janet Wozniak M.D.; Chloe Hutt Vater; Maura DiSalvo; Stephen Faraone

Objective: N-acetylcysteine (NAC) is an alternative treatment that regulates glutamate levels. Prior research has demonstrated the efficacy of NAC in the treatment of bipolar disorder in adult and pediatric populations. The current study aims to investigate if co-morbid autistic traits affect the treatment response of NAC in a trial of children and adolescents with bipolar disorder. Methods: Twenty-six participants with bipolar disorder receiving NAC treatment were stratified into two groups based on severity of autistic traits as measured by Social Responsiveness Scale (SRS) Total raw scores  $\leq 85$  and  $>85$ . Antimanic and antidepressant response over the course of the trial as measured by the Young Mania Rating Scale (YMRS) and Children's Depression Rating Scale (CDRS) respectively were compared between the two groups using mixed-effects regression and exact logistic regression models. Adverse events and vital signs were compared between the two groups as measures of safety. Results: Of the 26 participants 16 (62%) had baseline SRS Total raw scores  $\leq 85$  and 10 (38%) had scores  $>85$ . The two groups had similar mean ages (SRS  $\leq 85$ :  $10.1 \pm 4.2$  vs. SRS  $>85$ :  $10.0 \pm 3.3$ ;  $p=0.97$ ) and proportions of males (SRS  $\leq 85$ : 50% [ $n=8$ ] vs. SRS  $>85$ : 40% [ $n=4$ ];  $p=0.70$ ). There was no significant difference in the change in YMRS scores from baseline to endpoint between those with SRS scores  $\leq 85$  and  $>85$  (SRS  $\leq 85$ :  $-8.3 \pm 8.8$  vs. SRS  $>85$ :  $-7.8 \pm 8.3$ ;  $p=0.69$ ). However there was a significant difference in the change in CDRS scores from baseline to endpoint between the two groups (SRS  $\leq 85$ :  $-4.6 \pm 10.2$  vs. SRS  $>85$ :  $-6.1 \pm 12.0$ ;  $p=0.02$ ) with those with SRS scores  $>85$  having a significantly greater response. There were no differences between the two groups in number of adverse events reported over the course of the trial (SRS  $\leq 85$ :  $1.3 \pm 1.7$  vs. SRS  $>85$ :  $1.7 \pm 1.8$ ;  $p=0.35$ ) or changes in any vital signs (all  $p>0.05$ ). Conclusion: In an open-label trial of NAC for children and adolescents with bipolar disorder presence of significant autistic traits was associated with greater treatment response for depression but not for mania. There were no significant group differences in adverse events.

Further research should assess how co-morbid autistic traits can affect treatment response of alternative treatments in larger samples of patient populations with bipolar disorder.

Sunday May 05

### Effects of a resiliency training program on immediate post program and long term indicators of burnout in psychiatry residents.

Angele McGrady PhD; Amy Riese MD; Farzana Qurban Ali; Julie Brennan PhD

Background: There is increasing concern about the prevalence of burnout in psychiatric physicians during their training years (123). Medical providers struggling with maintaining resiliency in times of stress or experiencing distress make more errors experience low job satisfaction and risk physical and emotional illness. Burnout is characterized by emotional exhaustion depersonalization and low sense of personal accomplishment (4). The ACGME now requires residency programs to offer programs focused on maintaining well-being and reducing stress in their residents (5). Programs of various types directed to reducing the risk of burnout have been evaluated in residents (61). However data on immediate improvements or long term maintenance of changes are sparse. This study tested the effects of a resiliency program on indicators of burnout in psychiatry residents. Methods: The study was IRB approved; residents provided consent. Six-hour sessions were provided in 8 months and emphasized stress management mindfulness and maintaining balance. Worksheets were guides to discussion. One relaxation or mindfulness skill was taught at each session. Practice between sessions was highly recommended but not tracked. Data was collected on burnout perceived stress resiliency mindfulness and quality of life (47-10) Assessments were done in early fall late spring

and late spring one and two yrs. post program. Analysis consisted of descriptive statistics and paired t-tests. Significance level was set at  $p < .05$ . Results: The population consisted of 16 psychiatric residents (11 male 5 female) who completed one year (6 sessions) of programming and were followed for one or two yrs. post program. Baseline (fall) and spring (immediate post program) comparison revealed significant improvements in burnout (23.2 – 20.3;  $p < .0.03$ ) secondary traumatic stress (19.3 – 16.1;  $p < 0.011$ ) and perceived stress (17.8 – 15.3;  $p < 0.048$ ). The second comparison was between immediate post program and one year follow up in 9 residents and showed no significant differences (no relapse). Analysis of baseline and one year follow up ( $n=10$ ) showed significant changes in burnout (23.8 - 20.4;  $p < 0.006$ ); perceived stress (19.1-14.7;  $p < 0.003$ ) secondary traumatic stress (19.3-15.5;  $p < 0.006$ ) and mindfulness (3.6 – 4.1;  $p < 0.017$ ). Comparison between immediate post program and two years later ( $n =6$ ) showed significant findings in depersonalization (12.3 – 6.0;  $p < 0.03$ ); compassion satisfaction (37.6 – 42.1;  $p < 0.032$ ) and perceived stress (17.6 – 12.8;  $p < 0.04$ ). Conclusion: The results of this study are promising in that residents benefited from a program designed to build resiliency and decrease the risk of burnout. The long term maintenance and continued improvement in some factors is encouraging and warrants further study. Limitations are the small number of participants in only one residency. We also acknowledge that other factors may have influenced the long term results.

Sunday May 05

### **How to Provide Psychological Support for Psychedelic Treatments: Results from the Psychedelic Practitioner Survey**

David Bender M.D.; Eric Lenze M.D.; Joshua Siegel M.D. Ph.D.; Sandeep Nayak M.D.

Background: Psychedelics show promise for the treatment of depressive and substance use

disorders. One key barrier to implementation is the lack of consensus on standards of care for the provision of psychological support alongside treatment. Methods: We sent an anonymous survey to psychedelic researchers to ascertain their views on psychological support methods. The survey included 30 Likert-scale items free-response items and demographic questions. The survey was distributed via email recruitment to contacts listed on clinicaltrials.gov for clinical trials of psilocybin or LSD personal contacts of authors and snowball sampling. Respondents were required to have overseen at least 2 sessions with classical psychedelics in research settings. Prior to data collection designers coded quantitative responses to represent either an emotive or a neuromodulatory support approach. The emotive approach emphasizes a key role for psychotherapy and creating an emotionally salient environment while a neuromodulatory approach emphasizes a neurobiological conceptualization of drug mechanisms and a support approach akin to psychoactive antidepressants in clinical practice. Summative scores (“E-Scores”) indicating a respondent’s approach preference range from 1.0 (maximally emotive) to -1.0 (maximally neuromodulatory) with 0 indicating no preference. Results: 40 respondents completed the survey. Respondents were from 16 research institutions 11 U.S. states and 4 countries. They oversaw an average of 41 psychedelic sessions with 97.5% working with psilocybin and 10% with LSD. There was notable response variability for many 6-point Likert scale statements (avg. range=4.2 avg. standard deviation=1.2). Results of the E-Score analysis indicated a slight population-level preference for an emotive over a neuromodulatory approach (average E-Score=0.08 range -0.21-0.41). Individuals who received psychedelic training at the California Institute of Integral Studies or MAPS had a significantly elevated preference for an emotive approach ( $p < 0.05$ ). No significant difference was found between M.D.s and non-M.D.s. Cronbach’s  $\alpha$  was 0.594. Exploratory factor analysis found several latent variables corresponding to discrete qualitative themes (Trust Spirituality and the Psychedelic Experience Subjective Effects as Adverse Effects Creating an Evocative Set &

Setting). Free-response items demonstrated that 96% of respondents support therapeutic touch in the form of handholding and 76% of respondents believe individuals with PTSD/trauma require additional psychological support. Conclusions: Among academic psychedelic researchers there is no consensus on many psychological support strategies. A slight preference for an emotive approach to psychological support exists which is higher among individuals who received training at specific institutions. Further discussion and research will be useful to develop more unified standards of care for psychedelic treatments.

Sunday May 05

## **HYPOPROLACTINEMIA AS A POSSIBLE SIDE EFFECT OF ARIPIPRAZOLE. A SYSTEMATIC REVIEW OF ORIGINAL STUDIES MENTIONING PATIENTS WHO HAVE SHOWN IT**

Iciar Iguiñiz Mendiola; Iuliana Vasiliu Crucerescu; Claudia Arán Cisneros

**ABSTRACT** Background: Hyperprolactinemia is a common adverse effect of antipsychotics that can lead to various clinical manifestations. Aripiprazole due to its activity as a partial agonist at dopamine D2 receptors has been shown to have a lowering effect. In fact some recent reports have shown that it can result in low prolactin levels but little is known about the prevalence and consequences of hypoprolactinemia. Method: A systematic review was conducted to identify cases of hypoprolactinemia associated to the use of aripiprazole in the main databases in the field of medicine specifically in Pubmed Cochrane CENTRAL WOS JSTOR Scielo MEDES and CINAHL. A total of 22 articles were found and 13 of them were excluded. Finally 9 articles were selected and an additional article found through other bibliographic sources was included totaling 10 articles. Results: Of the identified articles 5 of them studied adult populations three analyzed a

population of children and adolescents and two were case reports of adult patients. The total number of cases of hypoprolactinemia in patients treated with Aripiprazole was 423. In studies involving adults an incidence of 33-79% of patients presenting hypoprolactinemia with aripiprazole was observed in contrast to a prevalence of 15-46.7% in studies involving children and adolescents. In the only study measuring the difference between sexes significantly lower levels were observed in males along with a higher prevalence of hypoprolactinemia (79% vs. 33%). In some of these studies a higher likelihood of hypoprolactinemia was observed at higher doses of aripiprazole. In the population of children and adolescents potential factors associated with hypoprolactinemia included a higher prevalence in prepubertal patients in two studies and an age younger than 12 years and a BMI  $\geq 85$  in another. Regarding possible clinical manifestations in one of the clinical cases hormonal studies were conducted due to the patient's complaint of oligospermia with an improvement in the spermogram after the discontinuation of aripiprazole both in volume and in sperm concentration and motility. In one of the studies it was observed that the 50% of children and adolescents had clinical manifestations although they didn't specify them. Conclusions: The results of this study suggest that the proportion of patients experiencing hypoprolactinemia with Aripiprazole is high both in populations of children and young people as well as in adults. The prevalence seems to be higher in males and may be related to higher doses of aripiprazole in line with previous studies. In-depth studies are required to understand its clinical implications both in the short and long term and to identify possible factors involved in its development. For its detection measuring prolactin levels in patients undergoing treatment with aripiprazole is recommended.

Sunday May 05



## **Increasing Awareness and Referrals to Psychosocial Rehabilitation Services with a Focus on Peer Support Services**

Bhagyashree Patil; Maria Bodic M.D.; Wonyun Lee M.D.

Background: Psychosocial rehabilitation (PSR) is a form of treatment approach within the domain of recovery-oriented care with a holistic perspective of mental health care that incorporates social vocational and interpersonal dimensions of an individual and communities. PSR model is an evidence-based intervention that has a significant potential to enhance the lives of individuals with mental health disorders and help equip them with the tools skills resources and community support to optimize their level of independent functioning in society. PSR also significantly reduces rates of re-hospitalization and contributes to long-term recovery remission and stability. Methods: We conducted a quality improvement project on approximately total of 70 bed psychiatric inpatient unit in a community mental health hospital to raise awareness of PSR services among staffs and patients and improve the rates of patient referrals to PSR upon discharge. Firstly the project involved implementing targeted educational initiatives for mental health professionals via dedicated didactic series and informational sessions delivered by PSR peers for staff which includes physicians nurses psychologists and social workers. We displayed informational boards introducing PSR services in the inpatient units in order to improve awareness among patients. Lastly we implemented initiatives to enhance collaboration between staff in treatment teams to improve referrals rates. Results: Our initial survey among residents showed that 18 out of 23 residents feel that they did not have enough knowledge to discuss PSR services with their patient and only 2 of these residents have ever discussed PSR services with their patients. Interestingly despite the lack of knowledge 14 out of 20 residents ranked moderate to essential priority to working with peers. Our post-intervention data indicated that 7 out of 10 residents felt moderately to very confident to working with peers. We compared discharges

from 1-5/2022 to 1-5/2023. 6.7% (42/627) of patients were referred to peer services in 2022 compared to 7.2% (45/625) patients in 2023. Conclusion: Our findings indicate that trainees have strong interest in providing psychosocial rehabilitation services to patients and relatively inadequate knowledge compared their interest level. This highlights the importance of enhanced training in PSR among mental health providers. With our educational initiatives trainees' confidence level increased to match their interest level. Actual referral rates showed small increase after the QI project.

Sunday May 05

## **Intensive Care Management for High Need Individuals with and without Homelessness after Mental Health Inpatient Hospitalization**

Jade Setias; Adrienne Ronsani; Xiaoli Fu

Background: Previous studies have shown a high occurrence of mental health and substance use disorders (SUD) among homeless individuals. Evidence underscores the intricate relationship between homelessness and psychological well-being emphasizing that the absence of secure housing can both trigger and worsen mental illness. (1) The transition period after discharge from a psychiatric hospitalization is a high-risk period where care management can support access to treatment and social services. A randomized controlled trial conducted in Canada showed that stable housing had a longer lasting positive effect on higher need individuals. (2) A study conducted by the Toronto Site Housing First (HF) found that positive outcomes from additional housing support along with ICM services reduced the number of days of an emergency room visit. (3) This study examined whether individuals with serious mental illness and/or SUD comorbidity who were homeless in the past year received intensive care management services (ICMS) in the month following discharge from inpatient psychiatric hospitalization and identified

correlates of receipt of ICMS post discharge by demographic characteristics and history of prior utilization of ICMS. Methods: This retrospective study leveraged Medicaid administrative data for individuals with a psychiatric inpatient discharge in 2022 who met criteria for high need prior to inpatient admission. High need was defined as serious mental illness and/or SUD along with either high utilization of hospital emergency or inpatient services or use of high intensity outpatient services (e.g. Assertive Community Treatment or involuntary outpatient commitment services). Receipt of ICMS post discharge was evaluated for all high needs discharges with a mental health diagnosis and/or SUD. Chi-square tests were used to examine differences between those who received ICMS and those who did not. Results: 10146 discharge episodes were included in the analysis. 3180 (31%) were homeless in the year prior to admission. One month after discharge 19% of all high-needs discharges with homelessness in the past year received ICMS compared to 29% of those without homelessness. Females with homelessness (22% p= 0.0029) were slightly more likely to receive ICMS than males (18%) following a psychiatric inpatient discharge. The Western region of NYS had the highest rates of ICMS for homeless discharges (33%) and Long Island the lowest (15% p= <.0001). Conclusions: The relatively low rates of ICMS following psychiatric inpatient discharge among individuals with homelessness indicates an important opportunity to improve outcomes.

Sunday May 05

### **Investigating the Effect of CYP2D6-Mediated Pharmacokinetics on Venlafaxine Treatment Outcomes in Older Adults with Depression**

Xiaoyu Men; Daniel Mueller; Eric Lenze M.D;  
Benoit Mulsant

Background: Treating depression in older adults is challenging due to their impaired homeostatic reserve polypharmacy comorbidities and age-related pharmacokinetic (PK) changes. CYP2D6 is a highly polymorphic enzyme responsible for metabolizing a commonly prescribed antidepressant venlafaxine (VEN). This study investigates how CYP2D6 metabolizer status impacts VEN-related PK parameters and examines the impact of these parameters on VEN treatment outcomes in older adults with depression. Method: A population PK model was adapted using NONMEM including CYP2D6 metabolizer status and age as covariates involving 325 IRL-Grey participants who had depression and received VEN for up to 12 weeks [12]. ANOVA was performed to identify differences in the model-estimated PK parameters among CYP2D6 metabolizer groups. Regression models were built to analyze the association between treatment efficacy and adverse effects and PK model-estimated drug exposure. Sex-stratified analyses were also performed for each treatment outcome. Results: Different metabolizer groups had different VEN clearance VEN exposure and active moiety (the sum of VEN and ODV) exposure. There was no association between treatment efficacy and drug exposure. A greater risk of experiencing at least one adverse effect was associated with higher ODV exposure (OR = 1.5 [1.0 2.2] p = 0.04) and higher active moiety exposure (OR = 1.7 [1.2 2.5] p = 0.003). Sex-stratified analyses further revealed that in females there was a significant association between the overall presence of adverse effects and higher active moiety exposure (OR = 2.0 [1.3 3.2] p = 0.004). In the whole sample higher VEN exposure (OR = 1.1 [1.0 1.2] p = 0.04) and higher active moiety exposure (OR = 2.0 [1.2 3.4] p = 0.01) were associated with a higher risk of nausea/vomiting. Similarly females showed associations with VEN exposure (OR = 1.1 [1.0 1.2] p = 0.02) and active moiety exposure (OR = 2.2 [1.2 4.0] p = 0.01) while males did not show any association. Additionally higher VEN exposure (OR = 1.1 [1.0 1.2] p = 0.02) and higher active moiety exposure (OR = 2.0 [1.2 3.4] p = 0.01) were associated with a higher risk of orthostatic dizziness in the whole sample. In females higher risk of orthostatic dizziness was associated with

higher VEN exposure (OR = 1.1 [1.0 1.2] p = 0.02); in males it was associated with higher ODV exposure (OR = 5.2 [1.2 23.0] p = 0.03) and higher active moiety exposure (OR = 5.5 [1.1 26.8] p = 0.03). Conclusion: Our study reveals that CYP2D6 metabolizer status significantly affects VEN PK parameters and higher VEN-related drug exposure increases the risk of adverse effects particularly nausea/vomiting and orthostatic dizziness. Our findings highlight the need for personalized antidepressant treatment based on genetic profiles like CYP2D6 especially considering sex differences in treatment responses.

**Sunday May 05**

### **Ketamine prescribing patterns in outpatient community clinics: A survey study**

Jamarie Geller M.D. M.A.; Andrew Lemmen

Introduction: Although approved by the FDA in its S-ketamine form for treatment-resistant depression (TRD) ketamine is being advertised and prescribed as a treatment for a variety of off-label uses. There are some practice guidelines based on the available evidence base (1 2) but it is unclear how ketamine is being prescribed and treatment courses are managed by community clinics in the United States. There is a need to better characterize clinical practices and procedures being used by clinics providing ketamine for psychiatric indications across the country. Methods: An online 20 question survey was distributed to ketamine clinics across the country. Information collected included clinic demographics and standard clinical practices including indications for prescriptions routes of administration and typical treatment courses. Results: A total of 126 responses were collected and 119 responses were included in data analysis. Geographically 16.1% of respondents were from the Northeast 22.6% from the Midwest 35.5% from the South and 25.8% from the West. The

most commonly prescribed route of administration was intravenous which is reportedly used at 90.8% of clinics followed by sublingual (52.9%) intramuscular (52.1%) intranasal esketamine (32.8%) and intranasal racemic ketamine (21.8%). Average patient volume per clinic was 79.5 unique patients (7480 total collective patients) in a 30 day period. Survey respondents report prescribing ketamine for a wide variety of indications including major depressive disorder (100%) bipolar depression (79.9%) obsessive-compulsive disorder (65.5%) generalized anxiety disorder (82.4%) and post-traumatic stress disorder (94.1%) among others. Of note 72% of clinics reported prescribing ketamine for treatment-naïve depression and 60% for unspecified depression not meeting full criteria for a major depressive episode. 82% of clinics report prescribing maintenance ketamine treatment. 58% of these report doing so for at least half of their patients. 68% report average maintenance course duration as longer than 6 months and 43% as longer than 12 months. 44% of clinics prescribe ketamine for at-home use (3). Discussion: Given the relative novelty of ketamine treatment for psychiatric indications little is known about the provision of this therapy in the community setting. Our results indicate ketamine is being prescribed much more broadly than for TRD alone using a variety of routes of administration. Additionally most clinics prescribe ketamine beyond the initial indication series often for over a year. These data suggest that ketamine is being used with significant variability in the community pointing to the need for more robust practice guidelines based on available evidence (4).

**Sunday May 05**

### **Mental Health interventions on a group of Trafficked females in Egypt**

Fatma Ali Mohamed Swilem M.D.

Abstract Background: The United Nations defines Human Trafficking as “the recruitment

transportation transfer harbouring or receipt of people through force fraud or deception with the aim of exploiting them for profit” and says it is practiced everywhere in the world. Studies show that women who have been trafficked for sex have higher levels of fear are more isolated greater trauma and mental health needs than other victims of crime high rates of physical and sexual violence memory loss sexually transmitted diseases and traumatic brain injuries. The present study attends to explore the mental health profile of a cohort of trafficked women from Egypt. Methods: This study included detailed mental health assessment of 42 trafficked women in and around Cairo in Egypt. Data was collected by social workers. Assessments Diagnosis and interventions were done by the author with the help of two clinical psychologists. Table 1: Types of interventions

45

Individual Psychotherapy

98

Table 2: The

percentage of victims who responded positively to different interventions Findings and Conclusion: This snapshot study shows very convincingly that there’s a high burden of mental ill health among the trafficked women. Suitable therapeutic interventions may provide effective management and prevention of further deterioration of mental health issues of these vulnerable trafficked women.

Interventions	Number
Trainings (Anger management workshops Self-esteem improvement skills and others)	113
Group Therapy	130
Individual sessions (CBT Talk Therapy Trauma-focused CBT)	188
Therapeutic Trips (meditation and Yoga classes self heal organized trips others)	23
Home visits	40
Medication (Antidepressants Anxiolytics Sleep medications and others)	

Sunday May 05

**Mirtazapine is sedating at low doses and stimulating at high doses: fact or myth? A systematic review of randomized controlled trials.**

Sara Dadashzadeh M.D.;M.P.H.; Liza Zimmerman-Slayton D.O.; Inderjeet Sahota

Background: Mirtazapine is a commonly prescribed psychotropic medication that is FDA-approved for the treatment of major depressive disorder. Beyond its effects in the treatment of depression mirtazapine is frequently utilized off-label in the treatment of insomnia capitalizing on its common side effect of sedation. Trainees are often taught that mirtazapine has a greater sedative effect in lower dose ranges but has activating or stimulating qualities at higher doses. While this clinical pearl is regularly repeated one may wonder: Are these purported disparate effects of mirtazapine supported by the literature or are they based largely on observations and anecdotes? This systematic review of randomized controlled trials sought to evaluate the existing literature for evidence supporting the conventional belief that mirtazapine has more

sedating properties at lower doses and is more stimulating when administered in higher doses. Methods: A literature search of PubMed and OVID databases was conducted. The phrase “Mirtazapine AND Sleep” was utilized on both databases. The primary inclusion criteria encompassed randomized control trials involving mirtazapine. Secondary inclusion criteria encompassed: (1) the article included medication dosages (2) the effect of sedation was assessed in the article (3) not confounded by other sedative medication (4) not confounded by substance use and (5) not confounded by significant medical issues. The research publications passing the inclusion criteria were assessed and their corresponding outcomes on sedation were included. Results: A total of 86 studies were identified by applying the initial search strategy to the electronic databases described all randomized control trials. After excluding duplicates 44 articles remained. Articles were screened using the secondary inclusion criteria. A total of 13 independent non-overlapping studies were included. This encompassed 1005 participants in RCTs from years 1985-2022 and a mirtazapine dose range of 7.5 mg to 45 mg compared to placebo and/or other antidepressants. Sedation was measured with methods including but not limited to the Jenkins Sleep Scale Stanford Sleepiness Scale and the Pittsburgh Sleep Quality Index. The results of each study were reviewed to assess the effect mirtazapine had on sedation/sleep and assessed for statistical significance. Of the 13 studies reviewed mirtazapine’s effect on sedation/sleep was not diminished in any statistically significant manner as doses exceeded 15 mg. Two of the 13 studies found increased sedation at higher doses. Conclusion: This review supported the hypothesis that there is no statistically significant evidence among the evaluated RCTs that indicates that mirtazapine is less sedating at higher doses. Future research would ideally include a randomized controlled trial comparing the sedating effects of mirtazapine at a range of doses to better elucidate any differences among them.

Sunday May 05

## Physician moral injury during the COVID-19 pandemic

Nina Djukic

Background: Moral injury is defined as lasting distress due to perpetrating failing to prevent or witnessing acts that transgress or deeply violate one’s moral or ethical code. Previous research has demonstrated that during the pandemic healthcare workers were at increased risk of moral injury. However few studies have used in-depth interviewing methodologies to assess sources of moral injury in a physician cohort. Objectives: To identify the main sources of moral injury during the pandemic in a physician cohort. Methods: Participants were 13 physicians who reported caring for COVID patients at a major metropolitan university hospital system during the COVID-19 pandemic (March 2020-present). Physicians were asked about experiences of moral injury and how their social identities affected their experience of caring for COVID-19 patients during interviews. Rapid thematic qualitative analysis was used to evaluate interview data. Demographics work characteristics and moral injury exposures and symptoms were also collected via questionnaire. Results: Five main sources of moral injury were identified by study staff in interview analysis including: 1) Witnessing inequality 2) Self-identification with marginalized patients 3) Insufficient resources 4) Restricting patient autonomy and 5) Balancing patient care duties and self-care/home responsibilities. Conclusions: Identification of moral injury themes and how these themes intersect with self-reported social identities can assist with greater targeted individual and systemic support of physicians.

Sunday May 05

## Prediction of Readmission in a Brief Psychiatry Unit at El Bierzo Hospital



Maria Estrella García Llamas; Elena Martín Gil; Ruth Landera; Jose Maria Pelayo-Teran; Flora Vega-Fernandez

**Background:** Readmission rates range from 10% in the first month to 80% over a seven-year period following discharge. Risk factors of readmission include a history of psychiatric hospitalization illness severity substance use lower patient functioning at discharge and insufficient outpatient care. Identifying predictive factors for readmission and providing support to individuals with these conditions is crucial for a preventive approach. **Methods:** We conducted an analytical observational longitudinal study analyzing sociodemographic and clinical data from a cohort of patients admitted to the brief psychiatry hospitalization unit at El Bierzo Hospital from January 1 2019 to December 31 2022. Univariate analyses and Cox survival analysis were performed to predict readmission by time. **Results:** A total of 1322 admissions were observed. 772 (58.3%) experienced at least one relapse over the four years. The relapse rate at one year was 32% and at 30 days was 10.2%. The median time to a new relapse was 1210 days. The study period was divided into pre-pandemic (2019) pandemic (2020-2021) and post-pandemic (2022). A significantly higher one-year relapse probability was observed during the pandemic period (37.8% vs. 28.9% and 25.1% in pre-pandemic and post-pandemic periods  $\chi^2=19.84$   $p<0.001$ ). Diagnoses were grouped into psychotic bipolar depressive personality disorders and others. Using the Long-Rank statistic median relapse time was shorter in personality disorders (860.32; CI=694.52-660.31 days) compared to other diagnoses ( $\chi^2=17.56$   $p=0.002$ ). A Cox prediction model stepwise backward - Wald ( $\chi^2=114951$ ;  $p<0001$ ) showed that younger age (HR=0.986;  $p<0001$ ) previous admissions (HR=2.083;  $p<0001$ ) smoking (HR=1.210;  $p=0.039$ ) and admissions in 2019 (HR=1.339;  $p=0.008$ ) were associated with a higher risk of relapse in a shorter time. **Conclusions:** During the pandemic period relapses were notably higher in the first year post-admission. Main diagnoses associated to rehospitalization were psychosis and personality disorder in young people. A challenge

for mental health services should focus in the care of these severe mental disorders to maintain outpatient services and reduce admissions. Differences in periods may be influenced by a different follow-up time. The main limitation was data acquisition bias with data available for this study representing 91% of the total.

**Sunday May 05**

### **Preliminary findings on treatment response from a large survey of individuals with HPPD**

Natalie Gukasyan M.D.; Matthew Kelly Ph.D. M.P.H.; Sydney White; Steven Locke MD DLFAPA

**Background:** Hallucinogen persisting perceptual disorder (HPPD) is a debilitating but understudied condition that can occur after psychedelic use in some cases from just one exposure. There are no established guidelines for treatment no FDA-approved medications and limited data on treatment efficacy. **Methods:** We employed an anonymous online survey to collect data from those who self-identified as ever experiencing symptoms of HPPD. Survey questions included content on sociodemographic characteristics baseline and post-HPPD mental health conditions details on the precipitating episode of psychedelic use phenomenology course of illness and response to treatment. The latter was assessed by asking about HPPD symptom change during use of individual medications or other treatments on a 7-point Likert scale from “Much better” to “Much worse.” **Results:** 548 respondents completed the survey. 90.5% reported using a medication supplement and/or other mental health treatment since onset of HPPD. Benzodiazepines as a pharmacologic class had the highest rates of symptom improvement (58.1%) and low rates of symptom worsening (3.8%). Antidepressants had universally poor rates of treatment response (11.1%) and were much more likely to cause symptom worsening (34.5%). Medications from

other classes that emerged as potential treatments of interest given high rates of treatment response included lamotrigine (46% improved) ketamine (48% improved) lurasidone (40%) and olanzapine (38%). Also of interest non-pharmacologic interventions such as yoga meditation acupuncture and neurofeedback resulted in high rates (>40%) of symptom improvement though most commonly resulting in only slight improvement. Conclusions: The findings are congruent with some of the existing but limited evidence on treatment (e.g. the potential response on benzodiazepines and lamotrigine) but also suggest the potential of other medications such as select second generation antipsychotics and ketamine. Data also suggest the possible utility of non-pharmacologic interventions like yoga and meditation.

Sunday May 05

### **Receiving Intensive Community Mental Health Recovery (ICMHR) services was associated with improvement in psychiatric symptoms among veterans**

Alex Duman PhD; Suja Rajan; Michelle WInkler

Given the higher mental illness burden among veterans Veterans Health Administration (VHA) provides high-quality mental healthcare via numerous evidence-based services. The Intensive Community Mental Health Recovery (ICMHR) program offers such services to veterans with mental illness and serious functional disability (e.g. those with psychoses or bipolar disorders) through the intensive provision of care management and recovery-oriented services in the community. This study is the first to evaluate associations between receiving all program components of the ICMHR services and changes in psychiatric symptoms among veterans over time at a national level. We used modified 19-item Brief Psychiatric Rating Scale (BPRS) assessments

captured by clinicians at the time of ICMHR program enrollment and at 6 and/or 12 month follow-up. Veterans who enrolled in ICMHR during fiscal years 2019-2021 and had assessments at enrollment and at least one follow-up were included (N= 2417). Multivariable random effects panel data linear regressions were used to examine changes in modified BPRS scores over time. A similar panel data logistic regression assessed the likelihood of veterans achieving a  $\geq 20\%$  reduction in their modified BPRS scores at follow-up periods relative to baseline. Changes in the five clinically relevant BPRS domains were also examined with panel data linear regressions. We found a statistically significant drop in modified BPRS scores at the 6 month (Adjusted average change [AAC]: -1.6; 95% CI: -2.2 to -1.0) and 12 month (AAC: -2.4; 95% CI: -3.0 to -1.7) follow-up periods relative to baseline scores measured at enrollment. Twenty-five percent of veterans and 30% of veterans had a  $\geq 20\%$  reduction in modified BPRS scores during the 6- and 12-month follow-up as compared with the baseline respectively and the relative decline over time was statistically significant ( $p = 20\%$  reduction in their score at follow-up. ICMHR services were associated with improvement in psychiatric symptom domains of Affect Activation and Negative and Positive Symptoms. There was no effect on psychiatric symptoms representing Resistance. Results suggest ICMHR services are potentially effective in improving veterans' psychiatric symptoms as measured by modified BPRS scores thereby upholding VHA's directive to help veterans with mental illness and functional disability. Of the BPRS domains Affect had the largest change over time and suggests veterans who received ICMHR services had the greatest improvement in their anxiety guilt depression and somatic concern. Conversely on average the Resistance domain had no change and suggests the ICMHR program may benefit from additional interventions to address symptoms of hostility uncooperativeness and suspiciousness among veterans. All findings and conclusions are those of the authors and not the U.S. Department of Veterans Affairs.

Sunday May 05

## Screening Minds: Balancing Prevention and Privacy

Alexandra Belzie M.D.; Alissa Belzie; Daniel Ehlke

**Background:** The distress from mental health crises among college students highlights the utility of early risk identification intervention and the provision of preventive resources for mental health care at the undergraduate level. This study sought to assess the suitability of implementing a mandatory mental health screening as a pre-matriculation requirement for undergraduates.

**Methods:** A cross-sectional web-based survey was conducted to gauge mental health beliefs perceived risks of mental illness and attitudes toward mandatory mental health screening among U.S. college students. The survey comprised of forty-three questions with both quantitative and qualitative components was anonymously completed by current undergraduate students. Data collection occurred via Google Forms administered through email between April 2023 and October 2023.

**Results:** A 100% completion rate was achieved from the 57 participants who responded to the survey aged 20.9 years on average and 68.4% of whom were female. Fifty-one percent of college student responders are open to completing a mental health assessment as a pre-matriculation requirement. Regarding preferences for mental health providers 49% favored choosing professionals from either the university or their own healthcare provider while 42% preferred their personal healthcare provider. The majority (67%) preferred in-person assessments. Approximately 67% of students indicated they would be willing to seek professional help if suggested by screening results. Concerning support structures 63% believed that the school health centers should directly connect students with providers while 32% preferred having a list of providers for independent contact. Further exploring mental health preferences 66.7% of students believe they could have benefited from a pre-college session with a mental health care provider. Meanwhile

38.6% express interest in seeking mental health assistance but are not currently doing so. Among those who felt the need for professional support during the school year 43.9% sought support 10.5% attempted but failed and 26.3% did not seek support. Recognizing the potential positive impact of an early assessment 66% of participants express this sentiment. However 57% of participants expressing reluctance fear the potential misuse of their private information. Of participants 86% acknowledged the existence of a mental health stigma. **Conclusion:** The study suggests that implementing a pre-matriculation mental health assessment could be a valuable intervention. Such an assessment may assist students in navigating the critical transition period potentially improving academic outcomes and addressing mental health challenges early in their college journey.

Sunday May 05

## Sodium Benzoate Add-On Treatment for Neurocognitive Improvement in Treatment Resistant Schizophrenia: Systematic Review of Randomized Controlled Trials

Sana Javed; Nishita Patel; Fareena Mustafa; wala aljawarneh; Sanila Rehmatullah

**Background:** Sodium benzoate one of the first food preservatives approved by the Food and Drug Administration (FDA) is being studied for its neurocognitive effects in schizophrenic adults. One of the proposed mechanisms of action includes an increase in bioavailability of D-serine by D-Amino Acid Oxidase (DAAO) inhibition resulting in glutamatergic modulation of N-Methyl D-Aspartate (NMDA) receptors. Additionally simultaneous inhibition of Glycine Transporter (GlyT)-1 (with Sarcosine) may be more efficacious than DAAO inhibition alone. **Objective:** To review neurocognitive efficacy of sodium benzoate in resistant schizophrenia. **Methods:** A systematic review was conducted following the Preferred

Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. PubMed International Clinical Trials Registry Platform ClinicalTrials.gov and Cochrane databases were searched from inception to August 19 2023 resulting in a total of 24 clinical trials. Only 3 fulfilled our criteria: 1) Full English texts 2) patients aged 18 years or older; 3) discussed neurocognitive effects of Sodium Benzoate in resistant schizophrenia. Results: Overall 175 participants (Males= 106 Females= 69) ages ranging from 18-65 years minimum baseline Positive and Negative Syndrome Scale (PANSS) score of 60 and number of hospitalizations ranging from 2.8-5.8 were enrolled and followed for 6-12 weeks.

Lane et al. 2013  
 Lin et al. 2018  
 al. 2017  
 Sodium Benzoate (gram/day) or Placebo with optimal antipsychotic therapy  
 1  
 2 or 1 + Sarcosine 2gram/day

MATRIC Consensus Cognitive Battery (MCCB) mean(SD)  
 Processing speed: 3.2 (1.4); p 0.03  
 Visual learning/memory 6.3(2.6); p 0.02  
 No improvement with any dose p> 0.05 for all  
 No improvement with any group p> 0.05 for all  
 Neurocognitive Composite mean(SD)

3.7 (1.7); p 0.04  
 1: -1.290; p 0.218  
 2: 0.189; p 0.843  
 1+Sarcosine: 8.41(3.07); p 0.009  
 Global  
 Cognitive Composite mean(SD)  
 2.9(1.9); p 0.15  
 1: -  
 2: -  
 1.35(1.02); p 0.185  
 .085(0.97); p 0.930  
 1+Sarcosine: 7.77(2.74); p 0.007

Conclusion:  
 Sodium Benzoate is well tolerable with minimal extrapyramidal side effects (p>0.005 in all trials); other side effects were mild and included: weight gain(n= 2) insomnia(n=2) increased duration of sleep(n= 2) increased sleepiness(n=1) weight loss (n= 1). Till date there is mixed evidence of cognitive improvement in schizophrenic patients with sodium benzoate in treatment resistant schizophrenia. To enhance generalizability future trials should focus on individual characteristics that are associated with symptom responsiveness long-term effects of the treatment synergistic effect of sarcosine with sodium benzoate and a larger sample size.

Sunday May 05

**Successful Reintegration into the Community among Patients Discharged from a New York State Psychiatric Hospital**

John Crane M.D.; Omar Alzein M.D.; Laurence Dopkin M.D.; Caitlin Stork M.D.

APAF Helping Hands Grant (ID# 21023)  
 INTRODUCTION: Patients admitted to state psychiatric hospitals have severe mental illnesses and have failed multiple medication trials. Upon

discharge barriers to community reintegration include lack of resources interpersonal difficulties and substance misuse. The first month after discharge is one of the most challenging periods for patients reintegrating into the community. We defined successful reintegration as (1) retention in outpatient psychiatric care and (2) maintaining stable housing one month after discharge from a state psychiatric hospital. **METHODS:** We performed a retrospective chart review of patients discharged from Manhattan Psychiatric Center (MPC) a state psychiatric hospital in New York. Inclusion criteria were patients' first admission for inpatient psychiatric services (i.e. dropped subsequent readmissions) length of stay <365 days discharged in 2018 received out-patient psychiatric services at MPC's clinic. We defined stable housing as remaining in the same housing after discharge or moving on purpose (e.g. from transitional housing to permanent housing). One-month follow-up outcomes were analyzed using descriptive statistics and logistic regression models. **RESULTS:** Of the 103 patients the median age was 40 (interquartile range [IQR] (33-49) 82% were male 51% were Black 29% were Hispanic/Latinx 67% had at least a high school degree education 68% were homeless at admission 92% were diagnosed with Schizophrenia or another psychotic disorder 64% were admitted from another inpatient hospital 95% had a previous inpatient psychiatric hospitalization. On discharge the median length of stay was 107 days (IQR 79-177) 62% were housed at MPC's Transitional Living Residence (TLR) 55% were on 2 or more antipsychotics 83% were on a long-acting injectable antipsychotic 68% were on an oral antipsychotic (of these 74% were on Clozapine) 61% were on a mood stabilizer. Within 1 month of discharge 3 patients fell out of outpatient care and 24 patients had unstable housing; and therefore were dropped from the one-month analysis. One month after discharge 81% were still in outpatient psychiatric care (N=100) and 85% maintained stable housing (N=79). Patients living at TLR were 3 times more likely to stay in outpatient care ( $p<0.041$ ). Patients diagnosed with Schizophrenia or another psychotic disorder were 5 times more likely to stay in outpatient care ( $p<0.032$ ). There were no

significant predictors for maintaining stable housing. **DISCUSSION:** In our study most patients stayed in outpatient mental health care and remained in stable housing one month after discharge from a New York State psychiatric hospital. Important predictors for patients to stay in outpatient mental health care were being discharged to TLR and being diagnosed with Schizophrenia or another psychotic disorder. Further studies should explore these outcomes with patients diagnosed with other psychiatric disorders.

Sunday May 05

### **The ANKK1 rs1800497 T allele in interaction with 5-HTR1B rs13212041 T/T genotype as a predictor of developmental psychopathy in maltreated children**

Silvia Pellegrini; Sara Palumbo; Pietro Muratori; Kent Kiehl; Pietro Pietrini

**Background.** The assessment of psychopathy has proven useful to identify subjects with particularly severe and persistent behavioral problems who exhibit a deviant lifestyle characterized by irresponsible behavior and tendency to ignore and violate social conventions and norms as well as interpersonal/affective deficits including inability to establish strong emotional bonds with others and feeling empathy guilt or remorse. A growing body of evidence suggests that the affective deficits typically found in psychopathy are already present during childhood as Callous-Unemotional (CU) traits which are indicated both in the DSM-5 and in the ICD-11 as specifiers for the diagnosis of Conduct Disorder with Limited Prosocial Emotions. CU traits distinguish children with severe and persistent disruptive behaviors some of whom are at risk of developing psychopathy as adults. The persistence of affective deficits from childhood to adulthood has been suggested to be largely due to genetics. **Methods.** To search for early predictors of psychopathy we investigated the 5-HTR1B- rs13212041 variant – whose TT genotype was previously shown by us to be



associated with psychopathy in a group of inmates exposed to paternal maltreatment during childhood – in addition to six dopaminergic variants (ANKK1-rs1800497 COMT-rs4680 DRD4-exonIII VNTR and rs1800955 TH-rs6356 SLC6A3-40bp VNTR). We studied these variants in interaction with each other and with childhood maltreatment in 985 male incarcerated adults and 120 male youths with Disruptive Behavior Disorder (DBD). Psychopathic traits were assessed by the Psychopathy Checklist-Revised (PCL-R) in adults and by the Antisocial Process Screening Device (APSD) in youths. In 247 incarcerated adults the Measure of Parental Style questionnaire was used to measure the perceived behavior of parents during the first 16 years of life while DBD youths were screened by the Maltreatment Index. Results. Linear regression analysis showed that the ANKK1-rs1800497 T allele increased the correlation between paternal maltreatment and high psychopathy scores in adults and predicted higher CU scores in DBD youths exposed to active maltreatment. Moreover the ANKK1-rs1800497 T allele synergistically interacted with the 5-HTR1B-rs13212041 TT genotype further increasing both associations and making CU scores exceeding the clinical cut-off of the APSD-CU subscale. Conclusions. The interaction between ANKK1-rs1800497 T allele and 5-HTR1B-rs13212041 TT genotype appear to make children more vulnerable to maltreatment thus increasing their risk of developing CU traits in childhood and psychopathy as adults. This genetic profile might allow the identification of children with CU traits at higher risk for developing psychopathy if maltreated. Our findings highlight the need of tailored therapeutic strategies to improve the rate of success in treating CU traits in an attempt to prevent adult psychopathy.

Sunday May 05

**The feasibility of a combined approach including neuromodulation by tDCS and**

## **cognitive remediation for people with borderline personality disorder**

Lionel Cailhol M.D.;Ph.D.

Longitudinal investigations concerning Borderline Personality Disorder (BPD) have revealed a decrease in symptoms associated with the disorder though there has been less improvement in areas related to psychosocial functioning. The efficacy of psychotherapies in enhancing functionality appears to yield a modest effect size. Building upon prior research transcranial direct current stimulation (tDCS) has shown promise in ameliorating impulsivity and emotional instability among individuals with BPD. Additionally cognitive remediation focuses on mitigating neuropsychological impairments by re-educating patients and implementing specific strategies to support long-term improvement in daily functions such as cultivating healthy habits enhancing executive functions problem-solving abilities attention span working memory and cognitive skills. Our study seeks to explore the feasibility of a combined approach involving neuromodulation and cognitive remediation as the primary treatment for individuals with BPD with a particular focus on evaluating their impact on impulsivity and executive functions. The protocol comprises ten daily tDCS sessions over two weeks and eight weekly group meetings for cognitive remediation. In accordance with previous studies involving individuals with BPD the tDCS parameters are set as follows: a continuous current lasting 20 minutes at an intensity of 2mA with electrodes placed on specific stimulation sites associated with impulsivity. To assess the effectiveness of this combined approach on symptoms and to evaluate the cognition and functionality of the patients we administer questionnaires and neuropsychological tests at the commencement of the study after the tDCS sessions following the cognitive remediation and three months after the study's conclusion. Our anticipated outcomes from this study suggest that the integration of these two treatments will lead to a reduction in BPD symptoms and an enhancement in executive functions when compared to conventional

treatment or tDCS administered in isolation. This research endeavor holds the potential to introduce an efficient and cost-effective first-line treatment while facilitating improved functional progression among individuals with BPD.

**Sunday May 05**

### **THE USE OF CLOZAPINE IN RESOURCE POOR SETTING: A STUDY BASED ON CLOZARIL PATIENTS MONITORING SYSTEM (CPMS)**

Raza Rahman M.B.B.S FCPS (Psych) DCPS-HPE MHPE

**Introduction** Although Clozapine is recommended drug for treatment resistant schizophrenia but evidence show that it is underutilized. Although population of schizophrenics in developing countries is quite high but there is little systematic information available about the use of Clozapine in these countries. This study was designed to assess the pattern of clozapine use its side effects & average maintenance dose in Pakistan a developing country. **Methodology** The medical record of psychotic patients who are currently on the data base of Novartis Pakistan (Clozapine Monitoring system) was retrieved and analyzed on SPSS 17. The data of generic Clozaril was not included in this study as it is not available due to lack of proper monitoring. **Results:** The record of 1256 patients belonging to the different parts of Pakistan was analyzed. More than two-third of the sample (70%) consists of male. The average maintenance dose of Clozaril came out to be 230mg. The two-third of the patients were taking treatment for more than 2 years. It is also noted that only a quarter of the psychiatrists in Pakistan are prescribing clozaril. **Discussion:** The inadequate use of Clozapine in developing countries may be due to inadequate psychiatric facilities cost of treatment and monitoring misperceptions about the effects of drug and

local beliefs about giving blood for tests. Like other developing countries the mean dose of Clozaril is significantly low that may be due to the different pharmacodynamics or pharmacokinetic factors. The knowledge of proper drug dosage in the form of fewer side effects and reduction in cost of drug is important particularly for developing Asian countries like Pakistan. It is alarming that less than one fourth psychiatrists were involved in prescribing Clozaril that may be due to lack of knowledge about this drug and lack of pharmaceutical industry interest in promotion of this drug to make it available in rural areas. **Key Words:** Prescribing pattern Low dose clozaril Pakistan

**Sunday May 05**

### **Poster Session 8**

**Sunday May 05**

### **"The injection". Preliminary results on the use of long-acting injectable antipsychotics."**

Teresa Jiménez Aparicio; Gema Medina Ojeda; María del Carmen Vallecillo Adame; Lara Rodríguez Andrés

**Introduction:** Currently there are different drugs that can be used in the treatment of patients with different pathologies of the psychotic spectrum such as schizophrenia schizoaffective disorder delusional disorder or others. Among all of them and indisputably the best treatment is the one that the patient takes properly since one of the difficulties in the management of these pathologies is the little or no awareness of illness. In many cases what may appear to be treatment-resistant schizophrenia is actually a lack of adherence (1). In recent years long-acting injectable antipsychotics have been developed

which can help to facilitate management and ensure compliance (2). Objective: From the mental health consultation team in the psychiatry service of the university clinical hospital we are preliminarily collecting data on patients undergoing treatment with different injectable antipsychotics (Aripiprazole and Paliperidone in monthly quarterly and half-yearly formulation) with the aim of carrying out a descriptive study. Methods: During the follow-up visits over the last 6 months the sociodemographic and clinical data of the patients were collected to assess the evolution before and after the introduction of this type of drug. Results: Among the preliminary results so far 77% of a total of 39 patients (21 men and 18 women) had required one or more hospital admissions prior to the introduction of the depot drug compared to only 23% (cases in which the new drug was introduced on an outpatient basis). However when analyzing post-injection admissions they only occurred in 15% of cases which already represents a clear improvement not only in terms of patient health but also in terms of social and health resources that may be required for the management of a psychopathological decompensation. On analyzing the data in depth we observed that the greatest change occurred in those patients with a diagnosis of schizophrenia: 81% of them had required previous admissions but the percentages were reversed after the introduction of the drug with only 19% requiring subsequent readmission. Conclusions: It will be necessary to continue the study to draw further conclusions and analyze the rest of the data. However for the moment it is possible to state that in our sample a significant improvement in the psychopathological stabilization of patients with psychotic symptomatology is observed after the introduction of a depot drug which helps to optimize and simplify treatment and ensure compliance which is already described in various scientific publications (3).

Sunday May 05

## A Pre-pandemic to Post-pandemic Comparison of Psychiatric Metrics at Zucker Hillside Hospital (ZHH)

Brenda Neuman; Ema Saito

Background: The COVID-19 pandemic affected mental health significantly. This study aims to compare certain metrics of the inpatient population at a free-standing psychiatric hospital in New York suburb before and after the COVID-19 pandemic. Methods: Data for 2018 to 2022 was collected from the quality department and legal liaison. The metrics were average length of stay (LOS) restraint index seclusion index total constant observation (CO) hours percent of admissions with medication over objection (MOO) hearings percent of admissions with state transfer hearings percent of admissions with state hospitalization applications and percent of admissions with assisted outpatient treatment (AOT) applications. Results: There was an upward trend in average LOS and restraint index from 2018 to 2022 with 15.9 days in 2018 16.9 days in 2019 17.7 days in 2020 17.6 days in 2021 19.0 days in 2022 for average LOS and 0.081 in 2018 0.104 in 2019 0.17 in 2020 0.21 in 2021 0.19 in 2022 for restraint index. There was no trend in the seclusion index in 2018 2019 2020 2021 and 2022 (0.104 0.07 0.12 0.09 and 0.10 respectively). The total CO hours increased in 2018 2019 2020 2021 and 2022 (110908 114688 125884 166944 and 174292 respectively). From 2020 to 2022 there was an upward trend in the percentage of MOO hearings percentage of patients with state transfer hearings and percentage of state hospital applicants with 0.96% in 2020 3.62% in 2021 3.20% in 2022 for percentage of MOO hearings 0.86% in 2020 1.90% in 2021 2.0% in 2022 for percentage of patients with state transfer hearings and 2.44% in 2020 2.46% in 2021 and 2.95% in 2022 for percentage of state hospital applicants. There was an upward trend in the percentage of AOT applicants with 0.97% in 2019 0.84% in 2020 1.60% in 2021 and 1.97% in 2022. Conclusion: The metrics involving psychiatric inpatients such as average LOS restraint index percentage of MOO hearings percentage of state transfer hearings percentage of state hospital

applications and percentage of AOT applications had an overall upward trend from 2018 to 2022. This may signify an increased morbidity in hospitalized psychiatric patients; however it can also be due to a change in the characteristics of the healthcare staff and their response to the psychiatric patients. This may also indicate a change in the quantity and quality of outpatient mental health resources. However data for metrics of staff and outpatient resources were not available in this study and therefore this confounder was not accounted for.

**Sunday May 05**

### **Augmenting Psychopharmacology Education in Psychiatry Residency through Visual Mnemonics: a Proof of Concept**

Diana Li; Zachary Goodman M.D.; Patrick Ho M.D.

Psychiatry residents face the daunting task of both learning psychopharmacology through formal didactics and informal studying and subsequently implementing and refining this knowledge through patient encounters. This poster presentation aims to present a case for augmenting psychiatry residents' psychopharmacology training with visual mnemonics popularized by medical education companies such as Sketchy Medical "Picmonic" and "Pixorize." Visual mnemonics are effective and widely used among medical school students and residents. While the products of these companies often focus on "high yield" topics for medical school exams we wanted to envision what useful visual mnemonics for psychiatry residents might look like. To this end we surveyed a small sample (n=17) of current psychiatry residents on what information they would prefer a visual mnemonic system for individual psychiatric medication to encompass. Most residents agreed that they would want a visual mnemonic to include information about mechanism of action (94.1%) effects on receptors (88.2%) and neurotransmitters (94.2%) normal blood level ranges (82.4%) pharmacodynamics (82.4%) enzyme interactions (88.3%) side effects

(100%) and their relative severity (79.3%). Some wanted information about dosing (47.0%) FDA approved (64.7%) and off label indications (64.7%) as well as the generic name of drugs (47%). Fewer were interested in inclusion of brand names (23.6%) or pricing (11.8%). Overall 94.1% of surveyed psychiatry residents agreed or strongly agreed that such a mnemonic system would be useful to supplement their education 82.3% agree that it would help them on training exams and 88.3% feel it would help with their clinical decision making. With 88.2% of surveyed residents citing second generation antipsychotics as a category of particular interest for this project we set out to make multiple proof of concept visual mnemonics. These mnemonics employ the preferences described by current psychiatry residents easily understood symbols that are consistent across visual mnemonics but integrated into the theme of the drug to facilitate memorization. In the future we would like to complete the series of visual mnemonics within this category and expand to others (e.g. modern antidepressants mood stabilizers first generation antipsychotics). 64.7% of surveyed residents expressed that lab monitoring of psychiatric medications (e.g. lithium clozapine) would be especially beneficial to remember through visual mnemonics. Given that 64.7% of residents felt it would be worthwhile to integrate visual mnemonics into a formal didactic curriculum this implementation would also be worth exploring."

**Sunday May 05**

### **Borderline Personality Disorder: Are stimulants the answer?**

Ananya Sen Gupta M.D.; Prathila Nair M.D.

The current guidelines for treatment of borderline personality disorder (BPD) focus on psychotherapy with the addition of antidepressants antipsychotics and mood stabilizers if needed. Recent studies have reported on the use of stimulants such as

methylphenidate and atomoxetine in the treatment of symptoms in these patients. Stimulants are thought to be effective in BPD patients that experience symptoms such as impulsivity impaired decision making and mood dysregulation. Furthermore up to twenty percent of patients with borderline personality disorder also suffer from attention-deficit/ hyperactivity disorder (ADHD) and require treatment of both conditions. Although symptoms of BPD and ADHD can overlap it has been shown that psychotherapy alone is not effective in treating symptoms of ADHD in patients with BPD. Previously it had been thought that the use of stimulants in BPD should be avoided as these patients tend to exhibit impulsive tendencies that can increase their risk of developing substance use disorders. However there have been recent studies that suggest that stimulant use can be well tolerated in BPD patients and can even help to improve symptoms of inattentiveness impulsivity and emotional instability. Treating these symptoms can help patients to improve their overall functional outcomes such as their ability to fulfill their roles in the work environment and even improve their interpersonal relationships. Studies have emphasized the importance of recognizing the overlap that may exist between BPD and ADHD in order to more accurately target treatment. There is more research needed on the safety and efficacy of using stimulants in BPD as each patient is unique and can present with a variety of symptoms. As with any other patient population consideration must be made for the potential of misuse and abuse of stimulants particularly in those with a history of trauma or who have impulsive tendencies.

Sunday May 05

**Bullous Pemphigoid in a patient with bipolar disorder and a newly identified psychotropic drug trigger: A case report and review of the literature**

Arianne Foster MD; Kayla Morel MD; Breanne Mordorski; Candace Hatten-Powell

Background: Bullous pemphigoid (BP) is acutaneous autoimmune disease characterized by widespread tense fluid-filled bullae. The occurrence or exacerbation of the disease is multifactorial and in some cases may involve a triggering event such as drugs infections or cutaneous trauma. Interestingly neuropsychiatric disorders have been associated with BP and there is growing evidence suggesting that triggers may also include antipsychotic drugs. However data remains limited. We aim to contribute to the scientific literature by reviewing current research associating BP with antipsychotics. Additionally we provide a case of suspected drug-induced BP in a 50-year-old patient with an antipsychotic not previously reported. Methods: Pubmed was used to search for studies that explored the association between BP and antipsychotics. Keywords included “Bullous Pemphigoid” “Antipsychotic” and “Cariprazine.” Results: There are few studies supporting the association between antipsychotics and elevated BP risk as well as minimal specificity regarding which antipsychotics may be associated. Furthermore the mechanism by which neuropsychiatric disorders and BP are related is poorly understood. This association complicates the relationship between antipsychotics and drug-induced BP. We report for the first time a patient with bipolar disorder presenting with BP confirmed by tissue histology direct immunofluorescence and serum auto-antibodies following 2.5-year therapy with cariprazine. Conclusion: There is research suggesting that antipsychotics may trigger drug-induced BP though data is limited and further investigation is necessary. This case would be the first known report demonstrating an association between cariprazine and bullous pemphigoid.

Sunday May 05

**Comparative efficacy and tolerability of ketamine and its enantiomers**



Shawn Hingorani MS4; Abdul Rahim Khan;  
Darakhshan Adam M.D.; Faisal Suba M.D.

Ketamine is the first novel antidepressant after seven decades of developing monoaminergic antidepressants. Although only the intranasal formulation of the S-enantiomer of ketamine is FDA-approved to manage treatment-resistant depression there is evidence that the R-enantiomer is also biologically effective. However there is little clinical evidence to support R-enantiomer's antidepressant efficacy. In addition the intravenous infusion of ketamine appears more effective than the intranasal S-enantiomer. We believe that a better understanding of the mechanisms underlying differences between different ketamine enantiomers and formulations will help enhance the clinical utility of ketamine. We wanted to review the current literature comparing the biological mechanisms explaining differences in antidepressant efficacy and tolerability of racemic ketamine and its two enantiomers. A literature review was conducted using the search string "arketamine" OR "R-ketamine" OR "esketamine" OR "ketamine" AND "Treatment-Resistant Depression" OR "Major Depressive Disorder" on PubMed. Search criteria included human trials randomized controlled trials and trials in English over the past five years. Although this search criterion excluded the three small trials with arketamine we discussed the findings from these studies to compare with the ketamine and esketamine studies. Initially we found 80 studies; however after removing duplicate data open-label studies and trials where either placebo or treatment group had  $n < 30$  were excluded 12 studies remained. All reviewed studies employed MADRS scores to assess antidepressant response. Five of the 12 studies reported significant responses with esketamine than placebo while two studies were negative (12). Two studies reported ketamine and esketamine as equally effective and three studies reported ketamine to be more effective than midazolam. Two of the three arketamine studies were superior to placebo and one was negative. Although the antidepressant effect of arketamine and esketamine are thought to be mediated via NMDAR antagonism arketamine has less potent

effects in blocking NMDAR than esketamine. In addition esketamine is linked with more significant psychosis than ketamine perhaps due to a more robust antagonism of the NMDARs. Similarly this may be why esketamine has more significant effects on hyperlocomotion deficits in prepulse inhibition and rewarding effects than arketamine. Although the three arketamine studies were open-label and conducted in small samples arketamine appeared equally effective to IV ketamine and esketamine regarding antidepressant effects but with a better adverse effect profile (3). However these preliminary findings warrant confirmation in large-sampled head-to-head comparisons between ketamine and the two enantiomers."

Sunday May 05

### Descriptive review of a forced medication episodes sample in southern Spain area

Nuria Laherrán Third-year psychiatry resident;  
Jose Ildefonso Pérez Revuelta doctor in psychiatry;  
Leticia I. Muñoz-Manchado Doctor of Medicine in psychiatry;  
Torrecilla Rocio doctor in psychiatry;  
José Villagrán Doctor in psychiatry. Chief of psychiatry

1. Introduction Forced medication is one of the most frequently used coercive measures in acute mental health units. It is a practice that can lead to physical psychological and psychopathological consequences. Therefore it is necessary to implement measures to reduce its use. In this sense it is interesting to study the variables that can be associated with its use and thus take measures accordingly. 2. Objectives This study attempts to identify the number of forced medication episodes between July 2017 and December 2018 treated in the catchment area of the Mental Health Service at Jerez Hospital. As a secondary objective it pursues to identify the factors that conducted to the use of forced medication with the intention of being able to reduce the use of these measures. 3. Methods

A descriptive and retrospective study has been developed reviewing the total number of episodes of forced medication. Patients admitted and discharged from hospital between July 2017 and December 2018 treated in the Mental Health Service at Jerez Hospital. Data were extracted from medical records.

**4. Results** The total number of episodes of forced medication identified was 330. In these episodes the average age was 41 years with a predominance of 74% of the male gender. The most used route in the episodes was intramuscular (94.8%) in addition more than 50% needed the association of two drugs the most used were haloperidol and olanzapine. The 32.7% of the episodes also required the use of mechanical restraint and 44.2% required the presence of security service.

**5. Conclusions** We present the descriptive analysis of a further study currently been conducted in our hospital which means to establish predictive factors for the use of forced medication. We therefore intend to create patient profile as well as new measures specifically directed to these factors with which to diminish the use of forced medication.

Sunday May 05

### **Effect of 4 weeks of physical exercise on emotion regulation in adult with borderline personality disorder: A series of mixed method N-of-1 studies**

Lionel Cailhol M.D.;Ph.D.; Paquito Bernard

Physical exercise (PE) is a well-documented treatment for individuals with severe mental disorder such as schizophrenia and mood disorders. It helps improve clinical symptoms functioning and quality of life of these individuals<sup>1</sup>. Moreover recent studies indicated that PE improved emotion regulation in adults with and without severe mental illness<sup>2</sup>. Emotional dysregulation characterized by highly variable and unstable emotions and a high inertia of negative

emotions is a core component of borderline personality disorder (BPD)<sup>3</sup>. Therefore PE might have important benefits in this population. However no previous study examined the effects of regular PE on emotion regulation in individual with BPD. A series of seven 8-week N-of-1 studies was led to analyze this effect and assess acceptability of a 4-week PE intervention in this population. Our participants' emotions were assessed three times daily for the 8 weeks of the study with the PANAS-10 items delivered on their smartphone for ecological momentary assessment. This study followed an A-B-A design. The study was separated in three different phases. Each A phase (at the beginning and the end of the study) was observational and lasted 2 weeks. In these phases participants only had to fill out the 3 daily emotion survey on their phone. The B phase (in the middle) was interventional and lasted 4 weeks. During this phase each participant was matched with a kinesiologist to complete 3 weekly 1-hour supervised PE session. Every PE session followed a plan to ensure similar intensity and PE volume throughout participants. At the end of the B phase participants were suggested to complete a semi-structured interview about their experience during the PE intervention. The thematic analysis was used to analyse interviews content. Emotion dysregulation was computed using emotion's week standard deviation for variability mean square difference of subsequent emotions for instability and autocorrelation for inertia. Piecewise linear regressions were carried out for each participant and multilevel piecewise linear regression were carried out with participants pooled together. Four main themes were found following the thematic analysis: 1) accessibility of PE (facilitators and barriers both internal and external); 2) characteristics of the trainer (qualities guidance and relationship); 3) changes attributed to PE (physical psychological and general); 4) model of PE (ideal setup to practice PE). Moreover quantitative analyses showed an increase of positive emotions in 3 participants a decrease of negative emotions in 4 participants and a decrease in negative emotions variability in 2 participants during the intervention. Multilevel piecewise regressions indicate a general increase of positive emotions and

decrease in negative emotions throughout our participants. This first ever study analysing the effect of a 4-week intervention of PE in adults with BPD suggests a positive impacts on their daily emotions.

**Sunday May 05**

### **Examining the Dark Tetrad: Analyzing Profiles and Their Connection to the Big Five Personality Traits**

Raquel Gómez-Leal; Pablo Fernandez-Berrocal; María José Gutiérrez Cobo; Rosario Cabello; Alberto Megías-Robles

Background: The Dark Tetrad (DT) comprises the traits of Narcissism Machiavellianism Psychopathy and Sadism. Previous research on the DT has typically examined these traits individually using a variable-centered approach. In this study we take a different approach by treating the DT as a unified construct and adopting a person-centered approach. Our objective is to analyze various homogeneous subgroups of individuals characterized by specific DT profiles and explore how these profiles relate to the Big Five personality factors. Methods: To achieve this we collected data from 1154 participants including both men and women aged 18 to 79 years. We utilized The Short Dark Triad and the Assessment of Sadistic Personality instrument to assess DT traits and the Mini-IPIP to evaluate the Big Five personality factors. Through cluster analysis we identified five distinct groups: Narcissism Machiavellianism Mean DT Low DT and High DT. Results: Our primary findings revealed that the High DT group exhibited higher levels of extraversion and lower levels of agreeableness and conscientiousness when compared to the Low DT group. Additionally the Narcissism group displayed higher scores in emotional stability and openness to experience. Notably the distribution of gender varied across the DT groups with more men than women in the High DT group and the opposite pattern observed in the Low DT group. Conclusion: A proper

understanding of personality traits is crucial for improving the evaluation and diagnostic procedures in mental health. This understanding should be based on empirical research that not only identifies these traits but also examines their interrelationships and how they interact with other variables.

**Sunday May 05**

### **GLP-1 Receptor Agonist for Mitigating Mirtazapine Associated Weight Gain: A Case Study**

Fatimah Hameed M.D. M.Sc.; France Leandre MD

Background The expansion into novel medications promoting weight loss has resulted in the growing usage of glucagon-like-peptide-1 receptor agonists (GLP-1 RAs). Of these tirzepatide has been hailed as a 'first-and-best-in-class' being the only dual glucagon-like peptide-1 (GLP-1) and glucose-dependent insulinotropic peptide (GIP) receptor agonist. Efficacy includes a significant reduction in body weight by >20% and improved lipid metabolism. (1) On the contrary weight gain and metabolic dysfunction have been commonly associated with psychotropics notably antipsychotics. Mirtazapine an atypical antidepressant has also been widely attributed to significant weight gain. This presents a challenge for patients finding efficacy of the medication but experiencing intolerable weight gain. Our case study examines one such patient who experienced remission of treatment refractory depression and insomnia on mirtazapine. The patient was then prescribed tirzepatide for weight loss. This is the first case study of its kind examining the concomitant usage of mirtazapine and tirzepatide. We tested the efficacy of GLP-1 agonist tirzepatide against mitigating the patient's substantial weight gain on mirtazapine. Methods Our patient was a forty-five-year-old African American female who presented in an outpatient psychiatry clinic with diagnoses of major

depressive disorder generalized anxiety disorder panic disorder and post-traumatic stress disorder. She also had medical co-morbidities of Empty Sella syndrome (on Hormone Replacement Therapy) Polycystic Ovarian Syndrome obesity and prediabetes. The patient had failed numerous trials of medications for depression anxiety and insomnia including various antidepressants mood stabilizers anxiolytic agents and sleep medications. She began a trial on mirtazapine 15mg resulting in a significant improvement in mood and insomnia. However within three weeks the patient experienced a twelve-pound weight gain. She was continued on mirtazapine 15mg but initiated on weekly injections of tirzepatide 2.5mg with up-titration to 7.5mg. Weight assessments were conducted weekly on an electronic weighing scale with verification on beam balance scales at six-week intervals over the span of four months. Results Within six weeks of initiation of tirzepatide and maintenance on mirtazapine the patient's weight returned to baseline with near complete loss of all weight gain from mirtazapine. Findings indicate weight loss of -20.8 lbs. from the point of highest weight gain on mirtazapine with a -10.15% overall reduction in body weight. After six weeks she continued to experience further weight loss on the combination of tirzepatide and mirtazapine with weight loss surpassing her initial weight. Conclusion Studies have shown prior efficacy with GLP-1 agonists mitigating weight loss from antipsychotics and our current case lends credence to future studies exploring weight gain with other antidepressants including mirtazapine.

Sunday May 05

### How Psychedelics Effect Individuals with Personality Disorders: A Prospective Cohort Analysis

Alexandra Gordon M.D.;M.S.; Richard Zeifman PhD; Brennan Carrithers MD MS

Introduction: Personality disorders (PDs) are characterized by impairment in psychological functioning. Treatment options for PDs are limited and there is poor evidence for the efficacy of pharmacological treatment<sup>12</sup>. Research suggests that psychedelics have enduring positive effects on psychological functioning and personality offering a unique opportunity for potential PD treatment<sup>34</sup>. However studies are lacking that examine the effects of psychedelics on individuals with PDs. Also individuals with PDs are frequently excluded from psychedelic research in part due to safety concerns specific to this population. This study examined the effects of psychedelic use on mental health outcomes among individuals with PDs. Methods: Data were used from three prospective observational studies. Twenty-four individuals with a self-reported PD diagnosis completed mental health measures of trait anxiety suicidal ideation (SI) depression symptoms and well-being at the following time points: before (baseline) 2 weeks after (except for SI) and 4 weeks after psychedelic use. Participants completed a measure of emotional breakthrough the day after their psychedelic experience. Changes in mental health were evaluated via repeated-measures ANOVAs and paired t-tests. Correlation analyses examined the relationship of emotional breakthrough with changes in mental health outcomes post-psychedelic use. Results: Following psychedelic use trait anxiety and depression symptoms significantly reduced ( $F[230]=12.47$   $p<0.001$ ;  $F[230]=12.47$   $p=0.003$  respectively). Trait anxiety decreased from baseline to 2 weeks ( $t[22]=4.11$   $p<0.001$  Hedges  $g=0.63$ ) and 4 weeks ( $t[16]=3.07$   $p=0.007$   $g=0.45$ ). Depression symptoms decreased from baseline to 2 weeks ( $t[21]=3.28$   $p=0.004$   $g=0.67$ ) and 4 weeks ( $t[15]=2.46$   $p=0.027$   $g=0.53$ ). SI reduced significantly between baseline and 4 weeks ( $t[16]=2.38$   $p<0.001$   $g=0.52$ ). Several individuals showed elevations in SI (5.88%) with no elevations to high risk of suicidal behavior post-psychedelic use. All participants with high risk of suicidal behavior at baseline (11.7%) were at low-risk post-psychedelic use. Well-being increased significantly ( $F[230]=4.09$   $p=0.027$ ) between baseline to 2 weeks ( $t[22]=2.60$   $p=0.016$   $g=0.38$ ) but not 4 weeks ( $t[16]=1.65$   $p=0.118$   $g=0.30$ ).

Associations between emotional breakthrough and post-psychedelic changes in mental health were not statistically significant. Conclusion: For individuals with PDs psychedelic use was associated with improvements in psychological functioning (i.e. depression anxiety SI and well-being). Elevations in SI were rare and not clinically significant. Emotional breakthrough was not shown to significantly impact improvements in mental health. Limitations include self-reported data small sample size uncontrolled study and lack of differentiation between PDs. Further research is warranted to explore the effects and therapeutic potential of psychedelics in individuals with PDs.

Sunday May 05

### **Increased risk of injury and adult attention deficit hyperactivity disorder and effects of pharmacotherapy: a nationwide longitudinal cohort study**

Jaeun Ahn

Background: The heightened risk of accidents and injuries among children and adolescents with attention-deficit/hyperactivity disorder (ADHD) is well-established. Additionally there is increasing evidence of an ameliorating effect of ADHD medication on injury risk. However a dearth of knowledge remains regarding injury risk and the influence of ADHD medication in adult ADHD. This study aims to investigate the risk of injury in adult ADHD and assess the impact of ADHD medication on this risk. Method: : From a nationwide health claims database we identified adult ADHD who were diagnosed at age 19-44 (n=9417) between 2017 and 2018. We evaluated the association between adult ADHD and the risk of injury across various categories and the effect of two commonly prescribed ADHD medications methylphenidate and atomoxetine on injury risk. Cause-specific COX models were used for data analysis. Additionally a Cox regression model was applied to assess the influence of ADHD medication prescription on injury risk after

adjusting for key variables including sex age level of urbanization and comorbid psychiatric disorders. Results: Adults with ADHD demonstrated an elevated risk of sustaining various types of injuries encompassing fractures dislocations sprains and strains intracranial/internal injuries open wounds injury to blood vessels superficial injuries contusions crushing injuries foreign body ingress through an orifice burns nerve and spinal cord injuries poisoning and other specified and unspecified injuries. Notably methylphenidate prescription exhibited a protective effect against injury which persisted even after controlling for potential confounding factors [hazard ratio (HR) = 0.47; 95% confidence interval (CI): 0.43–0.52]. Furthermore atomoxetine prescription displayed a statistically significant effect in reducing injury risk [hazard ratio (HR) = 0.74; 95% confidence interval (CI): 0.67–0.82]. Conclusions: Our findings underscore the heightened risk of injury across various categories in adult ADHD. Importantly ADHD medication whether methylphenidate or atomoxetine appears to yield similar effectiveness in reducing this risk among adult ADHD. These results emphasize the significance of injury prevention in the context of adult ADHD and highlight the potential for ADHD medication to confer substantial health benefits in this population.

Sunday May 05

### **Individual and environmental factors associated with depression and anxiety among Romanian students in the context of the COVID-19 pandemic**

Alexandra Mihailescu

Aim The central focus of this research is carrying out a study of the risk and protective variables that are linked to the occurrence of depression and anxiety among students in the particular pandemic context in order to get a more thorough



comprehension of the circumstances that contribute to the development of mental health issues. Method The present work is a cross-sectional non-invasive study conducted in the period 2022-2023. Students from universities in all Romanian centers were invited to participate in the study. The questionnaire was carried out in Google Forms and distributed through social networks. 342 people responded to the questionnaire 301 of whom were eligible. For the evaluation of personality coping mechanisms in relation to pandemic self-effectiveness anxiety and depression the following scales were used: Big Five XS test COVID19 – Coping Scale Self-efficacy questionnaire Depression Anxiety & Stress scale (DASS-21). The survey data were analyzed using IBM SPSS (Statistical Package for Social Sciences) t-test and chi-square test being used for analysing groups. Results ? Participating students have a high prevalence of anxiety and depression 68.77% and 63.78% respectively which underscores the need for adequate support to address these mental health problems. ? Women achieved higher scores of anxiety (Mf=15.96 Mb=9.29  $t(65)=-4.422$   $p<0.001$ ) and depression (MF=17.12 Mb=13.81) and stress ( $t(299)=-3.611$   $p<0.001$ ) associated with an increased score of the parameter Neuroticism ( $t(299)=-3957$   $p<0001$ ) in the Big-Five test. ? Extroverted and conscious students had a lower level of anxiety ( $t(299)=-4387$   $p<0001$ ) respectively  $t(299)=-3696$   $p<0001$ ) and depression ( $t(299)=-6348$   $p<0.001$   $t(299)=-4.259$   $p<0.001$ ). At the opposite pole those with a high score of Neuroticism associated an increased level of affective symptoms (anxiety -  $t(299)=8993$   $p<0.001$ ; depression -  $t(299)=9702$   $p<0001$ ). ? Students who had healthy habits during the pandemic period and summed up an increased score on the COVID-19 coping test (depression  $t(299)=-5.243$   $p<0.001$  anxiety  $t(299)=-4.101$   $p<0.001$  stress  $t(299)=-4.547$   $p<0001$ ) and those with an elevated level of self-efficacy depression ( $t(299)=-4318$   $p<0001$  anxiety  $t(289)=-3622$   $p<0001$  stress  $t(299)=-3552$   $p<0001$ ) were less likely to develop depression anxiety or stress. Conclusion Identifying the factors that influence anxiety and depression is extremely important bearing in mind that mental health is a

determining factor in academic and subsequent professional performance. The present study could be the basis for the initiation of a program to improve resilience for medical students in the context of emergency situations through strengthening the positive aspects of personality stimulating self-effectiveness and problem-centric coping mechanisms for prevention of anxiety and depression.

Sunday May 05

### **Individual Placement and Support for persons with mental disorders and disability pension: Randomized controlled trial and follow up**

Wolfram Kawohl M.D.

Introduction Individual Placement and Support (IPS) is a supported employment method used for the vocational inclusion of individuals with mental disorders. There is vast evidence that IPS is effective for finding jobs. However evidence concerning the applicability of IPS for persons with mental disorders receiving a disability pension and concerning the sustainability of IPS is scarce. Objectives The aim of the studies included in this report was to a) control for the applicability of IPS for persons receiving a disability pension and b) to gain insight in the sustainability of IPS in this context. Methods A randomized controlled trial with 250 participants was conducted. The participants in the intervention group received job coaching according to the IPS standard. Members of the control group received no organized support but were allowed to seek assistance on their own. The initial phase of the study lasted 24 month. Job coaching was delivered only in the first phase of the study and discontinued after 24 month. A follow up was performed six years after the start of the study to clarify the further course (number of employment relationships degree of employment duration of employment salary). Results In

the first phase of the study the overall dropout rate was 32% (79 participants) with the dropout rates in both groups being similar. In the intervention group 40 new jobs were obtained (control group: 14). The highest employment rate during the course of the first phase of the study was 44% in the intervention group and 28% in the control group. 114 participants (46% of the original number of participants) took part in the follow-up survey. 36% of the members of the intervention group obtained a job vs. 33% in the control group. 36 There were no significant differences between the groups in terms of number of employment relationships degree of employment length of employment and salary in the follow up. Conclusions The effect of a clear superiority of the IPS intervention with regard to the number of employment relationships which was measured during the first phase of the study was only slightly detectable six years after the start of the study and up to four years after the end of the intervention and was no longer statistically significant. This result underlines the importance of continuing job coaching for an unlimited period of time as called for in the IPS concept in order to perpetuate the positive effects such as finding and maintaining a job in the primary labour market. IPS is effective for the vocational inclusion of individuals with mental disorders even if those persons receive a disability pension. It has effects also on psychopathology and quality of life. The placement-effect vanishes over the years when no further support is delivered. Thus IPS should be continued without temporal limits.

Sunday May 05

### **Investigating internalized mental health stigma among psychiatrists - are we our own worst enemy?**

Areeb Usmani MD; Cailin Weber; Oluwatoyosi Ogunlana; Mikelle Mikesell

The purpose of this study was to better understand the prevalence of internalized mental health stigma within the mental healthcare

community. Through understanding these stigmata the study aimed to identify barriers that may deter mental healthcare providers from personally seeking out and utilizing mental health resources. Additionally the objective was to discover how a personal history of mental illness and/or substance abuse among healthcare providers affected their ability to provide care in their given capacity. METHODS: This cross-sectional study collected data from mental healthcare providers using a self-assessment model with data collection from surveys. The survey included questions addressing mental health perceptions perceived stigma related to seeking mental health care and factors influencing their decision to access care. Additionally open-ended questions were included to allow respondents to provide qualitative insights into their experiences. The survey was distributed to Psychiatric residents and attendings throughout the U.S with an emphasis on distribution in the Midwest. 300+ surveys were distributed with the results of this study extrapolated from 31 completed surveys (the population included 13 resident physicians and 18 attendings). RESULTS: The results of this study included findings that helped to identify the stigma surrounding personally receiving a diagnosis and treatment as well as the possible requirement of disclosure of their mental illness. Of note over 1 out 4 stated that they were required to report a history of mental health illness for employment purposes and 28% of the total population felt pressure to not disclose a history of mental illness and/or substance abuse when applying for a residency/employment in the medical field. Additionally results included information regarding the perceptions of how having a personal history of mental illness can become either a detriment or benefit in providing mental health care to patients as a provider. 25% of respondents felt that having a personal history of mental illness was helpful and positively impacted their ability to provide mental health care to patients. The previous finding was in stark contrast to 29% of participants who reported said that they felt they likely met diagnostic criteria for a mental health disorder but did not seek treatment. CONCLUSION: Identifying and

addressing negative stigma related to mental health can improve acceptance of diagnosis and treatment. More research is needed to combat societal and internalized stigma assisting in identifying barriers to seeking care. This study identified the need to further investigate specific barriers to receiving treatment when a provider feels that they likely meet the diagnostic criteria for a mental health disorder. Additionally a study into the specific pressures to not disclose a mental health diagnosis and the consequences of said disclosure should be conducted.

**Sunday May 05**

### **Lost in Translation: How Language Interpretation Impacts Clinical Care of Psychiatric Inpatients – A Case Study and Literature Review**

Aashraya Ramu M.D.;M.B.B.S.; Frozan Walyzada

**Background:** We outline a case of a 32-year-old Bambara and Soninke speaking Mali female with a history of postpartum psychosis and depression who was admitted to inpatient psychiatry for command auditory hallucinations to hurt herself and others having allegedly tried to choke her 5-year-old son. The challenges of this case led us to appreciating the magnitude of the impact language has on patient safety. Language barriers arise when healthcare providers (HCP) and patients lack a shared native language which can adversely impact the quality of healthcare whilst furthering disparities among underserved populations. This effect is amplified in psychiatry where slight phrasing variations can suggest vastly different meanings. In the modern era of technological advancements language interpreters can be accessed in an instant but obstacles in care remain. **Methods:** We reviewed articles published within the last 5 years and a search was conducted using Levy Library PubMed and Google Scholar with terms such as “language” “barriers” “psychiatry” and “patient

safety” included in various combinations. A total of 6 papers were selected based on research focuses pertaining to language barriers and patient safety. **Results:** The literature consensus is that language barriers can result in life-threatening adverse events and in fact compromise efficiency and quality of care. While cost burden of language barriers increased patient and provider satisfaction decreased. Improved patient experience and well-being occurred when a language barrier was promptly recognized and a certified interpreter or language-concordant provider was employed. For our patient we debated co-morbid diagnoses which impacted the psychopharmacological choices made. There were further complications as Child Protective Services was involved and there were legal ramifications for the patient’s actions. **Conclusion:** Our literature review and case study highlight the complexity and importance of language and its interpretation in psychiatry as it conveys the internal workings of a patient’s mind. Clinicians are cognizant of its profound impact on diagnostic approach and treatment trajectory. We hope to explore other alternatives that may be utilized when the standard services are unable to grasp the complexity of the case present.

**Sunday May 05**

### **LSD and Neuroplasticity: Epigenetic Anxiolytic and Metabolic Mechanisms**

John Echevarria M.D.; Quddarat Mushtaq; Osssama Naveed

**Objective:** To compile and analyze the field’s current understanding of the mechanism of LSD’s clinical effect with a focus on available data on the effects of LSD on neuroplasticity anxiety depression and its metabolic mechanisms in humans. **Background:** Lysergic acid diethylamide (LSD) has long been associated with profound alterations in consciousness and is currently being re-evaluated for its therapeutic potential especially in treating anxiety and

depression. However the underlying mechanisms are still not fully understood. **Methods:** We analyzed primary literature employing diverse methodologies including whole genome bisulphite sequencing proteomics profiling systematic reviews and in vitro assays to uncover the impact of LSD on DNA methylation protein expression anxiolytic effects and the metabolic process. **Results:** LSD modulates DNA methylation in the prefrontal cortex impacting neurotropic neurotrophic and neuroplasticity signaling. In conditions of stress repeated doses of LSD show anxiolytic effects potentially through enhanced serotonin neurotransmission and increased cortical synaptogenesis. No direct clinical studies were found on LSD for depression treatment though it's evident that other "classic psychedelics" like psilocybin and DMT have shown efficacy. LSD also metabolizes into several compounds with enzymes like cytochrome P450 playing a pivotal role. **Discussion:** LSD has a multi-faceted impact on the brain influencing epigenetic markers neuroplasticity and neurotransmission. Its metabolic pathways and the potential influence of genetic polymorphisms and drug interactions on its pharmacokinetics suggest a complexity in its mechanism of action. **Conclusion:** LSD shows promising therapeutic potential in the realm of mental health particularly for anxiety. A deeper understanding of its mechanisms at the genetic cellular and neural levels can pave the way for targeted therapeutic applications and safer clinical use. Further research especially direct clinical studies is imperative.

Sunday May 05

## **Mental Health Action Plan: A novel tool for mental health preventative care**

Kelly Kossen; David Galarneau M.D.

**Intro** A staggering one in 4 people will be impacted by a mental health condition in their lifetime (1). The idea of a health action plan is not novel; they are used in various other settings to

help maintain health and prevent crisis. One of the most well-known examples is the asthma action plan which is a simple personalized plan that has demonstrated success in promoting long-term wellness and avoiding escalation of the patient's symptoms or emergencies in the setting of asthma (2). In the field of psychiatry personalized plans have also shown benefit and in several studies suicide safety plans have exhibited efficacy in reducing suicidal behavior and ideation (3). **Design** This mental health action plan was designed to elaborate on suicide safety planning and incorporate prevention early intervention and maintenance of mental health. This planning is focused on daily maintenance behaviors and contingency plans for escalation of symptoms rather than being solely for crisis management and may be implemented in persons with or without diagnosed mental health conditions. The Mental Health Action Plan similar to its asthma counterpart is personalized to the patient including their particular strategies for health optimization. **Methods** The plan is to track utilization and efficacy via a website (<https://sites.google.com/view/mental-health-action-plan/home>) and survey. **Conclusion** This novel approach to mental health promotion early intervention and prevention may prove a helpful strategy for enhancing overall mental wellness of patients. It might have particular use in the outpatient setting where patients can engage with this type of planning.

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Sunday May 05

## **Meth vs Amphetamine: The True Nature of the Maligned Misunderstood Methylated Amphetamine – A Literature Review and Critical Analysis of the Data**

Abstract: The purpose of this literature review is to directly compare the pharmacologic profiles of d-methamphetamine and d-amphetamine.

Abbreviations: hMAT – human monoamine transporter; Ki – affinity for transporter ?Ki ? ?affinity; IC50 – concentration of drug required to inhibit MAT function by 50% ?IC50 ? ?reuptake inhibition potency; EC50 – concentration producing 50% of maximum neurotransmitter release ?EC50 ? ?release potency; A – d-amphetamine; M – d-methamphetamine.

Methods: A PubMed Google Scholar and PsychINFO literature review with keywords amphetamine methamphetamine DAT NET SERT 5-HT Ki IC50 EC50 and pharmacokinetics was conducted. A total of 13 studies were selected for A/M Ki IC50 and EC50 analysis in human cells with hMATs (12 - HEK 297 1 - human intestine 407). Ratios were calculated for each individual study then averaged. Only R-(+)-enantiomers of A and M were used. [N] specifies number of studies or articles used to calculate result. Results: A had 8.82x [3] and M had 2.34x [5] less affinity (Ki) for hDAT than hNET. M had 1.91x greater affinity (Ki) for hDAT and 2.93x less affinity (Ki) for hNET compared to A [2]. A had 11.76x [6] and M had 6.61x [5] lower uptake inhibition (IC50) for hDAT than hNET. M had 1.21x more potency in inhibiting hDAT neurotransmitter uptake (IC50) and 1.34x less potency in inhibiting hNET neurotransmitter reuptake (IC50) compared to A [2]. M was 3.77x less potent at inducing release of neurotransmitters (EC50) through hDAT than hNET [3] (no data for A). Average plasma half-life of d-M was 10.124 hrs [3] and 12.912 hrs for d-A [10]. Research with 3 Rhesus monkeys found d-A and d-M were equipotent in maintaining self-administration behavior in and 4x more potent

than L-(-)-A. Research in male Sprague-Dawley rats found following striatum DA release responses to (+)A and (+)M in rats (results format - mg/kg M nM\*min A nM\*min M/A ratio): 1 15420 15167 1.02; 2.5 71888 52156 1.38; 5 94310 104649 0.90; and concluded equimolar (+)A and (+)M administration results in equivalent drug brain levels and extracellular DA-efflux profiles in rat striatum. An in vitro model of the BBB found that both M (~5.9) and A (~5.75) (numbers represent permeability ratio Pe with ratio >3 = high permeability and >10 = very high permeability) had similar BBB permeability and were equally lipophilic. Conclusions: Both M and A have higher affinity for and more potent inhibition of hNET than hDAT (high confidence). M has higher affinity for and uptake inhibition at hDAT than A and A has higher affinity for and greater uptake inhibition at hNET (low confidence). A may have a ~2.788 hr longer plasma half-life than M (high confidence). Doses may be equipotent in regard to behavioral measures and DA release (low confidence). The extra methyl group in M may not confer more lipophilicity/BBB permeability than A (medium confidence). No research funding provided.

Sunday May 05

## **PALIPERIDONE 3-MONTH INJECTION IN VERY HIGH DOSAGES: CASE REPORTS**

Felipe Tavares M.D.

Introduction - Paliperidone Palmitate (PP3M) is a long-acting atypical antipsychotic prescribed for patients with Schizophrenia. The medication can be applied every three months. Objectives: to describe three clinical cases in which personalized psychiatry was applied and patients are being treated with high doses of PP3M. Case description: Male patient 42 years unemployed diagnosed with Schizophrenia according to ICD-11 since the age of 18. He used Haloperidol Chlorpromazine Risperidone Clozapine throughout his life. In 2013 he began using monthly Paliperidone Palmitate (PP1M)



initial dose of 150 mg/month (equivalent dose in the United States 234 mg). Due to a relapse the dose was adjusted in 2014 to a 150 mg syringe applied every 21 days. The patient remained stable until January 2020 when it was decided to migrate to PP3M with a 525 mg syringe (US equivalent to 819 mg) and a 263 mg syringe (US equivalent dose to 546 mg). Since then the patient has remained stable with no relapses or new hospitalizations and no adverse effects. Complementary tests carried out every 6 months since the start of treatment show no changes (renal function prolactin liver function metabolic functions). Second case: 39-year-old patient retired diagnosed with Schizophrenia since the age of 20. He has already received treatments with Risperidone Quetiapine and Clozapine throughout his life. In 2019 he started treatment with PP1M 150 mg (equivalent dose 234 mg in the USA). The dose of PP1M was adjusted to 150 mg every 21 days. In February 2021 the transition was made to PP3M 525 mg per pre-filled syringe (equivalent dose of 819 mg in the USA) with two applications being prescribed every 90 days. Since then the patient has remained stable without presenting adverse symptoms and his complementary tests requested every 6 months including serum prolactin measurement and renal function remain normal. Third case: 35-year-old patient lawyer diagnosed with Schizophrenia since the age of 24. He has already been treated with Aripiprazole Risperidone Quetiapine and Clozapine. In 2016 treatment with PP1M began initial dose of 100 mg adjusted after 3 months to 150 mg every 21 days due to the persistence of positive symptoms. In 2022 the drug was replaced by PP3M a dose of 525 mg per syringe with two syringes being administered intramuscularly on the same day (dose of 1050 mg – equivalent in the United States to 1638 mg) every 75 days. This dose was necessary for the patient to remain in remission. Complementary exams requested periodically revealed nothing abnormal since the patient started therapy. Conclusion – PP3M is an antipsychotic that can be applied every 75 days or 90 days and has proven to be effective and safe in this group of patients. It proved to be an interesting alternative for cases of refractory Schizophrenia.

Sunday May 05

## Potential Risk Factors Among Patients Developing Venous Thromboembolism While Admitted to the Dubé Centre for Mental Health

Katelyn Halpape BSP ACPR PharmD BCPP; Ryan Chan; Thuy Le PhD; Annabelle Wanson MD FRCPC

Background: Venous thromboembolism (VTE) is a common source of preventable morbidity and mortality among hospitalized patients. The incidence rate of VTE in psychiatric inpatients is not well defined and has been described as occurring in 2-25% of inpatients. Within the past 15 years the Dubé Centre for Mental Health (DCMH) clinical team has identified an ongoing trend of adult psychiatric inpatients developing acute VTE requiring urgent intervention during admission. This study aimed to identify risk factors associated with VTE development in psychiatric inpatients. Methods: A retrospective case-control chart review of patients admitted to DCMH from January 2007 to December 2021. Cases were identified through the inpatient hospital pharmacy software by screening for individuals aged 18 and older who received anticoagulation for VTE treatment. Controls were randomly selected from patients with a discharge diagnosis other than VTE. The selected case-to-control ratio was 1:4. Data was extracted coded and comprehensively analyzed using descriptive analysis univariate followed by multivariable logistic regression analysis to identify risk factors associated with VTE diagnosis. Results: A total of 32 cases and 159 controls were included. Case mean age was 52 years (SD 19.7) 65.6% (n=21) were female and 65.6% (n=21) had no previous VTE. Comorbidities including cancer cardiovascular conditions hematological-related diseases insomnia psychiatric-specific interventions such as electroconvulsive therapy and mechanical restraints and acute medical diagnoses were independently associated with developing VTE (AORs>1.00 p<0.05). Substance

use was significantly associated with decreased odds of VTE diagnosis (AORs=0.14 p<0.001). While causality cannot be inferred from case-control design the observed association may be due to the high prevalence of substance use among controls or the way substance use was reported. Conclusion: Psychiatric inpatients have unique risk factors that increase the likelihood of developing VTE. Point-of-care resources such as a VTE prophylaxis risk stratification tool targeting VTE prophylaxis for at-risk psychiatric inpatients could reduce patient morbidity and mortality. The University of Saskatchewan Interdisciplinary Summer Student Research Award and the Department of Psychiatry Laura E. Chapman and Alfred G. Molstad Trust Award financially supported this project.

Sunday May 05

### **Preclinical evaluation of a potential ADHD treatment: serotonin 1B receptor targeting in the heterozygous dopamine transporter knockout mouse model**

Raghad Elhag BS

Introduction: Dysregulation of dopamine and the dopamine transporter (DAT) function is widely implicated in attention deficit hyperactivity disorder (ADHD). Dopamine modulates attention working memory reward processing motivation and motor functions. While the homozygous DAT knockout (DAT -/-) mouse model exhibits several ADHD-like symptoms a full DAT knockout is not seen in ADHD. Subtler disruptions in DAT function due to genetic mutations are also associated with ADHD. Heterozygous mutations in the DAT +/- mouse model may better reflect the genetic factors contributing to ADHD. While stimulant drugs and atomoxetine have proven effective for some ADHD patients there is a pressing need for new non-stimulant treatment alternatives. Genetic variants in the serotonin 1B receptor (5HT1b) gene are linked to ADHD in humans.

Notably the 5HT1b antagonist SB 224289 has demonstrated potential in mitigating some ADHD-like deficits in the DAT -/- model although its effects remain underexplored. The validity of the DAT +/- mouse model was examined and used to assess the therapeutic potential of SB 224289 in ADHD treatment. Methods: Male and female DAT +/+ and DAT +/- mice were tested to evaluate the impact of a 20 mg/kg dose of SB 224289 on locomotor activity cliff avoidance reaction (CAR) and prepulse inhibition (PPI). Subsequently we evaluated the effects of atomoxetine (0 1 2 and 10 mg/kg IP) and SB 224289 (0 10 20 mg/kg IP) in tests measuring spontaneous locomotion and CAR. Lastly a modified version of the 5-choice continuous performance task (5-CCPT) assessed attention motor impulsivity and action impulsivity in male DAT +/- mice. After achieving stable performance mice were subjected to challenge sessions of different doses of amphetamine (0 0.3 0.66 and 1.5 mg/kg IP) or SB 224289 (0 10 20 mg/kg IP). Results: Our findings confirm that DAT -/- mice exhibit deficits in CAR and PPI with these deficits displaying sex-dependent patterns. Treatment with SB 224289 alleviated PPI and CAR deficits in female DAT -/- mice. Atomoxetine treatment reduced locomotor activity in DAT +/- and DAT -/- males and ameliorated CAR deficits in DAT -/- and DAT +/- males. Conversely SB 224289 treatment mitigated hyperkinesia in male DAT -/- mice and improved CAR deficits in both male and female DAT -/- mice. The 5-CCPT results demonstrated higher premature actions and time perception deficits in DAT +/- mice. Both amphetamine and SB 224289 mitigated these deficits. Conclusion: A critical objective in preclinical ADHD research is the exploration of non-stimulant therapeutic options. Our study highlights the potential of SB 224289 as a promising candidate for ameliorating ADHD-like deficits shedding light on the serotonin 1b receptor as a plausible target for ADHD treatment. Furthermore our data suggests that DAT +/- mice may effectively model essential aspects of ADHD offering a valuable avenue for identifying novel ADHD treatments.

Sunday May 05

## Psilocybin Use Among Individuals with Autism Spectrum Disorders: An Online Forum Analysis

Parisa Thepmankorn; Stephanie Ruthberg MD;  
Eric Jarmon DO

Background: Psilocybin the main psychoactive compound found in so-called “magic” mushrooms has garnered attention for its potential therapeutic applications in mental health conditions including treatment-resistant depression and substance use disorders [1]. Research suggests psilocybin use can cause acute perceptual changes and labile moods and may foster enduring increases in prosocial attitudes/behaviors in the general population [2]. However its effects on individuals with Autism Spectrum Disorders (ASD) especially for therapeutic purposes remain largely unexplored although literature offers preliminary evidence of beneficial effects of serotonergic psychedelics on individuals with ASD [3]. Our study aims to uncover the subjective effects of recreational and/or self-therapeutic psilocybin mushroom use in those with ASD using the internet-based discussion forum Reddit. Methods: A search on the Reddit subforum r/Shrooms was conducted using the terms "autism" and "autism spectrum disorder" yielding 157 posts. Exclusion criteria included: 1) did not describe subjective effects of psilocybin 2) did not report a medical diagnosis of ASD (e.g. self-diagnosis) or 3) described simultaneous use of other substances. 37 posts were included and 120 were excluded. Qualitative thematic analysis was performed on included posts to identify shared experiences of psilocybin use among individuals with ASD. Results: Among users that described predominantly positive effects (n = 26) the most prevalent were: increased self-reflection/self-acceptance of ASD (reported by 53.8%) decreased emotional/sensory overload (34.6%) enhanced sociability (30.8%) increased empathy (30.8%) increased feeling of connection to others or the world (30.8%) and greater understanding of others' expressions/body

language/social cues (19.2%) and increased openness to trying new things or deviating from routine (19.2%). Those with predominantly negative trips (n = 6) reported issues ranging from nausea and vomiting chills sensory overload release of repressed traumatic memories and residual effects. 5 (13.5%) posts reported no or limited psychotropic effects even after considerable psilocybin consumption (mean dose = 4.64g). Further 3 positive trip reports (8.3%) noted needing a high dose (?5g) to experience psychotropic effects. Discussion: The majority of individuals with ASD reported positive pro-social subjective effects after consuming psilocybin mushrooms. However some reported notable adverse effects and others required a larger-than-expected dose to experience its psychotropic effects. These variations underscore the need for careful consideration of psilocybin's effects on those with ASD a very heterogeneous population as it may not be universally beneficial. While promising additional research on psilocybin's safety and efficacy in individuals with ASD as well as factors for its therapeutic administration (e.g. dose setting) remains necessary."

Sunday May 05

## Psychiatric Co-morbidities of Patients with Somatic Symptom and Related Disorders in One Academic Health System

Katherine Wu; Elli Novatcheva M.D.; Daniel Thompson M.D.; Anne Stewart

INTRODUCTION: According to the Merck Manual somatic symptom and related disorders (SSRDs) are mental health disorders characterized by an intense focus on physical (somatic) symptoms that causes significant distress and/or interferes with daily functioning." SSRDs include but are not limited to somatic symptom disorder illness anxiety disorder and factitious disorder. Patients with these disorders may endure long-standing suffering from delayed diagnosis and treatment of their SSRD. This study examines various

psychiatric co-morbidities to help clinicians tailor therapeutic approaches to SSRDs. **METHODS:** We used the TriNetX Analytics database for the University of Virginia Health System to analyze 1.61 million patients seen between 2011 and 2023. The study cohort was defined as adult patients with a diagnosis from the SSRD family as labeled by the DSM-5. We were interested in how many patients had co-morbid diagnoses of anxiety disorders (F41) mood disorders (F30-F39) and personality disorders (F60 F21 F0.70) PTSD (F43.1) and various substance use disorders (F10-11 F13-18) that were active within a year of an active SSRD. **RESULTS:** The cohort with factitious disorder had the highest prevalence of personality disorders (20% or 20/100) substance use disorders (30% or 30/100) and mood disorders (70% or 70/100). The cohort with somatic symptom disorder had the highest prevalence of PTSD (10.2% or 30/290). The cohort with illness anxiety disorder had the highest prevalence of anxiety disorders (66.7% or 80/120). The prevalence of personality disorders in our total SSRD cohort during the TriNetX data collection period was 3.3% (220/6580) compared the lifetime prevalence of any personality disorder in U.S. adults (9.1%) according to the National Comorbidity Study Replication. The prevalence of personality disorder in factitious and somatic symptom disorder cohorts surpass this percentage (20% and 10.3% respectively). Unique to patients with illness anxiety disorder 50 of the 120 patients (41.7%) had body dysmorphic disorder. **DISCUSSION:** In the SSRD cohort there was a lower prevalence of personality disorders than found in general population. This result supports that somatization of psychological distress to a pathological degree should not be regarded as synonymous with a disruptive long-standing pattern of thinking. From our results patients with factitious disorder may more frequently have other psychiatric co-morbidities and require more intensive psychiatric care. Patients with illness anxiety disorder should be screened for body dysmorphic disorder to receive the evidence-based treatment for that disorder."

Sunday May 05

## Psychiatric Construct Validity of the Personality Assessment Inventory Borderline Scale (PAI-BOR) in Chemical Dependency Patients

John Lotfi M.D.; Sujith Maracheril M.D.; Saad Khan D.O.; Stephen Paravati

**Introduction:** We investigated the construct validity of the PAI-BOR scale with a sample of inpatient chemical dependency patients. We wanted to see how the borderline scale would relate to measures of interpersonal dependency impulsivity and psychological health as all three constructs have been linked in clinical literature. **Methods:** 275 patients being seen at a suburban medical center's inpatient 28-day chemical rehab consented to complete some assessment measures. The average age of participants was 34.09 years of age (SD=11.6). 75% were Caucasian 11.65 were African American 8.8% were Hispanic/Latino 0.6% were Asian and 3.7% responded as "other." The primary substance they were being treated for was: 34.2% opiates 32% alcohol 1.1% benzodiazepines 4.4% marijuana 20.3% multiple substances. As part of a larger assessment packet patients completed the Personality Assessment Inventory (PAI Morey 2007) Barrett Impulsivity Scale-11 (BIS-11 Patten et al. 1995) the Schwartz Outcome Scale-10 (SOS-10; Blais et al. 1999) and the Relationship Profile Test (RPT; Bornstein & Languirand 2003) a measure of interpersonal dependency. **Results:** The PAI-BOR scale positively correlated to the BIS-11 scales of attentional ( $r=.42$   $p<.001$ ) motor ( $r=.37$   $p<.001$ ) and nonplanning ( $r=.33$   $p<.001$ ) and the pathological dependency scales of the RPT (i.e. dysfunctional detachment ( $r=.18$   $p<.01$ ) and destructive overdependence ( $r=.39$   $p<.001$ )). The PAI-BOR scales were negatively correlated with healthy dependence ( $r= -.31$   $p<.001$ ) and psychological health and well-being ( $r= -.36$   $p<.001$ ). **Discussion:** Our results further extend the validity of the PAI-BOR scale as it is related in predictable ways to constructs such as interpersonal dependency impulsivity and

psychological health. The use of such measures is helpful for treatment planning when treating chemical dependency.

**Sunday May 05**

## **PSYCHIATRIC THERAPEUTICS IN THE BEGINNINGS OF PSYCHOPHARMACOLOGY MODERN: The case of the Toén Psychiatric Hospital (Ourense) and other centers in Gali**

Beatriz Rodríguez Rodríguez; David Simón-Lorda; Nabonazar Navarro; Paula Martínez Gimeno

**Objective:** This work intends to make a summary of the evolution of psychiatric therapeutics and the revolution occurred with the introduction of psychotropic drugs in Galician psychiatry.

**Material and methods:** we have reviewed the bibliography on the history of psychiatry and the development of psychiatric therapy as well as the evolution and development in Spain and specifically in Galicia by means of the use of magazines and newspapers of that time. On the other hand the clinical histories of the 1950s and 1960s of the Conxo asylum and the database of some admissions and the pharmacy sheets of the Toén psychiatric hospital has been consulted.

**Results:** In 1952 the first antipsychotic chlorpromazine was commercialized in France. According to our sample it was already being prescribed in private psychiatric clinics in Galicia since 1955. Until 1958 the therapies used in Conxo's asylum were barbiturates insulin therapy and electroshock. From 1958 onwards the first antipsychotics were introduced: chlorpromazine reserpine and haloperidol. In the following decade the use of a wider range of psychotropic drugs increased while the indications for the electroconvulsive therapy became more restrictive and insulin therapy fell into disuse in 1966. The Toén sample record the use of psychotropic drugs since its opening in 1959 and ETC and insulin therapy were also implemented

although to a lesser extent. **Conclusions:** The introduction of psychopharmaceuticals represented the Fourth Psychiatric Revolution and over the years it allowed the deinstitutionalization of a large number of patients. In Galicia there are data showing that psychotropic drugs were already implemented during the 1950s evidencing their early introduction in the public and private community's asylums. **Key words:** history psychiatric therapeutics psychopharmaceuticals antipsychotics Galicia

**Sunday May 05**

## **Re-visiting the Association of Antidepressant Use and the Risk of Lung Cancer: A 10-year Retrospective Observational Cohort Study**

Ching-Fang Sun M.D.; Anita Kablinger

**Background:** Several observational studies raise the concern of possible correlations between the use of antidepressants and increased risks of lung cancer. However existing studies are limited with small sample size unadjusted covariates especially smoking status unclear antidepressant exposure duration and short follow-up period. Antidepressants are commonly prescribed for various psychiatric conditions and their safety profiles significantly impact treatment adherence. Therefore the association between antidepressant prescriptions and lung cancer needs to be meticulously evaluated. **Methodology:** We conducted a retrospective cohort observation by analyzing deidentified patient information between 2013-2023 on the TriNetX database. The study cohort was defined by individuals aged 18-65 with anxiety disorders (International Classification of Diseases-10-CM ICD: F40-49) and/or mood disorders (ICD: F30-39) who had at least 12 antidepressant prescriptions prior to the follow-up period. The control cohort was defined by individuals aged 18-65 with anxiety disorders and/or mood disorders who had no previous antidepressant exposure. We excluded individuals with any history of lung cancer (ICD: C34) or



nicotine exposure (ICD: F17.2 T65.2 Z57.31 Z71.6 Z72.0 Z77.22 Z87.891) prior to the index event. The study cohort was propensity-score matched with the control cohort at a 1:1 ratio by age sex race and ethnicity. Outcome was defined as any type of lung cancer. We performed logistic regression to obtain the odds ratio followed by subgroup analysis. We performed analysis with the same logic to individuals with a history of nicotine exposure. We did not analyze MAOIs for both smokers and non-smokers due to limited sample size. Result: A total of 232884 non-smoking patients were identified and matched for analysis. Long-term antidepressant prescriptions were related to decreased lung cancer risk during the 10-year follow-up period (Odds ratio [OR]=0.56 95% CI=0.43 0.73). Subgroup analysis in non-smokers showed decreased risk in the SSRI group (OR=0.50 95% CI=0.33 0.77) and no risk difference in the SNRI group (OR=0.78 95% CI=0.39 1.56). Long-term antidepressant prescriptions in smokers were related to decreased lung cancer risk as well (OR=0.83 95% CI=0.71 0.95). Subgroup analysis in smokers showed decreased risk in the SSRI group (OR=0.72 95% CI=0.57 0.92); no risk difference in those taking SNRIs (OR=0.78 95% CI=0.52 1.17) bupropion (OR=0.64 95% CI=0.37 1.13) trazodone/nefazodone (OR=0.63 95% CI=0.36 1.12) or TCAs (OR=0.76 95% CI=0.37 1.58). Conclusion: Long-term antidepressant prescriptions are not associated with increased lung cancer risk in both non-smokers and smokers. Clinicians can reassure patients who have concerns about the correlation between antidepressants and lung cancer. We did not receive any funding for this study.

Sunday May 05

## Rising Popularity of Synthetic Cannabinoids and Risk of Psychotic Disorders

Ankita Vayalapalli; Rishab Chawla; Brian Miller M.D.

Background: Delta-8 Tetrahydrocannabinol (delta-8 THC) was legalized under the Agricultural Improvement Act of 2018 also known as the Farm Bill and is now publicly available to individuals age  $\geq$  21 in the United States (US) sanctioned by the Federal Drug Administration (FDA) and is not a prescription drug. Cannabis use is a risk factor for psychotic disorders including schizophrenia. We explored the rising popularity of delta-8 THC and other synthetic cannabinoids in comparison to cannabis in order to understand the impact of synthetic cannabinoids. In the future the goal is to mitigate the risk of psychosis and development of schizophrenia as delta-8 THC and other synthetic cannabinoids are widely available and easily accessible substances. Methods: A Google Trends analysis was conducted using the search terms "Delta-8 Tetrahydrocannabinol" "Cannabis" "Delta-9 Tetrahydrocannabinol" "Psychosis" and "Schizophrenia" for the time period 2017-2023. Trends were further analyzed by subregions of the US specifically looking at search output by states. Furthermore a systematic literature review was conducted using PubMed using the search terms "Cannabis" "Delta-8 THC" "Delta-9 THC" "psychosis" and "schizophrenia". Results: Searches for delta-8 THC and delta-9 THC have risen significantly in the past 5 years with a 400% increase in search term popularity between July 2020 and August 2023. The search term "psychosis" experienced a concurrent peak in January 2022 with a similar subregion profile breakdown. In addition the search terms "delta-8 THC" and "delta-9 THC" were most popular in states that do not have legal non-prescription cannabis such as Tennessee Georgia and Alabama. From the literature review delta-8 THC is a partial agonist at the cannabinoid CB1 receptor and possesses cannabimimetic activity. Due to the lower dose of the cannabinoid as regulated by the FDA and the reduced activity at the CB1 receptor the risk of psychotic disorders is theorized to be reduced; however its risk warrants further study. Conclusion: The legalization of synthetic cannabinoids implores the need for further evaluation of its psychiatric effects. The popularity of related searches has drastically risen in the past 5 years. Due to the mostly analogous chemical structure of delta-8 THC to naturally

occurring THC compounds and the partial agonist activity at the CB1 receptor the impact on psychosis risk warrants further study.

**Sunday May 05**

### **Risk factors for thromboembolism in patients on chronic antipsychotics**

Katherine Wu; Jason Shugoll; Catherine Zisk

**Background** Patients on chronic antipsychotics are at elevated risk for thromboembolism due to several associated factors: decreased mobility and sedentary lifestyle as a consequence of barriers placed by the mental illness hypercoagulability resulting from the antipsychotic's action and presence of medical comorbidities often leading to polypharmacy. We now present three cases of pulmonary embolism (PE) occurring in patients on antipsychotic medication. **Cases** Mr J is a 33-year-old male who was admitted for depression and psychosis. He was initially started on aripiprazole and escitalopram with good response but self-discontinued treatment after discharge. The patient was then started on oral paliperidone with a plan to transition to the long-acting injectable given this concern for compliance. Fifty-three days after the injection he returned to the hospital with dyspnea and was diagnosed with bilateral PEs. Ms. C is a 66-year-old female with Bipolar I Disorder who was stable for many years on quetiapine venlafaxine and aripiprazole. She was found to be an ultra-rapid metabolizer of these medications and required high doses of psychotropic medications to achieve response. She was also on transdermal estrogen started many years earlier for mood symptoms in the peripartum period. Ms. C similarly presented with dyspnea and was found to have multiple subsegmental PEs on imaging. Ms. K is a 48-year-old female with schizoaffective disorder managed with clozapine clonazepam and trazodone. She presented to the hospital with delusional thought content and command auditory hallucinations. Her exam was notable for

rigidity torticollis and amblyopia. She was diagnosed with decompensated schizoaffective disorder with catatonic features. Haloperidol and lorazepam were administered to manage her symptoms but ~12 hours later she developed hypotension hypoxia and unilateral calf pain; imaging confirmed saddle PEs. **Discussion** Early studies demonstrated a heightened risk of PE with clozapine and this risk was expanded to haloperidol risperidone prochlorperazine amisulpride and olanzapine shortly after. A recent systematic review of 28 studies confirmed an increased risk for thromboembolism in antipsychotic users compared to non-users. One proposed mechanism implicates dose-related increases in prolactin levels. Through antagonism of the D2 receptors in the hypothalamic tuberoinfundibular system and on pituitary lactotrophs prolactin levels increase. Studies suggest prolactin may increase production of coagulation factors and enhance platelet activation. There are additionally many genetic and acquired risk factors for developing this complication including recent surgery immobilization hormone therapy malignancy obesity and heavy tobacco use-- as implicated in the cases above. Regardless of etiology it is important to weigh these risk factors when initiating treatment with an antipsychotic and address modifiable factors to mitigate risk.

**Sunday May 05**

### **Should we be prescribing stimulants to patients with multiple sclerosis? A case report of stimulant-associated psychosis**

Hailey Kindt BS

Multiple sclerosis (MS) is a chronic demyelinating disease of the central nervous system that can present with various neuropsychiatric manifestations including "cognitive fog" which is a term used to describe the various cognitive processes such as attention and concentration that may be slowed in patients with MS. Stimulant medications have been shown to improve

processing speed and fatigue in patients with MS and are therefore often prescribed in this population. Psychosis is another psychiatric manifestation reported in MS with possible etiologies suggesting the role of enhancing lesions use of corticosteroids for acute flare treatment or disease-modifying therapies. Stimulants have been shown to trigger or worsen psychosis in individuals with underlying psychiatric disorders. However there is no known link between stimulant use and psychosis in a demyelinating disease such as MS. We present a case of a 53-year-old woman with secondary progressive MS (maintained on ocrelizumab) and cognitive fog symptoms who presented to the inpatient psychiatric hospital for worsening delusions. She was hospitalized on the medical floor four weeks before admission for an acute exacerbation of MS and received a course of corticosteroids. Upon relative stabilization of her psychosis with aripiprazole her home stimulants were resumed to treat MS-related fatigue and inattention. She experienced an emergence of psychotic symptoms in association with both immediate-release and extended-release forms of methylphenidate and modafinil with prompt improvement of symptoms upon discontinuation in an apparent on-off phenomenon. Due to their ability to increase dopamine some argue for avoiding stimulants in patients vulnerable to schizophrenia or those with bipolar disorder as they can provoke psychosis and mania/hypomania respectively. However there is a lack of literature regarding the safety of stimulant use in patients with MS. Steroid-associated psychosis usually occurs within a week of treatment and underlying pathophysiology may be related to increased dopaminergic activity. Our patient's hospitalization for psychosis was preceded by hospitalization for an acute MS exacerbation where steroids were prescribed raising the question about the roles of demyelination and steroids in potentiating the effects of stimulants. Although the generalizability of our results is limited due to this being a single report one might be cautioned to prescribe stimulants for cognitive symptoms in a patient with MS especially those with MS-related psychosis or a separate psychotic disorder.

Additional research is needed to assess whether certain medications for mental fatigue are more tolerable for these individuals. In conclusion stimulants are commonly used treatments for MS-related cognitive dysfunction inattention and mental fatigue. However caution is warranted as they may be associated with psychosis in this population.

**Sunday May 05**

### **Social connections for mental health recovery during shelter-in-place: A prescribing-oriented qualitative study of patient perspectives**

Angela Song MD MPH; Tiffany Chao M.D.; Honor Hsin M.D. Ph.D.

Background: Social isolation imposed during the shelter-in-place period of the COVID-19 pandemic has introduced risks of loneliness to many individuals especially those that rely on social networks for mental health recovery and wellness.(ref 12) A potential role for “social prescribing”--the referring of patients to community supports--to combat this health risk has become increasingly recognized and adopted within healthcare systems (3). Here we sought to understand how patients receiving care in an outpatient mental health clinic experienced changes in social interactions during the shelter-in-place period to better identify gaps in social needs and opportunities for social prescribing that may arise in future pandemics.

Methods: Semi-structured phone interviews were conducted with 12 participants engaged in mental health care at Kaiser Permanente San Jose Adult Psychiatry clinics. Patients aged 18-44 years who had at least one mental health appointment (virtual or in-person) over the previous 12 months were eligible. Interviews were transcribed and thematic analysis was utilized to identify themes that can inform future ways to support patients with social needs. Results: The sample

consisted of 66% female and 33% male participants between the ages of 21 to 44 who received services including outpatient medication management outpatient therapy and/or outpatient group therapy. Analysis revealed two overlying themes of (a) specific factors that influenced the social experience during shelter-in-place and (b) specific types of social interactions that participants felt were important to their mental health and wellbeing. In the first theme factors that affected the social experience included (1) the health concerns of COVID-19 (2) participants' baseline socialization patterns (e.g. degree of introversion/extroversion) and (3) the use of electronic and social media communication channels. In the second theme specific functions of social interactions identified included those centered around (a) physical needs (b) emotional needs (c) mentorship/advice (d) community connection. Many supports served more than one function during shelter-in-place. Many participants cited perceived community connection as a particularly important element in their mental health recovery Conclusion: These themes highlight key contributors to the social experience of the shelter-in-place period for individuals in mental health recovery and inform ways that we can structure social prescribing practices to better assist the needs of patients.

**Sunday May 05**

### **Substance Use Along the Spectrum of Borderline Personality Disorder: A Descriptive Analysis**

Ethan Faries

**Objective** Patients diagnosed with Borderline Personality Disorder (BPD) frequently have one or more co-occurring Substance Use Disorders (SUD). While this comorbidity has been noted the relationship between BPD traits and severity of substance use is not well understood. This study examined the prevalence of substance use in

patients with different degrees of BPD symptomatology. **Methods** In this cross-sectional study adults from a single site (n=1335 Male= 721 Female= 614 Mean age= 37.5 SD= 16.4) were screened for BPD using the Standardized Clinical Interview for the DSM-V (SCID) and grouped as not having BPD traits (n=552) some BPD traits (n=563) and full BPD criteria (n=220). Level of substance use was measured using the World Health Organization Alcohol Smoking and Substance Involvement Screening Test (WHO-ASSIST) giving an overall score and sub-scores for 10 different substances. Differences in substance use severity across the three groups were assessed using the Kruskal-Wallis test. **Results** We found significant differences across the three groups with regards to overall substance use score with mean ranks of 532.86 for no BPD traits 653.32 for some BPD traits and 705.28 for full BPD criteria (p= <.001 H= 46.418 df=2). There were also significant differences among groups for the sub-scores regarding the use of cannabis (p< .001 H= 94.714 df= 2) tobacco (p< .001 H= 32.489 df= 2) alcohol (p< .001 H= 21.218 df= 2) cocaine (p< .001 H= 30.063 df= 2) amphetamines (p< .001 H= 25.262 df= 2) inhalants (p< .001 H= 25.877 df= 2) hallucinogens (p< .001 H= 34.105 df= 2) opioids (p= .004 H= 11.031 df= 2) and sedatives (p= .041 H= 6.391 df= 2). **Conclusions** The results of this investigation reveal a stepwise relationship between severity of overall substance use and BPD symptomatology. This relationship also extends to the use of 10 specific substances. Further research should seek to characterize the pathophysiology of comorbid BPD traits and substance use.

**Sunday May 05**

### **The association between benevolent childhood experiences and postpartum depression: a literature review**

Meredith Nastruz; Katayun Fethat; Jonathan Terry

**Background:** Adverse childhood experiences (ACEs) are a common 10-item composite among

the mental health community known to positively correlate with risk of morbidity and mortality into adulthood. Benevolent childhood experiences (BCEs) are a similar 10-item measure alternatively grading positive experiences in terms of safety security and close attachment leading to a strong negative correlation between BCEs and adult psychopathy. One future application of BCEs can be helping the 1 in 8 women who give birth and experience depressive symptoms peripartum. This literature review aims to analyze the efficacy of using BCEs to predict pregnant women's risks of postpartum depression. **Methods:** We performed a systematic literature search with the phrases "BCEs" "benevolent childhood experiences" "pregnancy" "postpartum depression" "postpartum" and "peripartum." Studies were included if they investigated the correlation between BCEs and pregnancy and excluded if published outside of January 2018- August 2023. **Results:** Four studies were identified in this search that were published within this topic area and timeframe all finding a significant negative correlation between BCEs and maternal distress after birth specifically but not limited to postpartum depression. Roughly 500 women were included across these studies leading to the consistent conclusion that BCE scores were significantly negatively correlated with postpartum depression even when controlling for level of antepartum depression. The HiTOP model was constructed by comparing the scores of 292 pregnant women's ACEs BCEs Personality Inventories-brief form from the DSM-5 baseline emotional measures substance use a personal report of behaviors and a survey of negative life events during the time of pregnancy. This model is found to strongly correlate with both ACEs and BCEs and can use each of these factors to better predict her psychopathology during the time surrounding childbirth. **Conclusion:** BCEs have been shown repeatedly in these new studies to be protective in postpartum depression. Although there are few studies in this correlation this review demonstrates that adding BCEs to the screenings during pregnancy will aid physicians in anticipating women's needs for adverse events peripartum especially but not only postpartum depression.

**Sunday May 05**

### **The Efficacy of GLP agonists in psychiatric illnesses: A scoping review**

Mohsan Ali MBBS; Ayesha Ahmed; Basim Ahmed Khan M.D.; Syeda Taleha Shah MBBS; Sadiq Naveed

**Background:** GLP-1 receptor agonists (GLP-1 RA) are mainly used as antidiabetic drugs due to their insulin secretagogue action and glucagon suppression. Their role is not limited to the endocrine system as GLP-1 receptors (GLP-1R) are expressed across various parts of the CNS including the hypothalamus neocortex hippocampus and cerebellum. This makes GLP-1RA a probable tool against neurodegenerative diseases. This scoping review aims to explore the efficacy of GLP-1 receptor agonists across various psychiatric disorders. **Methods:** A comprehensive literature search was performed using terms related to GLP-1 receptor agonists and psychiatric disorders on five electronic databases namely PubMed Web of Science Scopus clinicaltrials.gov and PsycNet. The authors conducted a title and abstract screening followed by a comprehensive screening of the full texts. We included twenty original articles to extract the final results of the review. **Results:** GLP-1 receptor agonists showed efficacy in reducing heavy drinking days and alcohol-use disorders. Several studies demonstrated that GLP-1 agonists significantly improved depressive symptoms but there was only one study that clearly refuted this evidence. Liraglutide showed a reduction in obsessive food-related thoughts compulsive eating and aggression in Autism. However no improvement was observed in cocaine use disorder dementia or neurocognition and psychosocial function in schizophrenia. Limited data supports their effect on anxiety and cognitive functioning in dementia. Nausea indigestion weight loss and dizziness were some of the adverse effects noted in the included



studies. Conclusion: The results of this review show a positive effect of GLP-1 agonists in depression alcohol use disorder and compulsive eating in Autism. There was no improvement observed in dementia cocaine use disorder and psychosocial function in schizophrenia. The evidence for the use of GLP-1 agonists in psychiatric disorders needs to be explored in future studies especially large-scale and well-designed randomized controlled trials. The authors of this study have no financial conflicts of interest to disclose.

Sunday May 05

### **The Experience and Interplay of Grief Burnout and Depression amongst Pediatric Residents: Results from a National Survey**

Morgan Nakatani; Gregg Robbins-Welty; Connie Scoggins; Anthony Galanos

Background: Pediatric residents are exposed to distressing clinical encounters throughout training. In the current literature there is little exploration of the impact of these encounters on grief burnout and depression. We conducted a national survey of pediatric residents to characterize their experiences and the association between grief burnout and depression among trainees. Methods: In a cross-sectional study we distributed an anonymous questionnaire created with Qualtrics online software to pediatric residents and collected sociodemographic quantitative and qualitative data. Pediatric residents were contacted through residency program directors with e-mails obtained through the Fellowship and Residency Electronic Interactive Database Access System (FREIDA). Grief burnout and depression were measured with the Traumatic Grief Inventory Self-Report (TGI-SR) Maslach Burnout Inventory (MBI) and Patient Health Questionnaire-9 (PHQ-9) respectively. Results: A total of 138 participants opened and started the survey. 35 participants completed the

grief burnout and depression scales (25.4%). 34 participants were current pediatric residents (97.1%). 24 residency programs were represented. 23 participants were female (65.7%). 48.6% of participants reported ages between 30 to 35 years old and 42.9% reported ages between 25 to 30. TGI-SR scores averaged 13.5 (SD=12.5; Range=0-55). No responses met the criteria for pathologic grief (TGI-SR>61). MBI scores averaged 29.4 (SD=7.46; Range=12-42). 24 respondents met the criteria for clinically significant burnout (scores>27; 68.6%). PHQ-9 scores averaged 6.77 (SD=6.00; Range=0-25). 14 participants met the criteria for mild depression (scores 5-9; 40.0%). 2 participants met the criteria for moderate depression (scores 10-14; 5.71%) while 5 participants reported moderately severe or severe depression (scores 15-27; 14.3%). Conclusion: Pediatric residents experience marked grief burnout and depression. The majority of surveyed residents reported clinically significant burnout and mild to severe depression. Rates of burnout were higher in our cohort (68.6%) compared to previously published rates amongst pediatric residents (54% in 2018). Notably there was a low survey completion rate of 25.4%. This rate may have been due to the long survey length which was necessary to collect comprehensive data surrounding grief burnout and depression and is rare in the current literature. In addition emotionally burdensome content of the survey and lack of compensation may have limited responses. Interestingly most participants who completed the survey were 30 to 35 years old perhaps suggesting that older trainees have increased willingness to complete comprehensive surveys. Future studies should not only aim to identify protective factors and strategies but also ask pediatric residents which interventions if any would be helpful to mitigate grief burnout and depression throughout training.

Sunday May 05

### **The Relationship Between Kratom Use and Worsening Psychotic and Manic**

## Symptoms: A Comprehensive Review of Cases and a Hospital Case Report

Brittany Griffin M.D.; Saeed Ahmed MD; Lauren Harbaugh

**Objective:** Kratom use has been associated with the worsening of psychotic and manic symptoms yet current research is limited to case reports and case series. The purpose of this review is to synthesize and critically evaluate the existing literature on Kratom use and its association with psychotic and manic symptoms to identify potential areas for future research and to contribute a case from our hospital to improve understanding of the risks associated with Kratom consumption in vulnerable populations.

**Methods:** Six studies were found using keywords related to kratom mania and psychosis in five major databases PubMed Scopus Google Scholar Web of Science and PsycINFO. Additionally we present a case from our hospital. Eligibility criteria included English language case reports or case series describing kratom-induced mania or psychosis and sufficient details on kratom use. Data synthesis was conducted narratively focusing on patient demographics clinical features risk factors and treatment interventions.

**Results:** This paper analyzes 11 cases involving Kratom use from previous publications and a case from our hospital. The ages of patients ranged from 18 to 65 years with a median age of 35 and a majority of them were male (8 out of 11). These patients had different durations of Kratom use ranging from 2 weeks to 15 years. Our study found a significant association between Kratom use and the worsening of psychotic and manic symptoms in individuals with psychiatric conditions. We observed that Kratom use could trigger psychosis and mania in individuals vulnerable to psychiatric disorders. The patients received different types of treatments across the studies which included antipsychotics mood stabilizers and inpatient psychiatric care as well. Most patients had a reduced or complete resolution of symptoms; some returned to baseline functioning.

**Conclusions:** The case reports or case series included in this paper have inherent limitations. However our research highlights the possibility of

co-occurring disorders in the context of pre-existing psychiatric conditions and kratom use. Similarly this study underscores the need for clinical evaluation of drug use ( kratom in this case) in those with psychiatric conditions as illustrated by the case study we presented from our personal experience. Additional research is required to gain a more comprehensive understanding of the potential mental health implications of kratom use especially among populations more vulnerable to its effects.

Sunday May 05

## The Significance of Suicidal Behaviors in Mental Health

Nuria Laherrán Third-year psychiatry resident; Roberto Palacios-Garrán Doctor of Medicine in psychiatry; Elena Morales Vega resident doctor in psychiatry; Amelia Vazquez Vazquez resident doctor in psychiatry; Marta Corchete Clinical psychologist

Suicide is a significant global public health issue and one of the major challenges in mental health policies. Suicide generally occurs in the context of a psychiatric disorder. More than 90% of suicide victims have a diagnosable psychiatric illness and most individuals who attempt suicide have a psychiatric disorder. The assessment of suicidal ideation is a priority in psychiatric patients. The expression of suicidal ideation in psychiatric patients should prompt secondary prevention strategies to reduce their substantial increase in the risk of suicide. The aim of this study is to understand the frequency and characteristics of these behaviors in order to design specific interventions. To achieve this data on the urgent care of suicidal behaviors at the University Hospital of Jerez de la Frontera during the first quarter of 2023 were collected with 187 interventions registered from January 1st to March 31st 2023 of which 60% were women. 54% of the users had a history of mental health issues with borderline personality disorder being the most

common diagnosis. Only 13% had a family history of mental health issues. 68.5% of the patients denied the use of illegal drugs. "Parasuicidal behavior" was the most frequent occurring in 56% of cases followed by passive death ideation (33.2%) suicide attempts (6.4%) and overt suicidal ideation (2.7%). The SAD scale was used in 179 out of 187 evaluations conducted. The most frequent scores on the SAD scale fell in the range of 2 to 3 (moderate risk) with scores higher than 3 observed in cases of suicide attempts with a score of 5 being the most common in these cases. The predominant response to the evaluated behavior was referral to outpatient care (58.6%) followed by hospitalization (11%) and referral to primary care (11.3%). Overall the data suggests the need for a comprehensive approach to the prevention and treatment of suicidal behaviors which includes early identification of risk factors and the availability of accessible mental health services. Given that a previous suicide attempt is the primary predictor of future suicidal behavior clinical management of individuals who have attempted suicide is crucial for reducing mortality. It is also important to continue researching the specific factors contributing to these behaviors in the studied population."

Sunday May 05

### **The Use of Antidepressants in Restless Legs Syndrome: Clinical Pearls for the Psychiatrist**

Randall Li; Liliya Gershengoren

Background: Restless Legs Syndrome (RLS) is a condition characterized by discomfort that primarily affects the legs improves with movement and worsens in the evening. Depression is a frequent psychiatric co-morbidity in patients with RLS and the association is clinically relevant. Some case studies suggest that antidepressant (AD) treatment may promote RLS symptoms but the current evidence is contradictory.

Consultation-liaison psychiatrists are frequently asked whether AD should be discontinued started or modified in RLS patients. A structured framework will help standardize management for patients with RLS who present with depression or who develop RLS while on AD treatment. Methods: We conducted a literature review using PubMed to identify studies assessing the association of AD treatment and RLS. Results: There are no obvious mechanisms by which most AD classes could cause or worsen symptoms of RLS. Some systematic studies have shown no statistically significant association between RLS and any specific class of AD while others have shown improvement in preexistent RLS symptoms after starting AD treatment. A prospective observational study demonstrated that AD-induced RLS may exist but that pure SSRIs and SNRIs carry an average risk of 5% for inducing or exacerbating RLS. RLS occurred early during the course of AD treatment at a median of 2.5 days. Mirtazapine is an outlier and lead to 28% of patients developing RLS symptoms. In one randomized controlled trial bupropion did not appear to exacerbate symptoms of RLS. Discussion: Patients should be evaluated on the first visit following AD initiation for new or worsening RLS symptoms. In the absence of deterioration it is unlikely that symptoms of RLS will emerge. If the patient endorses mild symptoms of RLS consider continuing the medication given the high likelihood of abatement. If symptoms are intolerable it is reasonable to switch to another AD because the probability that RLS recurs with the new drug is low. Patients initiated on Mirtazapine are at heightened risk of RLS relative to other ADs and should be monitored. Bupropion was not found to exacerbate RLS symptoms and could be a good choice for RLS patients with depression. Conclusion: The development or deterioration of RLS on AD treatment is uncommon. When AD-induced RLS occurs it is usually within the first days of treatment. If RLS symptoms persist and are intolerable the patient may be switched to an alternative AD because the probability of recurrence is low. Bupropion may be a reasonable choice for management of depression in RLS patients given targeted treatment of nighttime

dopamine deficiency and no reported exacerbation of RLS symptoms.

**Sunday May 05**

### **Ventricular bigeminy after initiation of olanzapine**

Rubab Islam; Laura Rodriguez-Roman

Antipsychotic medications are known to have a cardiac effect most notably prolongation of the Qt interval. Some antipsychotics such as the phenothiazines and quetiapine have been reported to induce other changes including premature ventricular contractions however this has not been documented with the use of therapeutic doses of olanzapine. A woman in her 40s with no known cardiac history was admitted to the inpatient psychiatric hospital with symptoms of mania and psychosis presented with paranoia and agitation. She was started on olanzapine 5mg nightly and two days later increased to 10mg nightly which led to clinical improvement in symptoms. A baseline EKG on admission revealed a Qtc of 491. For this reason two days after titrating to 10mg of Olanzapine a repeat EKG was performed for monitoring of the Qtc interval. The repeat EKG revealed new ventricular bigeminy with sinus tachycardia patient was asymptomatic and hemodynamically stable at the time. Electrolytes including potassium magnesium and phosphorus were noted to be within optimal range patient was on no other high-risk medications and urine drug screen had not revealed any substances. After consulting with family medicine olanzapine was discontinued to assess if this was the cause. The following day repeat EKG showed complete resolution of the ventricular bigeminy and tachycardia. This case highlights the importance of appreciating electrophysiologic cardiac effects of antipsychotics beyond just Qtc prolongation. Though in this case the patient was asymptomatic long-standing ventricular bigeminy and premature ventricular contractions can lead to future complications such as increased risk of

developing atrial fibrillation. If there are other feasible medication options the offending agent should be discontinued to avoid long-term effects. Further studies may be needed to determine if the effect is dose-dependent.

**Sunday May 05**

### **Weight Loss with a Side of Psychosis: A Comprehensive Review of the Literature on Phentermine and Practical Recommendations**

Roshnai Bhowal M.D.; Victoria Garofalo; Kate Wester

Background: Phentermine is a sympathomimetic amine commonly prescribed for weight loss in obese individuals with a body mass index  $\geq 30$  kg/m<sup>2</sup> in the presence of other comorbid conditions. Scarce literature is available on the potential psychiatric side effects of Phentermine misuse and dependence. Objectives: This study aims to discuss the dose and time-related effects of Phentermine use in the development of psychiatric symptoms including psychosis paranoia and schizophrenia. Methods: Data pooled from scientific articles related to Phentermine use and induced psychiatric symptoms. Results: Published cases of Phentermine-induced psychiatric symptoms were reviewed ranging in age 23-52 and included 7 females and 2 males. The medication was used for weight loss per FDA direction but also misused for improving athletic performance and recreational use. The most common symptoms reported include persecutory and paranoid delusions agitation auditory hallucinations and argumentative behavior which commonly develop after 1-2 weeks of use and are resolved upon drug cessation. However in patients who continued to take Phentermine psychotic symptoms progressively worsened. Patients whose symptoms had a longer latency were reported to have more severe psychotic symptoms making

them a danger to themselves and others.

**Discussion:** Before prescribing Phentermine for weight loss physicians have an obligation to evaluate and investigate a psychiatric history as the medication may risk exacerbating existing conditions. Patients with eating disorders body dysmorphia or those who participate in high-level sports may have an increased tendency to abuse weight loss medications. Our analysis shows that psychiatric symptoms worsen with increased dosing and duration of use. The main positive symptoms of Phentermine-induced psychosis include persecutory and paranoid delusions and auditory hallucinations. This brings into question whether patients with underlying personality disorders such as paranoid personality disorder are at a higher risk of developing psychiatric symptoms associated with Phentermine or exacerbating existing symptoms. More awareness of the risks of abuse needs to be emphasized to patients especially those with abusive tendencies and predisposed risks.

**Conclusion:** The risks outweigh the benefits of using the medication in an uncontrolled or long-term manner. More regulation and pre-prescribing criteria and guidelines are therefore recommended and should be utilized in routine practice. Questions arise on the ethics of potentially risking mental health or psychiatric decompensation for the benefit of weight loss which may be managed by lifestyle changes. In conclusion research and guidelines are lacking in prescribing guidelines ethical awareness and Phentermine's effects on psychiatric illnesses.

Sunday May 05

### **When Clozapine Fails – Alternative Psychopharmacological Regimens for Clozapine-Resistant Schizophrenia: a scoping review.**

Adil Elahi; Asmeret Berhane; Enque Endeshaw MD; Janna Volkov

**Introduction:** Clozapine is the standard of care for treatment-resistant schizophrenia. However up to a third of patients will have a partial or no response to treatment despite an adequate trial of clozapine. There are no accepted guidelines for pharmacological alternatives in the treatment of clozapine-resistant schizophrenia (CRS) and electroconvulsive therapy is not always a feasible option. This paper is a scoping review of literature regarding various pharmacological regimens attempted for treating CRS.

**Methods:** A systematic search using the [Title/Abstract] filter was conducted on PubMed and Google Scholar to identify articles related to CRS (and similar terms). Three researchers reviewed a total of 268 abstracts. The inclusion criteria were limited to only observational articles that assessed psychopharmacological modifications with objective measurement tools such as the Positive and Negative Symptom Scale (PANSS) the Brief Psychiatric Rating Scale (BPRS) and Global Assessment of Functioning (GAF). After screening 50 full-text articles only 27 were included in the final analysis.

**Results:** In this scoping review the most tested medication was amisulpride both as an adjunct and a replacement for clozapine. The randomized controlled trials (RCTs) and retrospective studies on amisulpride demonstrated significant improvements in the total and negative scores of the PANSS the BPRS as well as other objective measures. This finding was also observed in case series that included children and adolescents. The largest improvement reported by a study was an 86-point drop on the PANSS total score and a 30-point increase on the GAF. Several medications exhibited significant improvements on the PANSS negative subscale as adjuncts to clozapine such as Brexpiprazole Memantine Ropinirole and Sodium Nitroprusside. Significant improvements were reported using Quetiapine Loxapine Gabapentin and Fluvoxamine augmentation on the BPRS. Papers also reported positive outcomes after switching from clozapine to cariprazine (55 points on SANS) or clotiapine (13 and 16 points on PANSS). One study indicated no significant improvement when removing olanzapine adjunct using the GAF. Notably clozapine without adjunctive glycine showed



better results compared to with adjunctive glycine. Other assessment tools commonly used were the SAPS CGI RBANS and UKU scales among others. Conclusion: Managing CRS pharmacologically can be challenging particularly due to the absence of set guidelines. Most clinicians choose to add adjunctive medications to clozapine while fewer opt to switch to a different medication altogether. Both approaches are viable options with varying results. The findings in this study underscore the potential benefits of various pharmacological regimens in the treatment of CRS. However it is crucial to consider a patient's individual needs when making treatment decisions. It is prudent to do further objective analyses on the treatment of CRS.

**Monday May 06**

### **Acting Together: A novel theater-based Cultural Literacy Curriculum empowers Asian American Native Hawaiian and Pacific Islander healthcare trainees**

Elizabeth Li M.D.;MHS; Ingrid Chen MD; Alicia Leong; Eunice Yuen

Introduction: Asian American Native Hawaiian Pacific Islander (AANHPI) healthcare trainees often experience racial bias in the clinical setting but the American medical education system lacks a structured curriculum to address this. Acting Together is a novel webinar-based culturally informed education platform that employs improvisation and interactive theater techniques to teach trainees to navigate bias prejudice and stereotype experiences in clinical settings. We aim to evaluate the program's feasibility and acceptability impact on implicit bias recognition and participant attitudes on cultural dilemmas in the clinical setting. Methods: Each Acting Together webinar consists of three modules: 1) improvisation to create a sharing and non-judgmental framework 2) interactive theater to "act out" and "take two" regarding the presented cultural dilemma and 3) panel discussion. Self-identified AANHPI healthcare trainees were

recruited via institutional listservs affinity group listservs and word of mouth. Study participation involved completion of pre- and post-program online surveys with an optional focus group discussion. Mixed methods were used to analyze pre- and post- program survey data from the first two webinars (August and November 2023) which included demographic questions the Implicit Bias Attitude Scale the Medical Improv Curriculum and the Feasibility and Acceptability Scales. Responses to the Implicit Bias Attitude Scale were analyzed using Paired-Samples T-Tests in R (v4.3.1). Focus group discussion was analyzed by iterative review by 6 individual coders using thematic analysis. Results: 81 total attendees attended the first two webinars with 58 (72.8%) completing the pre/post studies and 32 (39.5%) completing the qualitative interview. Participants reported enhanced engagement (80.5%) peer connection (68.3%) confidence (68.3%) communication skills (70.7%) wellness (68.3%) adaptability (75.6%) proactivity in their professional career (80.5%) and ability to seek support when cultural dilemmas occur (68.3%). While scores on the implicit bias attitude scale did not significantly differ 68.3% of participants reported improved ability to recognize implicit bias. Furthermore 90.2% of participants indicated Acting Together was easy to adapt to their respective training program 82.9% would join the program again and 90.2% would recommend the program to their colleagues. Themes from the focus groups were congruent with these findings. Conclusion and Discussion: Preliminary quantitative and qualitative data supports Acting Together's feasibility and adaptability and empowers trainees to understand and handle cultural dilemmas in clinical settings. Future directions include collecting additional webinar data and completing sub-group analyses considering demographic factors such as age gender and racial/ethnic identity and reinforcing the program's focus on implicit bias education.

**Monday May 06**

## Adherence to services and the use of LAIs in the prevention of rehospitalization of patients with psychotic disorders in an acute hospitalization unit

Sara Vega .; Jose Maria Pelayo-Teran; Yolanda Zapico-Merayo; Raquel Gutierrez

**Background:** Psychosis causing great disability to the patients normal function and burden to families particularly during admissions. One challenge is to improve adherence to treatments and to prevent rehospitalizations. This study evaluates patients with psychotic disorders admitted to treatment in a hospital inpatient unit for a 4 year period to evaluate the risk of rehospitalizations and the clinical factors associated. **Methods:** We evaluated the hospitalizations in the acute psychiatric Unit of Hospital El Bierzo (Spain Catchment area of 131646 hab) with an ICD-10 Psychotic disorder diagnosis(F20-29) between 2019 and 2022. Time to rehospitalization was evaluated with a Kaplan-Meier survival analysis. Predictors were included in a cox regression analysis with a backward-Wald model. Finally we analyzed the factors that predict the use of LAI antipsychotics with a logistic regression analysis (backward-Wald model). **Results:** 1322 subjects were admitted from 2019 to 2022. 491 (37.1%) had a diagnosis of psychosis the most frequent diagnosis. 57.8% were males mean age: 45.87 ± 14.69 years. The rates increased from 115 in 2019 (8.73/10000hab) to 116 in 2020 (rate: 9.85) 126 in 2021 (9.82) and 134 in 2022 (10.50). The differences were not significant (p=0.670). 208 (42.4%) rehospitalized. Hospitalizations during pandemics (2020-2021) had a higher probability of rehospitalization within the year (41.3%) compared to post pandemic year (25.42; ???: 9.617; p=0.008). The survival analysis showed a mean survival of 817.42 days (IC95% 755.11-874.74) and a median survival of 1037 days (IC95% 676.03-1397.97). Those patients with a partial adherence showed a inferior mean survival of 645 days and a median of 335 days (Log Rank of Mantel-Cox ???: 6.247; p is 0.044). Rehospitalized subjects were younger (43.8 years vs 47.4; T:-2.702; p=0.008) have more previous

hospitalizations (54.1% vs 33%; ???: 22.230; p<0.001) were more frequently from prepandemic period (p<0.001) less adherent (40.9% vs 59.6%; ???: 9.334; p=0.009) had more suicidal behavior (52.9% vs 40.7%; ???: 3.618; p=0.057). The Cox regression model included age (ExpB: 0.987; p=0.013) previous hospitalization (ExpB: 0.551; p<0.001) substances (ExpB: 1.397; p=0.043) adherence (ExpB: 0.729; p=0.038) and suicidal behavior (ExpB: 0.716; p=0.077) in the model (???: 35.667; p<0.001)

Monday May 06

## Advancing Measurement-Based Care: Implementation of an Open-Source Electronic Patient-Reported Outcomes System Across Outpatient Psychiatric Settings

Emily Berich-Anastasio MPH LGPC; Amber Bailey MHS; Alexander Maclay; Robert Schloesser M.D.

**Background:** Measurement-based care (MBC) particularly use of patient-reported outcomes (PRO) has demonstrated effectiveness in mental health care with symptom and treatment monitoring. Despite evidence of their efficacy and endorsement from major organizations obstacles to implementing PROs in mental health care persist. Certain barriers can be mitigated with the adoption of electronic PROs (ePROs). Various implementation science frameworks may aid in establishing ePROs at the point-of-care. These frameworks allow for structured implementation procedures consistent evaluation collection of qualitative and quantitative data and opportunities to adapt or modify ePRO systems. **Methods:** The Sheppard Pratt Health System (SPHS) has developed a standardized ePRO system to implement measurement-based care; Point-of-Care Dashboards Analysis and Reporting Toolkit (PoCDART). This open-source system aims to support routine collection and analysis of ePROs expand the current ePRO system optimize

staff training and workflows to support ePRO usage and enhance the patient experience of ePROs with brief time efficient measures and a user-friendly interface. Implementation of ePROs took place at multiple outpatient clinics with distinct clinical populations and operational profiles. Balasubramanian's Learning Evaluation (LE) framework and Glasgow's RE-AIM were used to guide the implementation and evaluation of ePRO usage. Contextual and explanatory factors related to ePRO implementation and effects on patient outcomes were captured. Regular learning meetings and a support ticketing system allowed for continuous audit and feedback from stakeholders. User feedback was systematically captured using field notes and a support tracking database; modifications were developed and prioritized through a governance process. Small rapid Plan-Do-Study-Act (PDSA) cycles at each study site facilitated ideas for modifications. Modifications were documented using FRAME and developed using agile methodology. Implementation and outcome metrics based on RE-AIM evaluated the process over time. Results: Over 2023 over 14 thousand ePRO batteries have been completed in these outpatient clinics. 51% (n=6095) patients have completed at least one ePRO while 25% (n=1548) have completed longitudinal ePROs. 8852 instances of ePRO documentation in the EMR by a clinician have occurred. Exploratory data analyses have elucidated differences of the characteristics of patients' ePRO completion based on various demographic data (e.g. age gender race etc.). Conclusion: Using the principles of LE RE-AIM and PDSA deployment of an automated measurement based care system in outpatient psychiatric clinical settings has been successful. Ongoing use of this system at the point-of-care demonstrates its sustained effectiveness.

**Monday May 06**

### **Anxiolytic Consumption During Periods of Stress: Do Medical Students Self-Medicate?**

Amalesh Honnekeri

Background: While numerous studies have established a high prevalence of psychological stress among medical students globally there remains a lack of data regarding their patterns of self-medicating with anxiolytics. This study explored various trends pertaining to this practice among medical students in Mumbai. Methods: Institutional Ethics Committee approval was obtained prior to the commencement of this study. Online material was administered to 180 medical students enrolled in different years of medical education in Mumbai India. This material included an information sheet an informed consent form a pre-validated questionnaire and the Perceived Stress Scale (PSS 10). Anonymity and confidentiality were assured to the participants. As per the PSS 10 scores ranging from 0 to 13 indicated low stress from 14 to 26 indicated moderate stress and from 27 to 40 indicated high stress. The other questionnaire contained objective questions. Data were imported into Microsoft Excel sheets from Google forms and analyzed using the Statistical Package for Social Sciences - Version 15.0. Results: Analysis of the PSS 10 administered to this cohort revealed that 16% of the study subjects had experienced high perceived stress 61% had experienced moderate perceived stress and 23% had experienced low perceived stress. Further evaluation via the objective questionnaire showed us that 14% study respondents had considered using an anxiolytic without being prescribed one and 6% respondents had made actual attempts to obtain anxiolytics without licensed medical supervision. 49% study subjects felt that they had neglected their health and wellness due to psychological stress. Examinations academic burden and apprehensions about the future were noted to be the most common causes of stress in the cohort. In the previous month it was found that 2% study subjects had self-medicated with anxiolytics thrice a week or more 2% had self-medicated with anxiolytics between 1-2 times a week 1% had self-medicated with anxiolytics once in two weeks and 5% had self-medicated with anxiolytics once in the entire month. Conclusion: This study revealed an alarming trend of

consumption of anxiolytics by medical students in the absence of appropriate medical advice and supervision. It not only established the prevalence of psychological stress in the cohort but also delved further into the circumstances surrounding which medical students experience stress as well as the intricate patterns of self-medicating with anxiolytics during stressful periods. This study thus points towards a worrisome reality and the need to have stronger monitoring systems in place to check this practice while adding a new dimension to existing literature. This was a sub study of a larger study that assessed a broader spectrum of self-medication trends and practices among medical students in Mumbai which received the Short-Term Studentship (STS) from the Indian Council of Medical Research (ICMR).

**Monday May 06**

### **Apraxia and Upper Extremity Movements (Gesture) in Schizophrenia and Their Relation to Social Cognition**

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**Objectives:** The aim of our study was to investigate the relationship between the ability to perceive and make sense of social stimuli (the theorem of mind) nonverbal communication (gestures) and apraxia in patients with schizophrenia and to compare them with a healthy control group.

**Methods:** A total of 56 schizophrenia (age 18-55) and 53 healthy controls (age 18-55) who were determined to be eligible for the study were included in the evaluation. Extra-Pyramidal Rating Scale Dokuz Eylul Theory of Mind Scale Test of Upper Limb Apraxia were applied to all participants. Brief Negative Symptom Scale and Scale of the Assessment of Positive Symptoms tests were also performed. Test of Upper Limb Apraxia were obtained for the sum of the upper extremity movements of the patients and for the velocity analyses of the upper extremities. The images were analysed by using pose detection

algorithms such as AlphaPose OpenPose and BlazePose to analyse the upper extremity movements of the participants in the video data and quantitative data were obtained. Results: Patients with schizophrenia (mean age=33.1 64.3% male) performed lower in theory of mind and praxis skills than the healthy control group (mean age=34.0 62.3% male) (all  $p < 0.001$ ). When schizophrenia patients and healthy controls were evaluated within themselves according to the praxia cut-off score 55% of the patient group and 0.03% of the healthy control group performed below the praxia cut-off score. A statistically significant correlation was found between success in praxis skills and success in theory of mind in schizophrenia patients (all  $p < 0.001$ ). In the comparison of the quantitative data obtained by video analysis of schizophrenia patients and healthy controls it is seen that the total movement/time upper extremity movement/time right wrist movement/time and right wrist speed components of the patient group are less than healthy controls (all  $p < 0.001$ ). In the quantitative data obtained by video analysis in schizophrenia patients no statistically significant relationship was found between the movement/time or speed parameters of the patients and the theory of mind. According to the quantitative data in the video analysis there is a relationship between the total movement/time upper extremity movement/time right-left wrist movement/time and speed components and praxis skill in the patient group ( $p=0.02$   $p=0.018$   $p=0.008$  and  $p=0.02$  respectively). Conclusions: In previous studies it has not been fully clarified whether the praxia skill deficit detected in schizophrenia is a form of apraxia or a different clinical problem with a similar phenomenology. We addressed this yet unclear finding. According to our results motor symptoms associated with the disease may explain the poor performance of hand movements as well as affecting the time to understand plan and perform actions. Video analysis may help in clinical monitoring staging and prognosis in the future.

Monday May 06

## Assessing Patient Depression & Anxiety Treatment Outcomes on an Asynchronous Telemedicine Platform

Neil Zlatniski; Chelsea Orcutt; Neil Parikh; Brett Ashton

**Description** Anxiety affects 19.1%(1) and depression 18.4%(2) of the population in the United States. About 60% of those affected by mental health issues have not received treatment in the past year due to geography cost or other factors. The study objective was to describe clinical outcomes of patients with symptoms of depression and/or anxiety managed through an asynchronous telemedicine care model.

**Abstract** This retrospective study evaluated patients who self-enrolled in an asynchronous telemedicine platform Nurx for access to clinical services for anxiety and depression. Patients had access to ongoing medication management provided by advanced practice providers or physicians under the guidance of a psychiatrist. At intake patients complete a condition-specific questionnaire with multiple standardized mental health assessments including the PHQ-9 & GAD-7. Rating scale and patient satisfaction with treatment data was captured on a scheduled cadence. The study included patients who initiated treatment between March 2022 and March 2023 presented with anxiety and depression scores in the Moderate range (score of 10-14) and for whom at least 6 months have elapsed since starting treatment. A sample of these patients (n=6346) were evaluated at 3 and 6 month checkpoints during the course of this study. The patient-reported outcome goal at 3 and 6 month checkpoints for patients receiving ongoing treatment was either clinical response (score reduction ?50%) or remission (score <5). For reference cumulative long-term remission rates of 49.7% - 52.3% at 6 months for depression(3) and 41.1 % for anxiety(4) were used as reported in traditional care settings. Patient demographics and wait times were captured as well. **Method** Retrospective study: Clinical

outcomes **Results** Of the 6346 study patients 75.6% & 50.2% completed assessments at 3 and 6 months after treatment initiation. For anxiety and depression respectively by 3 months 17.5% and 15.4% achieved clinical response and 64.3% and 60.1% reached remission. By 6 months 16.4% and 14.0% showed response 69.6% and 65.3% were in remission. 89.9% of patients were female average age 31.9 years with 51.2% residing in whole-county mental health HPSAs. Average wait time to care was 8.7 days vs 26 days for primary care settings(5). **Conclusions** This study highlights the potential of asynchronous telemedicine to offer patient outcomes comparable to traditional care models for patients suffering from anxiety and depression including for patients in medically underserved areas (51.2% of study patients are in whole-county mental health HPSAs) with reduced wait times for care (average 3.5 versus 26 days for primary care). Further studies should explore outcomes at other checkpoint intervals after treatment initiation evaluate outcomes based on type of treatment complexity and drug changes and review specific populations such as postpartum patients to understand efficacy of the program for those groups.

Monday May 06

## Characterizing Prescription Patterns of Clozapine in a Multi-Institution Cohort of Patients with New-Onset Psychosis

Ethan Mondell; Deepak Sarpal M.D.; Melanie Bennett; Russell Margolis M.D.

**Background:** Clozapine is the most effective treatment for schizophrenia and other psychotic disorders that do not respond to other antipsychotic medicine yet it accounts for only 5.5% of starts on antipsychotic medication. This likely stems from concern about side-effects and need for adherence to a complicated FDA REMS program. To address the lack of information about clozapine use in first-episode psychosis (FEP) this study aims to determine the prescribing patterns



and associated patient outcomes of clozapine use in Connection Learning Health System (CLHS) a NIMH Early Psychosis Intervention Network (EPINET) program that consists of all FEP clinics in Pennsylvania and Maryland. Methods: CLHS enrolled 1484 patients who experienced onset of psychosis within the preceding year. Demographic clinical and quantitative measures were collected from patients at enrollment and every 6 months thereafter. Clinicians documented the medication patients were taking at each assessment. Of the 1484 patients enrolled 220 were excluded from analysis due to missing data. Chi-squared tests were used to compare three groups: 1) patients noted to be taking clozapine during the study 2) patients on other antipsychotics but not clozapine and 3) patients not on an antipsychotic at any time. Results: 81 patients (6.41%) took clozapine during the study 1070 (84.65%) were prescribed other antipsychotics and 113 (8.94%) were not prescribed any antipsychotics. The groups did not vary by age education or gender. Among clinics contributing at least 20 patients to the cohort clozapine use ranged from 1% to 20%. Clozapine use also significantly varied by specific diagnosis. Patients in the clozapine group were less likely to identify as Black compared to those prescribed antipsychotics other than clozapine and those never prescribed antipsychotics (26.6% vs. 47.8% vs. 38.83% respectively  $p < 0.0001$ ). Additionally in a pairwise comparison patients in the clozapine group were more likely to have private insurance than patients prescribed other antipsychotics (47.9% vs. 35.9%  $p = 0.0443$ ). Conclusions: These results indicate there may be racial and economic disparities in the prescription of clozapine and marked variation in clozapine prescription among clinics of the CLHS. Our findings align with previous observations made in non-first-episode psychosis patient populations; but to our knowledge this study is the first to demonstrate racial and economic disparities in clozapine prescription among first-episode psychosis patients. The etiology of this disparity is uncertain and warrants further research. Future analyses will investigate factors that may contribute such disparities and to the association of clozapine with patient outcomes. This study was funded by NIMH MH120550 ABCD Charitable Trust and The

Abramson Fund. The investigators of CLHS PI Dr. Melanie Bennett contributed to this abstract.

**Monday May 06**

### **Clozapine-Associated Neutropenia: Is the Risk Overstated?**

Allison Brandt M.D.; Frederick Nucifora D.O. Ph.D. M.H.S.; Peter Zandi PhD; Russell Margolis M.D.

Background: Treatment-resistant schizophrenia (TRS) defined by lack of response to two or more antipsychotic trials is highly disabling. Clozapine has been shown to be superior to all other antipsychotics for TRS. However the agent remains underutilized in the United States in part due to concerns about potentially dangerous clozapine-associated neutropenia and the need for hematologic monitoring and registry requirements. This study investigates patient demographics and rates of neutropenia in those treated with clozapine at a large academic medical system. Methods: Data was collected from Johns Hopkins Medicine electronic medical record between 2013 and 2023 accessed using the Schizoaffective Disorders Precision Medicine Center of Excellence registry on the Precision Medicine Analytics Platform including demographic characteristics medical history medications and lab results. Based on absolute neutrophil counts (ANC) during clozapine use patients were divided into groups who experienced no neutropenia mild moderate and severe neutropenia. Demographics were compared between the three groups. Clinical information was reviewed for patients in the moderate neutropenia group. Results: 1738 patients were exposed to clozapine. ANC data were available for 974 patients of whom 36% were female 64% male 4% were Asian 39% black and 51% white. The mean age was 45.4 years. There were 29691 ANC lab draws. 207 (0.68%) ANC's were below  $1500/\mu\text{L}$ . 19 (0.06%) were below  $1000/\mu\text{L}$ . No ANC levels were below  $500/\mu\text{L}$ . 55 (5.7%) patients developed mild neutropenia and

nine (0.9%) developed moderate neutropenia. Seven (13%) out of 55 patients with mild neutropenia progressed to moderate neutropenia. No patients developed severe neutropenia. There was no significant difference in age gender or ethnicity among neutropenia groups. Black patients were more likely than other races to develop moderate neutropenia ( $p < 0.001$ ). Of the nine patients with moderate neutropenia two experienced moderate neutropenia only while diagnosed with sepsis and another after initiating chemotherapy. Data on continuation of clozapine after moderate neutropenia was available for seven patients. Of these seven all continued clozapine and all ANC's returned to normal. Conclusion: These results suggest that the risk of moderate neutropenia is quite low and the risk of severe neutropenia is minimal. These findings suggest a need for careful reconsideration of current clozapine hematologic monitoring requirements and that patients with moderate neutropenia may not need to discontinue clozapine. Given the low risk of neutropenia coupled with the significant logistic and administrative burden of hematologic monitoring these data further suggest that excessive and indefinite ANC monitoring may limit the most effective use of clozapine.

**Monday May 06**

### **Clozapine-Induced Acute Respiratory Distress Syndrome: A Case Study and In-Depth Review of Pharmacogenetic and Inflammatory Interactions**

Zain Iftikhar; Achyut Sompura M.D.; Nikita Mehdiratta MBBS; Clayton Morris

Background: A bidirectional link between clozapine and inflammation coupled with pharmacogenetic nuances accounts for clozapine's interpersonal variability especially among poor metabolizers. Clozapine-induced adverse effects include myocarditis polyserositis

and pneumonia. While these conditions can potentially result in acute respiratory distress syndrome (ARDS) clozapine-induced ARDS in the absence of contributing factors has not heretofore been documented. Aim: To elucidate the interconnection among clozapine inflammation and ARDS in treatment-resistant schizophrenia (TRS). Methods: A case report and literature review using PubMed focused on case reports and reviews using keywords clozapine "ARDS" and "inflammation."—case report: A 24-year-old Asian female with acute schizophrenia episode and bilateral otitis media presented. Despite the resolution of the ear infection a failed antipsychotic response led to TRS. Rapid clozapine titration resulted in somnolence sialorrhea and symptoms of septic shock and neuroleptic malignant syndrome (NMS). Antipsychotics were withheld while treatments for suspected NMS and infection were administered later ruled out. Labs reported elevated CK ESR and clozapine serum levels while ANC levels were normal. Imaging confirmed ARDS. Results: This poster synthesizes data from 40 articles highlighting three main themes—first pharmacokinetic factors such as CYP450 2D6 inhibitors impact clozapine levels necessitating personalized dosing. Elevated concentration-to-dose ratios are observed in Asians reflecting a broader inflammatory impact with increased CRP levels alongside a transient spike in IL-1B and TNF-alpha during clozapine induction. Second clozapine toxicity may arise in stable schizophrenia patients with minor infections and cause modest CRP elevation indicating early signs of clozapine-related adverse events. Third clozapine toxicity presents with a varied symptomology mimicking NMS. Our patient exhibited these symptoms aligning with others' observations. Elevated CK associated with clozapine use and NMS further supports diagnostic uncertainty. In cases of ambiguity addressing the most severe condition while considering clozapine discontinuation until clarity is achieved is recommended. Discussion: CYP450 2D6 mutation leads to heightened clozapine levels potentially underscoring this disease process an aspect absent in patients without the mutation. A plausible connection exists between

ARDS and clozapine's inflammatory reactions either independently or in tandem with neuroleptic malignant syndrome concurrent antipsychotics or a hypersensitivity reaction involving generalized neutrophil activation including the lung leading to cytokine release—a factor also implicated in ARDS pathogenesis. Conclusion: Baseline and regular monitoring of pro-inflammatory biomarkers is advised to optimize clozapine's safety addressing broader inflammatory processes beyond myocarditis."

**Monday May 06**

### **Continuous Dopamine D2 Receptor Blockade and the Outcome of First-Episode Schizophrenia**

Jari Tiihonen; Antti Tanskanen; Heidi Taipale

Background: Concerning the neurobiology of schizophrenia it is not known how big proportion of patients with first-episode schizophrenia relapse despite of continuous dopamine 2 (D2) receptor blockade and if the breakthrough psychosis is attributable to development of dopamine supersensitivity during long-term use of D2-blocking antipsychotics. Methods: All persons with first-episode schizophrenia aged ≥45 years were identified from Finnish nationwide register of inpatient care during years 1996-2014. During the first 30 days after the first hospitalization patients were categorized as LAI users versus non-LAI users (using oral antipsychotic or not using any antipsychotic). Outcome was a severe relapse defined as a readmission to hospital due to psychosis. During the 5-year follow-up those categorized as LAI users were censored if they discontinued LAI. Results: Of the entire cohort of 5367 patients 3058 (57%) had a relapse leading to hospitalization. Among those patients who were not re-admitted to hospital during the first 30 days of follow-up (N=4788) 305 initiated LAI use and 4483 did not. Among continuous LAI users 21.6% relapsed (95% CI 17.1-26.7%; N=66) and their cumulative probability of relapse in Kaplan-Meier analysis

was 35.9% (95% CI 28.0%-45.1%). Relapse incidence per person years among LAI users decreased from 0.26 (95% CI 0.19-0.35) during the first year to 0.05 (95% CI 0.01-0.17) during the fifth year corresponding to incidence rate ratio 0.18 (95% CI 0.02-0.68 p=0.0026). Discussion: The relapse risk decreases as function of assured cumulative D2 blockade during the first 5 years indicating that cumulative continuous exposure to dopamine D2 receptor antagonists is associated with decreased rather than increased risk of breakthrough psychosis. More than 20% of patients with first-episode schizophrenia will relapse despite of continuous D2-blockade apparently because of the neurobiological heterogeneity in the pathophysiology of the illness since the results show that development of dopamine supersensitivity does not have any significant role concerning the risk of relapse.

**Monday May 06**

### **COVID-19 and empathy among medical students: a prospective study**

Mariana Pereira; Beatriz Cantieri Almeida; AMANDA CASAGRANDE; Beatriz Astolfi Neves; Paula Nunes

Introduction: The COVID-19 pandemic changed students' routines potentially affecting empathy—an important ability to be developed during medical education. However related literature is scarce. This study aims to prospectively evaluate empathy in medical students across different years of attendance before and during the COVID-19 pandemic. Methods: In 2019 medical students from the first to the fifth years were invited to participate in this study. They were also evaluated on the following school year at the beginning of the 2020 COVID-19 pandemic during strict lockdown measures. The Interpersonal Reactivity Index (IRI) was used to assess empathy in its four subscales: Empathic Concern Perspective Taking Personal Distress and Fantasy. Statistical analysis was performed using SPSS

version 21. Descriptive statistics were employed for frequencies gender and mean age. The Kolmogorov-Smirnov test was used to check the normality of data. The Mann-Whitney test was utilized to compare groups with the adopted significance level set at  $P < 0.05$ . Results: In 2019 and 2020 (during the initial months of the COVID-19 pandemic) a total of 589 surveys were completed. The mean age was  $23.0 \pm 4.1$  years old and 65.5% of respondents were women. In 2019 51.3% of the sample ( $n=287$  students) completed the survey; in 2020 55.0% of the sample ( $n=308$  students) completed the survey. Concerning gender women had higher scores than men in Empathic Concern ( $2.8 \pm 0.6$  and  $2.5 \pm 0.6$  respectively;  $p < 0.001$ ) Personal Distress ( $1.9 \pm 0.7$  and  $1.5 \pm 0.7$  respectively;  $p < 0.001$ ) and Fantasy ( $2.6 \pm 0.9$  and  $2.0 \pm 0.9$  respectively;  $p < 0.001$ ) but not in Perspective Taking ( $p = 0.50$ ). When comparing data from 2019 and 2020 a decrease in Empathic Concern ( $2.8 \pm 0.7$  and  $2.6 \pm 0.5$  respectively;  $p < 0.001$ ) and an increase in Fantasy ( $2.3 \pm 0.9$  and  $2.5 \pm 0.9$  respectively;  $p = 0.040$ ) were observed. No differences were found for the other subscales namely Perspective Taking ( $p = 0.39$ ) and Personal Distress ( $p = 0.83$ ). A decrease in Empathic Concern was found for first-year 2019 ( $p < 0.001$ ) second-year 2019 ( $p = 0.004$ ) and third-year 2019 ( $p = 0.003$ ). No differences were found for fourth-year 2019 and fifth-year 2019. For Fantasy an increase was noted for second-year 2019 only ( $p = 0.002$ ). Conclusions: Differences in empathy were found during the COVID-19 lockdown. Lockdown measures like social distancing distance learning and suspension of in-person activities for earlier years of attendance might have influenced the results of decreased Empathic Concern. The increase in Fantasy could be related to more time available for online entertainment and news during the COVID-19 lockdown. Further studies should be conducted to assess the longer-term effects of the COVID-19 pandemic on empathy.

## COVID-19 IMPACT ON ADMISSIONS CHARACTERISTICS IN THE BRIEF PSYCHIATRIC HOSPITALIZATION UNIT OF EL BIERZO HOSPITAL AN OBSERVATIONAL STUDY

Zaida Gutierrez Hervás; Elena Martin Gil; Ruth Landera; Yolanda Zapico-Merayo; EVA MARIA ROMERO

Background: Suicide behaviour has significantly increased after COVID-19 including among those subjects who need an admission in a psychiatry unit. The main objective of this study was to analyse the incidence and characteristics of admissions to our Short-term Psychiatry Hospitalización (SPH) Unit in Spain. Methods: A descriptive observational and cross-sectional study was carried out selecting patients who required admissions to SPH in three time periods: pre-pandemic in 2019; pandemic in 2020 and 2021 and post-pandemic in 2022.  $\chi^2$  and ANOVA were used as statistics. Results: 1322 subjects required admission 506% men mean ( $\bar{x}$ ) age:  $48.29 \pm 17.12$  years. There was an increase on the admissions during the study from 284 Prepandemic (21.6/10000 hab) to 399 Postpandemic (31.27) ( $\chi^2: 26157$ ;  $P = 0.0002$ ). The  $\bar{x}$  length of stay was  $9.03 \pm 7.36$  days. 31.8% of admissions were compulsory and 12.5% were scheduled. 44.5% had a history of previous admissions and 38.4% suicide behavior. 52.6% have consumed other substances at admission. The most frequent diagnosis at discharge was psychosis (37.1%) followed by personality disorders (22.9%) bipolar disorder (9.5%). 85.5% of patients were prescribed benzodiazepines 77.5% antipsychotics 52.6% antidepressants 45.9% mood stabilizers and 22.7% long-acting injectable antipsychotics. Almost 61.2% had good adherence to Mental Health (MH) services. Mean age decreased across the periods (51.44 years in 2019 vs 47.26 in 2022) Similarly there was a progressive decrease in length stay from 10.22 days in 2019 to 7.74 in 2022 ( $F: 10.468$ ;  $p=0.001$ ). The greatest substance use was on 2019 (25.5%  $\chi^2: 13.581$ ;  $p<0.001$ ). The treated incidence of suicide behavior in the hospital unit increased from 2019 (7.52/10000 inhabitants) to 2022

(12.77/10000 inhabitants) ( $\chi^2$ : 19.988  $p=0.003$ ). The percentage of admissions with suicidal behaviors due to different diagnoses changed over the years. There was a decrease in psychosis depression and bipolar disorder while those associated with personality disorder increased (11% in 2019 vs 27% in 2022). Higher adherence to MH services was found in 2019 (73.6%). The 2020-21 period had the lowest rate of good adherence (54%) ( $\chi^2=59.274$ ;  $p<0.001$ ). Psychosis admissions decreased (40.5% 2019 vs 33.6% 2022) as well as those with a bipolar disorder or depression diagnosis. By contrary personality disorder increased from 17.6% in 2019 to 32.3% in 2022 ( $\chi^2=41.254$ ;  $p<0.001$ ). The use of antidepressants decreased during 2020-21 ( $\chi^2=7.885$ ;  $p=0.019$ ) and benzodiazepines: 91.5% in 2019 vs 85.15% in 2022 ( $\chi^2=10.231$ ;  $p=0.006$ ). Conclusions: Number of admissions progressively increased especially post-pandemic at the expense of patients with a personality disorder which show the highest proportion of admissions exhibiting suicidal behavior.

Monday May 06

### **Delivering online cognitive behavioural therapy (e-CBT) to address mental health symptoms in correctional officers a mixed-methods study**

Gilmar Gutierrez M.D.; Christina Holmes; Callum Stephenson; Nazanin Alavi M.D.

Background: Despite the higher risk of developing mental health symptoms correctional workers often present lower help-seeking behaviors compared to the general population due to stigma and demanding work schedules. Online therapies like online cognitive behavioral therapy (e-CBT) can help address these barriers by providing more accessible convenient and private care services. However despite the growing interest in the development of e-CBT programs e-CBT options specific to the unique context of correctional workers remain understudied. Therefore addressing this gap this mixed methods study

developed and studied three e-CBT programs specific to correctional workers experiencing post-traumatic stress disorder (PTSD) depression or anxiety symptoms. Methods: This mixed methods study randomized correctional workers ( $n=63$ ) to a treatment group ( $n=34$ ) where they received one of three 12-week diagnosis-specific e-CBT programs for PTSD depression or anxiety symptoms or the treatment as usual (TAU) group ( $n=29$ ). The TAU group consisted of regular physician or clinician visits conducted outside of the scope of this study. Then after 12 weeks interested participants in the TAU group could crossover to the treatment group. Both groups completed psychiatric questionnaires at baseline mid-point (6 weeks) and endpoint (12 weeks). Participant who accessed an e-CBT program received a post-participation survey and were invited to participate in a semi-structured interview to gather qualitative information. The quantitative data was analyzed using descriptive statistics significance at  $p\leq 0.05$  and effect size using Cohen D (d) analysis the qualitative data was assessed using NVivo with two independent reviewers. Results: The correctional workers in the treatment group reported a significant reduction in their depression ( $d=0.29$ ) anxiety ( $d=0.69$ ) stress ( $d=0.53$ ) and PTSD symptoms ( $d=0.68$ ) compared to their baseline scores. The TAU group reported a significant reduction in their PTSD symptoms ( $d=0.31$ ) compared to their baseline scores. There was no significant difference in the endpoint scores of the treatment group compared to the TAU group. 13 correctional workers completed the post-participation survey and 10 participated in the semi-structured interview. The following common themes were identified: study design therapy platform therapy experience therapy benefits unhelpful elements and work-related factors. Discussion and Conclusion: The outcomes of this research showed that e-CBT is effective at improving multiple mental health symptoms experienced by correctional workers compared to baseline scores. The qualitative analysis emphasized the therapy elements that were effective and some unhelpful elements that will require further development. Therefore these are promising results which support the development of



accessibility therapies such as e-CBT targeted to correctional workers.

**Monday May 06**

### **Determinants of AP Inception in Youth at Clinical High Risk for Psychosis.**

Hesham Mukhtar MBBS; Albert Powers MD PhD; Emily Farina PhD; Scott Woods MD

Background: The clinical high risk syndrome for psychosis (CHR similar to DSM-5 Attenuated Psychosis Syndrome) identifies symptomatic adolescents and young adults who are at risk to develop an overt psychotic disorder such as schizophrenia. Although treatment guidelines discourage routine use of antipsychotic (AP) medication in CHR patients in practice AP medication is prescribed for some and little is known about determinants of that prescription. We used baseline data from AP-naive participants in the combined NAPLS-2 and NAPLS-3 CHR observational cohorts to predict AP inception over the next six months. Methods: The studies enrolled a total of 1474 CHR participants. From these we removed 456 (30.9%) due to the history of lifetime AP before baseline (removing any confounds due to prior selection) 28 cases who were in a randomized clinical trial of AP and 16 cases who did not meet the SIPS CHR criteria. Because we were also interested in outcomes we excluded 317 without complete six months followup 60 without complete six months medications data and 9 whose AP inception occurred within six weeks before followup leaving a final sample of 588: 58 (12.5%) had AP Inception and 530 did not. Analyses of AP selection effects employed NAPLS baseline clinical variables. Given the relatively large number of predictors and the relatively small number of AP inception cases we divided predictors a priori into domains and restricted multivariable analyses to targeted explorations within domain for proxy effects (logistic regression with bootstrapping x 1000) and for collinearity (Pearson's  $R > 0.7$ ). Results: In the

univariate analyses predictors of AP inception at the  $p < 0.05$  level were: younger age; current antidepressant (AD) benzodiazepine (BZ) and any psychotropic; Scale Of Psychosis-risk Symptoms (SOPS) General Symptoms; Calgary Depression Scale for Schizophrenia (CDSS) total score; and greater drop in Global Assessment of Functioning over the last year. The SOPS total ( $p = 0.105$ ) and attenuated positive symptom scores ( $p = 0.405$ ) were not significant univariate predictors. Any current psychotropic was removed due to collinearity with current AD and in multivariable analysis both current AD and BZ use independently met the prediction threshold (AD:  $p = 0.047$  BZ:  $p = 0.003$ ). The SOPS General Score appeared to be a proxy predictor for the CDSS total which remained significant ( $p = 0.033$ ). Conclusion: Although requiring replication these findings suggest providers tend to select CHR patients to prescribe AP medication based on more severe depressive symptoms and greater recent drop in functioning. We speculate that some prescribers may lack specific training to elicit attenuated positive symptoms and that AD and BZ use and younger age may be markers of access to a prescribing provider. These findings may inform prescriber education about CHR and may also be useful in planning clinical trials and in analyses of AP effect in observational cohorts.

**Monday May 06**

### **Developing a Geriatric Psychiatry Workforce for Underserved Areas in New York State; A Survey of Geriatric Psychiatry Fellowship Graduates**

Katharine Brewster M.D.; Margaret Hamilton MD; Mark Nathanson M.D.

Background: Despite an aging population<sup>1</sup> there is a dearth of geriatric psychiatrists nationally and in New York (NY) State particularly in underserved areas.<sup>2</sup> The goals of the Statewide Columbia Geriatric Psychiatry Fellowship are to 1) develop

geriatric psychiatrists who are national leaders; (2) disseminate expertise in geriatric psychiatry to underserved urban/rural areas; and (3) foster the development of a geriatric mental health workforce in NY State.<sup>3</sup> The program provides educational experiences in a variety of academic and federally designated medically underserved urban and rural settings from its academic base at the Columbia University Irving Medical Center to hospital centers in underserved areas including Greater Binghamton Health Center and Rockland Psychiatric Center. All fellows in both the NYC and Binghamton tracks rotate at a wide range of clinical sites in NYC Upstate NY and Rockland County. However it is currently unknown whether completion of the fellowship has contributed to a geriatric mental health workforce in underserved areas in NY State. This survey aims to understand whether the diversity of training opportunities in the program has influenced the work settings of its graduates. Methods: Email addresses of 27 graduates of the Columbia Geriatric Psychiatry Fellowship since 2001 were identified. A 17-question confidential survey asked the graduates questions about their current work settings and roles geography and patient population. Results: Among the 27 graduates 25 (92.6%) participants completed the survey of whom 9 completed the NYC track and 16 completed the Upstate track. Of the 16/25 (64.0%) graduates currently working in NY State 57.1% graduates work outside of NYC 42.9% work in Upstate NY and 53.9% work for the NY State Office of Mental Health. Currently 5 work in community practice 10 work in academic practice 10 work in state or federal systems and only 3 graduates work in private practice. Most graduates (14/21) work in a federally qualified health center or public sector program. On average 60.5% of the graduates' practice is dedicated to geriatric psychiatry. Of the graduates three are training directors of ACGME-accredited programs one serves as a service chief two are medical directors and one is a psychiatry clerkship site director. 66.67% report teaching geriatric psychiatry to a broad range of learners including psychiatry residents/fellows medical students general psychiatrists nurse practitioners social/community workers and nursing home staff. Conclusions: Most graduates of the

Statewide Columbia Geriatric Psychiatry Fellowship work with an underserved population in NY State and teach geriatric psychiatry to a wide range of learners. We hypothesize that the fellowship's unique collaboration between an urban academic medical center and rural state-run hospitals has helped facilitate leadership opportunities for geriatric psychiatrists in NY State.

**Monday May 06**

### **EEG dynamic causal modeling of electroconvulsive therapy effects on chronic schizophrenia with clozapine medication**

Tak Youn M.D.; Hae-Jeong Park

**Objectives** We explored long-term the therapeutic effects of electroconvulsive therapy(ECT) and clozapine at brain circuits and channels in hierarchical levels of an N-methyl-D-aspartate canonical microcircuit model (CMM-NMDA) at the default mode networks using dynamic causal modeling (DCM) of longitudinal EEG in clozapine-treated patients with schizophrenia. **Methods** We focus on auditory verbal hallucinations(AVHs). Two brain circuits that are related to AVHs DMN and AVHs network are selected to analyze in the present work. Changes of two brain circuits AHN and DMN by ECT and clozapine treatments were estimated. Twenty-two patients with ECT treatment schizophrenia and Twenty-two patients with non-ECT treatment schizophrenia were recruited. Both groups took an average of 241mg of clozapine. Patients treated with ECT received an average of 47 treatments. EEG was also performed from a minimum of 2 times to a maximum of 11 times and PANSS was used as an improvement percentage to measure the treatment outcome. **Results** Enhanced AMPA connections to the frontal area were related to improved PANSS ratings after ECT whereas clozapine increased NMDA connections to the frontal area. **Conclusions** we have applied DCM with NMDA conductance model for EEG data

obtained from schizophrenia patients in pre- and post- treatments of ECT and clozapine and extracted that different changes in channel proteins intrinsic- and extrinsic- connectivity by the treatments. This might be a key to understand mechanisms of treatments of schizophrenia and finding novel treatment methods for schizophrenia. The current study emphasizes the importance of computational modeling in filling the gap between the micro- or meso-scope level activity to the macroscopic brain system and thus to human behavior.

**Monday May 06**

### **Efficacy of sulbutiamine in patients with Attention-Deficit Hyperactivity Disorder- clinical observations**

Hemlata Charitar M.D. PhD

Introduction: Sulbutiamine is a thiamine derivative developed in Japan in the mid-60's as a Beri-beri treatment drug (1). Since then several potential advantages have been described. Thiamine is essential for the brain and is involved in many cellular processes (energy metabolism cell survival antioxidant activity). Objective: The goal of the clinical observations was to establish the efficacy of sulbutiamine in patients with ADHD in a private outpatient setting as stimulants were not available for a certain period of time. Methods: A total of 15 adult patients who have been previously diagnosed with ADHD were observed during a 12 week period. Treatment was initiated with sulbutiamine tablets 200 mg twice per day. Clinical global impression scale was used to assess outcome of treatment. Both male and female patients were included and were aged between 18 to 43 years old. They were all previously diagnosed with Attention-deficit hyperactivity disorder according to the DSM-V criteria. Patients with psychiatric comorbidities were also included. Results: The majority of the patients were males (60%) 40% of the patients

were females. The mean age of the patients was 28.3 years. 40% of the patients were diagnosed with ADHD combined type 60% of the patients were diagnosed with ADHD Inattentive type. There were no patients with ADHD hyperactive/impulsive type. 33.3% of the patients were also on SSRIs. Most patients had either mild or moderate severity on the CGI-severity scale. 20% of the patients had borderline severity on CGI-severity scale while there were no patients who had severely or among most extremely ill on the CGI- severity. The CGI-Improvement scale showed that most patients (60%) had minimally improved score while 13.3% of patients had much improved according to the CGI-Improvement score. 26.7% of patients did not show any improvement. No side effects were noted. Conclusion: A daily dosage of 400 mg sulbutiamine was well tolerated among all the patients and no side effects were noted. Most patients had a minimal improvement and no worsening of symptoms were noted in patients. Larger studies should be conducted in the future to assess potential long-term effects of Sulbutiamine in patients with Attention-deficit hyperactivity disorder. In many countries stimulants are not easily available and potential use of sulbutiamine could be an option.

**Monday May 06**

### **Ending the Drought in the Bush: The development of Rural Psychiatry Training Pathways in Australia and New Zealand**

Mathew Coleman MBBS BA(Psych) MHSM FRANZCP

Background: There is a critical need for high quality psychiatric care in rural and remote Australia with a third of the population residing in these locations yet less than 15% of psychiatrists work in these locations. Health workforce distribution is a global problem with non-metropolitan locations facing a dire health and in

particular psychiatric workforce. Mental health prevalence rates are the same across metropolitan rural and remote areas yet populations in the later face higher morbidity and mortality through suicide with less than a third of the specialist psychiatric workforce available to service these high needs areas. Reform of psychiatry training pathways in Australia and New Zealand have enabled the development of the first dedicated rural psychiatry training pathway in Western Australia (WA) with a catchment of over 2.5 million km<sup>2</sup>. The establishment of an end-to-end training pipeline has enabled aspiring psychiatrists (psychiatry residents) to live work and train in rural and remote communities in WA. This study will identify the early outcomes of the new program and identify key enablers for change in rural and remote psychiatry training.

**Methods:** The Rural Psychiatry Training WA (RPTWA) program is Australia's first dedicated rural psychiatry training program and the first new RANZCP training program in over 20 years. Training related data drawn from the preceding 3 years prior to the commencement of the program will be compared with available data from the first 18 months of operation of the program with trajectories developed to model future workforce development and output from the program. Qualitative analysis of trainee and supervisor surveys are used to indicate what potential factors provide the best outcome for academic advancement pastoral care and support for psychiatry trainees (residents) across this vast training program.

**Findings:** Within 18 months of commencement trainee numbers have expanded 400% (from 6 to 24) with minimum resourcing from the state health department. Federal funding previously available but unable to be utilised has provided the resourcing to expand the program. Place based autonomy and engagement of existing rural psychiatrists as supervisors has ensured program stability and growth. Early indications from both trainees and supervisors suggests that the training program is of high quality if not superior in some areas (eg coordination pastoral care exposure to breadth of clinical material) to metropolitan training programs. The RPTWA in the last round of

applications for new trainees had over 60 applications indicating strong early interest from pre-vocational doctors.

**Conclusion:** Rural placed based psychiatry training may not only be of high quality and in high demand when readily available but may provide a lasting solution to decades of maldistribution of the psychiatry workforce.

**Monday May 06**

## **Evaluating Barriers to Psychiatric Care in a Student-Run Free Clinic**

Joy Li; Kimberly Grayson M.D.

**Background:** St. Vincent's Clinic (STV) is a student-run free clinic that provides primary and specialty healthcare services to the underserved and unhoused population of Galveston County Texas. Psychiatry nights which occur twice a month traditionally have a consistently high no-show rate and patients wait on average two to four months to schedule a psychiatric appointment delaying access to care. **Aims:** To determine the barriers associated with missed psychiatric appointments to guide future implementations in our clinic with the ultimate goal of decreasing the no-show rate. **Methods:** Patients who missed their psychiatric appointments on the dates of 9/14/23 9/28/23 10/12/23 10/26/23 and 11/09/23 were called. With the use of a standard script patients were asked the following: reasons why they did not attend their previous psychiatry appointment other barriers to attending their missed appointment and suggestions for improving patient attendance. In addition during psychiatry nights patients completed physical surveys. The surveys were distributed during the check-in process and patients were able to voluntarily fill out the surveys in their room while they waited to be seen. Surveys asked for general demographic information the number of scheduled and missed psychiatric appointments in the past year the presence of reminders and patient perception of their effectiveness and suggestions for improving attendance to

appointments. Additionally the survey solicited patient perception of potential barriers impacting their attendance in a Likert scale 1-5 with 1 being not a barrier and 5 being a major barrier. Results: The survey found that 85.6% of patients consistently attended their appointments. The highest-rated barrier was childcare/family responsibilities with transportation barriers and forgetting the appointment also noted as obstacles to attendance. Patients reported that reminders especially text messages were highly effective in helping them attend their appointments. Phone call data highlighted lack of transportation (40%) work conflicts (20%) and unawareness of the appointment (20%) as primary reasons for missed appointments. The most common suggestion for improvement was to provide transportation services and improve reminder systems. Discussion: Childcare/family responsibilities transportation difficulties and unawareness of appointments were indicated as key factors in missed psychiatric appointments. Addressing these challenges through improved transportation services and effective reminder systems can significantly reduce no-shows. Tailoring these interventions to the clinic's unique patient needs focusing on reliable communication and support for familial and transport-related obstacles is crucial for improving access to psychiatric care. This targeted strategy can also serve as a model for other clinics to identify and mitigate similar barriers.

**Monday May 06**

### **Group Psychedelic-Assisted Therapy for Mental Health Conditions: A Systematic Review**

Vivian TSANG MD MPH; Faizan Bhatia BHSc MD

Background: Globally about one billion people were burdened with a mental health condition in 2019 with anxiety and depressive disorders being highly prevalent. Psychedelic-assisted Therapy

(PaT) is described as the use of psychedelics as an addition to psychotherapy or therapy modalities. PaT shows significant promise in the treatment of several clinically challenging conditions including depression anxiety and PTSD among others. Despite this early research there is limited research examining the current use of PaT in a group context. Methods: MEDLINE Scopus and APA PsychInfo were searched using keywords and MeSH terms. Title abstract and full text screening was consecutively performed by two independent reviewers complying with the inclusion criteria. Discrepancies were resolved through discussion or a third independent reviewer if no consensus is reached. Data extraction and study quality evaluation was completed by two independent reviewers. Data was synthesized using a parallel-results convergent synthesis design consisting of independent syntheses of qualitative and quantitative evidence and an interpretation of the results. Results: 14 studies met inclusion criteria using the PRISMA-P framework. Quantitative results indicate statistically significant improvement in PTSD depression and anxiety and statistically significant reductions for problematic cocaine use. Qualitative results identified themes of increased feelings of connectedness to self and others enhanced spiritual and posttraumatic growth improved changes in mental processing and reduced substance use and cravings. Discussion: Studies included in this review provide insight into the efficacy safety and feasibility of group PAT as a treatment option for mental health conditions and addiction(s). Conclusion: Further research into program design and collaborative policy oversight are needed to ensure participant safety while maximizing therapeutic potential.

**Monday May 06**

### **How should we measure sleep and circadian rhythm in adolescents and young adults with psychosis spectrum symptoms?**



Jerome Taylor M.D.

Introduction: Sleep and circadian rhythms are potentially modifiable biological targets that are disrupted in adolescents and young adults with subthreshold and threshold psychosis. Yet rigorous studies investigating the correspondence between different methods of assessing sleep and circadian rhythm in youth with psychosis spectrum symptoms are lacking. Methods: In a preliminary study to determine correlations between different methods of assessment we measured sleep and the circadian rhythm for 7 days in youth ages 16-30 with psychosis spectrum symptoms within the past year or a threshold psychotic disorder diagnosis. Additionally enrollment required at least mild sleep disturbances defined as a Structured Interview for Psychosis-Risk Syndromes (SIPS) item G1 (SIPSG1)  $\geq 1$ . Sleep and circadian rhythm were measured using 4 modalities: 1. wrist actigraphy (also known as accelerometry) 2. a clinician-rated sleep scale (SIPSG1) 3. self-reported sleep scales on the Patient-Reported Outcomes Measurement Information System (PROMIS) and the Pittsburgh Sleep Quality Index (PSQI)] and 4. sleep diaries. Results: The mean age of the study sample was 21.8 (Standard Deviation (SD) = 4.41) years old and 57% (n = 12) of participants were female. Self-reported race/ethnicities of the sample were: 38% (n = 8) non-Hispanic White 48% (n = 10) non-Hispanic Black 10% (n = 2) more than one race and 5% (n = 1) Asian ancestry. The mean 18-item Brief Psychiatric Rating Scale (BPRS18) score for the past week was 30.6 (SD = 15.53) and the mean Structured Interview for Psychosis Risk Syndromes positive symptoms (P1-P5) sum score was 7.43 (SD = 7.24). 29% (n = 6) had a diagnosed threshold psychotic disorder and 29% (n = 6) were prescribed antipsychotic medications. Clinician-rated sleep disturbances on SIPSG1 had a mean of 2.71 (SD=1.45). Clinician-rated sleep disturbances SIPSG1 was significantly correlated with self-reported PROMIS sleep related impairment ( $r = 0.66$   $p = 0.03$ ) and disturbances ( $r = 0.79$   $p < 0.001$ ) and global sleep problems on the PSQI ( $r = 0.51$   $p = 0.03$ ). However self-reported healthy sleep habits (PROMIS sleep practices) were not associated with PROMIS self-reported

sleep disturbances or impairments or global sleep problems on PSQI. Actigraphy measures were not associated with self-reported clinician-rated or sleep diary measures. There was a moderate positive correlation between the 18 item Brief Psychiatric Rating Scale and the PROMIS sleep related impairment and the Pittsburgh sleep quality index ( $r = 0.60$   $p < .01$ ;  $r = 0.53$   $p < .05$ ) and between the PROMIS sleep related impairment scale and the Structured Interview for Psychosis Risks Syndromes ( $r = 0.47$   $p < .05$ ).

Discussion: Measuring sleep and circadian rhythm in adolescents and young adults with psychosis spectrum symptoms is feasible yet there are inconsistencies among the 4 modalities of measurement. Study was supported by the NIH and Brain and Behavior Research Foundation.

Monday May 06

### **Integrating the Voice of Lived Experience to Improve Caring Contacts: Using Implementation Science to Reduce Suicide-Related Outcomes**

Rosalie Steinberg MD MSc FRCPC; Jasmine Amini; Mark Sinyor MD MSc FRCPC; Ayal Schaffer M.D.; Rachel Mitchell

Background: Suicide risk is substantially elevated following discharge from a psychiatric hospitalization. Caring Contacts (CC) brief communications featuring messages of hope and resources have been shown to improve mental health symptoms following discharge. This three-phased quality improvement project grounded in the Consolidated Framework for Implementation Research (CFIR) revised an existing CC intervention. We incorporated patient and community feedback into CC messages and assessed the impact of messages on patient outcomes 7 days post-discharge. Method: We contextualized results within CFIR's framework to enhance implementation. Phase One focus groups featured psychiatric inpatients and community members with lived experience of mental illness who provided feedback on the

existing CC intervention. Focus group transcripts were thematically analyzed. Messages were further modified during Phase Two based on additional feedback from a Psychiatry Patient Family Council. In Phase Three revised CCs were piloted with psychiatric inpatients and were sent by email on days 2 and 7 post-discharge. Participants completed demographic and health history measures at discharge and feedback and acceptability of questionnaires on day 7. The Hopkins Symptom Checklist-25 (HSCL-25) entrapment scale and Beck Suicidal Ideation scale were completed on both days. Differences on continuous variables between pre- and post-discharge were evaluated as percent changes; all other results are descriptive. Results were shared with the care team to help implement recommended CC improvements. Results: Focus group (inpatient n=2; community n=13) data indicated that participants felt empowered contributing to the CC intervention. Participants preferred fewer shorter more visually appealing messages that included access to recovery-based resources and were delivered soon after discharge. In phase 3 27 participants (7M 18F 3 non-binary; Mage=36.9 years SD =15.7) completed baseline questionnaires and 16 also completed day-7 measures (5M 11F; Mage=37.3 years SD=10.2). Between baseline and day-7 post-discharge there were reductions in mean scale scores for the HSCL-25 (-6.44%; 29.1 vs. 27.8) and entrapment scale (9%; 23.2 vs. 21.4). The majority of participants agreed that CC messages encouraged them to seek support (68.8%) and helped them feel hopeful about recovery (75.1%) Conclusions: Results demonstrate the acceptability of improvements to CC messages indicating that CCs promoted help-seeking behaviours. This study addressed Patient Needs and Resources by integrating the voice of lived experience reflective of the CFIR domain of Outer Setting. Future efforts to enhance Caring Contact messages can be considered within an implementation science framework to promote uptake of patient input and improve intervention acceptability.

Monday May 06

## Interpersonal and Psychodynamic Psychotherapies for PTSD: A Meta-Analysis

Duncan Kimmel M.D.; John Keefe PhD; Erica Weitz

Objective: In the treatment of post-traumatic stress disorder (PTSD) well-established trauma-focused cognitive-behavioral therapies have remission rates of 30-50%. Interpersonal psychotherapy (IPT) and psychodynamic therapy (PDT) alternatively focus on the roles of disrupted attachment mentalization and social connection in PTSD and may uniquely help some patients. We conducted a preliminary meta-analysis on these increasingly studied affect- and interpersonally-oriented approaches to PTSD. Methods: Building on a 2018 Cochrane Collaboration meta-analysis we performed additional searches for trials on PubMed and PsycINFO. Target studies concerned the treatment of reliably-diagnosed DSM/ICD-defined PTSD with IPT/PDT in adults as compared to other bona fide PTSD treatments or control groups. Random-effects meta-analyses were conducted to assess PTSD outcome effect sizes and rates of dropout. Trials were quality rated using the RCT-PQRS. Results: Ten randomized trials (8 IPT) comparing IPT/PDT to either control groups (k=7) or active treatments (k=4) were identified. Most studies (k=9/10) met for adequate study quality. IPT/PDT were superior to control groups ( $g=-1.14$   $p=.011$ ; wait-list  $g=-1.49$ ; active control  $g=-0.70$ ) but there was some evidence the effect size particularly versus wait-lists was inflated due to outliers or publication bias. IPT/PDT were comparably efficacious to other active PTSD treatments ( $g=-0.02$   $p=.695$ ) primarily exposure-based psychotherapies with lower dropout (relative risk = 0.63;  $p=.049$ ). Discussion: IPT/PDT may provide promising new frameworks for the treatment of PTSD. IPT has demonstrated efficacy in multiple clinical trials while the controlled clinical evidence for PDT is more sparse and requires additional validation.

Monday May 06

### **Just for Me! Black Cultural Pride Boxes Aiding Parents in the Racial Socialization Practices of their Black Preschoolers**

Lauren Edwards; Erica Coates; Thomas Mellman M.D.

Exposure to racism is an important risk-factor for mental health disorders in Black children. Research shows that instilling racial identity and cultural pride in children while preparing them to encounter racial bias (i.e. racial socialization) is associated with cognitive behavioral and academic benefits for young Black children. Identifying effective approaches for aiding parents who are primarily responsible for instilling racial identity and cultural pride within young Black children is needed. Our goal for Just for Me!: Black Cultural Pride Boxes for Black Preschoolers was to determine the acceptance and utility of a community-based box featuring Black-centered interactive play and educational items from Black creatives. Just for Me! instilled racial identity and cultural pride by increasing Black representation providing positive affirmations and teaching Black history and culture. Fifteen families were recruited from an early childhood education center in Washington D.C. We successfully designed and provided individualized age-appropriate Just for Me! boxes for 15 preschoolers: 9 females mean age 3.7 years (range 2-5 years). On average each preschooler's box contained ~20 educational and play items including books 4x6 pieces of art coloring pencils and crayons coloring books and posters dolls puzzles and interactive activities. Boxes were accompanied by a detailed description of each item via a video describing the contents. Families were given 2 months to interact with the boxes prior to us conducting an individual interview to assess the utility of the boxes for racial socialization practices. Fourteen of the 15 mothers completed a twenty minute semi-structured interview via Zoom. We organized the contents of the boxes broadly into 3 main categories of 1) books; 2) art (including artwork coloring supplies & stickers); and 3) activities to

measure across boxes. For each category we assessed a) the level of engagement b) how much the child liked the items as rated by parent; c) the current utility and d) future usefulness in promoting racial identity and culture using a 5 point Likert scale. Mothers reported using items within each category with art items having the highest reported levels of engagement acceptability and likelihood for future use of similar items as a resource to build children's cultural pride followed by books and then activities. Parents rated art and activities as equally useful in helping children develop cultural pride followed by books. Overall art coloring supplies and stickers had the highest ratings of engagement acceptability and both current and future utility. Contextual feedback demonstrated that activities may require increased levels of customization or time for higher engagement and acceptability. Implications and recommendations for providing cultural pride aids for families with young Black children will be forthcoming.

Monday May 06

### **Long-term Safety and Efficacy of Olanzapine/Samidorphan: Results of a 4-Year Open-Label Study**

Rene Kahn M.D. Ph.D.; Jacob Ballon M.D.; David McDonnell; Christoph Correll M.D.; Martin Dunbar

**BACKGROUND:** The olanzapine/samidorphan (OLZ/SAM) combination is approved for the treatment of patients (pts) with schizophrenia (SZ) or bipolar I disorder (BD-I) and provides the established antipsychotic efficacy of olanzapine while mitigating olanzapine-associated weight gain. This study evaluated the long-term safety tolerability and durability of effect of OLZ/SAM including characterization of its weight and metabolic profiles over 4 years of treatment. **METHODS:** This phase 3 48-month (4-year) multicenter open-label extension study (NCT03201757) assessed the long-term safety and efficacy of OLZ/SAM. Eligible pts enrolled within 7 days of completing 1 of 3 phase 3 clinical

trials investigating OLZ/SAM including (1) the 52-week open-label studies NCT02873208 and NCT02669758 which were rollover extensions of phase 3 pivotal randomized controlled trials in adults with SZ and (2) the 12-week randomized controlled trial NCT03187769 which compared OLZ/SAM to olanzapine in young adults with recent-onset SZ schizophreniform disorder or BD-I. In the long-term studies pts continued their daily dose of OLZ/SAM (5–20/10 mg) for up to an additional 4 years with dose adjustments determined by the investigator. Safety assessments included the incidence of adverse events (AEs) and changes from baseline (CFB) in body weight and waist circumference. Changes in lipid (high-density lipoprotein low-density lipoprotein total cholesterol triglycerides) and glycemic (glucose and glycosylated hemoglobin) parameters were also evaluated. Antipsychotic efficacy was assessed with the Clinical Global Impressions–Severity (CGI-S) scale. RESULTS: Of 524 pts enrolled in the study 523 received ?1 dose of OLZ/SAM and 188 (35.9%) completed the 4-year treatment period (mean [SD] duration of exposure=652.4 [454.8] days). Pts were mostly male (61.6%) and White (72.7%) with a mean (SD) age of 35.1 (12.2) years. Overall 60.0% of pts reported an AE; the most common were weight increase (9.8%) headache (7.1%) anxiety (6.1%) insomnia (5.9%) somnolence (5.9%) nausea (5.7%) and weight decrease (5.7%). After 4 years of treatment the mean (SD) change in body weight was 1.47 (8.0) kg. The observed mean (SD) CFB in waist circumference was 0.61 (8.2) cm. Lipid and glycemic parameters were generally stable over the treatment period. Disease symptoms were stable over the course of 4 years with a mean (SD) CGI-S CFB of ?0.28 (0.7) points. CONCLUSION: In this 4-year open-label extension study treatment with OLZ/SAM resulted in a safety profile consistent with previous short-term studies and was associated with minimal changes in body weight waist circumference and lipid and glycemic parameters. Similarly OLZ/SAM maintained symptom control during long-term treatment. Based on these results OLZ/SAM maintained long-term antipsychotic efficacy while mitigating the weight gain and metabolic

dysfunction associated with olanzapine. This study was funded by Alkermes Inc.

**Monday May 06**

### **Measuring Resilience Throughout General Psychiatry Residency: A Survey Study on Psychiatry Residents from a Community Hospital Setting**

Jose Hawayek M.D.; Ginger Shupe M.D.

Background: Resilience is the ability to bounce back from difficult situations; it builds as we learn from the life lessons taught to us in adverse times. The five resilience skills are self-awareness mindfulness self-care positive relationships and purpose. Resilience has been identified as a tool for improving the physician workforce's care comradery and sustainability. Medical training is arduous and daunting prompting various challenges and possible setbacks. Measuring variations in resilience throughout psychiatry residency training is paramount as it denotes specific points where challenges can build up for professionals and pitfalls that can lead to burnout and physician attrition. Methods: Brief Resilience Scale (BRS) Surveys were administered to individual residents at the PGY-1 through PGY-4 level of training in a general psychiatry residency training program in a community hospital. The results of the surveys were calculated averaged and compared on a month-to-month and year-to-year basis. Graphs were created to demonstrate the results and create guidelines for changes in resilience. Results: 70 residents were surveyed monthly across two years of academic training with two graduating classes of 6 and 12 respectively. The average single resident BRS score per month was 4.333 the average PGY year score per month was 3.6667 the average score per PGY was PGY-1 3.75 PGY-2 3.8167 PGY-3 3.4333 and PGY-4 4.2407. Over 30% of residents were noted to have decreased BRS scores at the end of PGY-3 outpatient rotations. Minor drops in

resilience were observed amongst individuals during October November and December. Conclusions: Variations in resilience during psychiatry residency training were more prevalent when comparing PGYs amongst each other specifically when entering PGY3 years compared to other years. Month-to-month comparisons within PGY show slight variation; however incremental increases were observed in BRS scores as the year progressed. These results delineate a guide to measuring resilience in psychiatry residency training programs and pave the way for specific interventions to increase resilience.

**Monday May 06**

### **Medical psychiatric and sociodemographic predictors of clozapine initiation at an academic medical center**

Kathleen Shangraw M.D.; Christian Schmutz M.D.; Brent Kious M.D.;Ph.D.

Objective: The current study aimed to identify factors affecting clozapine prescribing patterns among patients with treatment-resistant schizophrenia and schizoaffective disorder at an academic medical center. Methods: This retrospective mixed-method study examined demographic socioeconomic medical and psychiatric characteristics to determine predictors of clozapine initiation. The study population included patients with a diagnosis of schizophrenia or schizoaffective disorder who were admitted to a University of Utah inpatient psychiatric facility (1/2014 - 3/2021) and had at least two prior antipsychotic trials. Patients who did and did not receive clozapine during the index hospitalization were compared in cohort and case-control study arms. Results: Twelve percent (59/477) of the cohort received clozapine during the index admission. Among the cohort (n=477) Black patients were significantly more likely to receive clozapine than White and

Hispanic patients ( $\chi^2=6.95$   $p=0.0084$ ). In the case-control analysis patients with a greater number of previous psychiatric admissions (OR 1.14 95% CI 0.98-1.32  $p=0.079$ ) and antipsychotic trials (OR 1.40 95% CI 1.00-1.96  $p=0.038$ ) had greater odds of receiving clozapine. Homelessness was identified as a predictor against clozapine use (OR 2.77 95% CI 1.24-6.19  $p=0.014$ ). Conclusion: This is the first study to identify homelessness as a predictor against clozapine use which raises important clinical and ethical considerations. Our findings also add to the literature on clozapine prescribing discrepancies among ethnic-minority patients. Overall clozapine remains underutilized as the gold-standard treatment for treatment-resistant schizophrenia-spectrum disorders reinforcing a need to improve guideline- and evidence-based prescribing.

**Monday May 06**

### **Missed Connections: Analyzing Factors Associated with No-Show Rates in a Student-Run Free Clinic**

Lucy Fisher; Joy Li; Jonathan Pavia

Abstract Background: St. Vincent's Clinic (STV) is a student-run free clinic that provides care to Galveston's underserved population. STV provides services in primary and specialty care including psychiatric services. Psychiatry nights traditionally have a high no-show rate and many patients are unable to be seen promptly with an average wait time of one to four months. Aims: To determine factors associated with missed appointments to guide future implementations in our clinic with the ultimate goal of decreasing the no-show rate. Methods: Data was extracted and de-identified from STV's electronic medical records and the following parameters from psychiatry appointments between 3/25/21 and 11/9/23 were analyzed: appointment date/time appointment notes appointment status (complete no-show canceled) language and patient status (new or established). Appointments were excluded from analysis if the notes were left blank if the notes did



not include a diagnosis or if the appointment was canceled. Appointment notes were used to determine the diagnosis(es) relevant to a given appointment. No-show rates per diagnosis were determined by identifying each instance of a diagnosis in the notes and then recording the number of no-show appointments per each diagnosis. No-show rates per number of diagnoses were determined by recording the number of diagnoses per appointment as listed in the notes and recording number of no-show appointments in each group. No-show rates per language were determined by identifying the number of appointments in English or Spanish and the corresponding number of no show appointments. Chi-Square tests were performed for no-show rates per diagnoses per number of appointments and per language. Residual analysis was performed on no-show rates per diagnosis. Results: The average no-show rate by diagnosis was 35.29% by number of diagnoses was 35.32% and by language was 34.73%. Testing with chi-square tests revealed that the relationship between no-show rates by language or number of diagnoses were not statistically significant but the relationship of no-show rates by diagnosis was. Residual analysis showed that the largest residuals occurred with the diagnosis of Post-traumatic stress disorder (PTSD) or bipolar. Conclusion: While the causes of high no-show rates at STV psychiatry nights are multifactorial a patient's given diagnoses play a role in their no-show risk. This information will allow STV to focus outreach on patients with diagnoses that increase their no-show risk and suggests the need for ongoing monitoring to assess current outreach. This also presents an opportunity for other psychiatry clinics to perform similar analysis to assess patient diagnosis as a possible risk for no-showing with the aim of improving patient care and clinic flow.

**Monday May 06**

## **Momentary Incongruities in Emotional Experience and Their Impact on Everyday Functional Activities in People with Schizophrenia**

Megan Neff; Philip Harvey Ph.D.; Katherine Raffensperger

**Background** Abnormalities in emotional experience are common in people with schizophrenia and are associated with social functioning deficits as well as challenges in self-assessment. While most research on emotion has focused on clinical ratings of reduced social motivation and emotional expression Ecological Momentary Assessment (EMA) offers opportunities to examine momentary emotional experiences and their momentary correlates as well as correlations with more typical self-assessments of functioning. In an observational study we examined reports of implausibly low levels of sad moods as well as the concurrent experience of high levels of positive and negative moods and identified their correlates.

**Methods.** Participants with schizophrenia (n=146) answered up to 90 EMA surveys 3 times per day 7 days per week over 30 days in the observational study. Participants were asked to report their momentary mood states ( Negative: Sad and/or Anxious; Positive: Happy and/or relaxed) their location (Home vs. away) social context (alone vs with someone) and activities ( Productive or unproductive activities at home; social interactions home or away) at each survey. We related momentary mood state experiences to concurrent EMA data information on location social context and productive and social activities.

**Results.** There were 10800 surveys collected In the study; 19% of the participants reported no NA experiences at a level of more than 2/7 on any survey. Further 35% of the 10800 surveys reported the concurrent experience of moderately or more intense experiences of both PA and NA. Participants with the complete absence of NA were home and alone more than participants with experiences of NA. They also reported that their social competence was significantly higher than those with more variable moods; however they were rated as significantly

less competent by informants. Surveys with high scores on both PA and NA were more likely to concurrently report a recent social interaction than those with very low NA but their ratings of satisfaction with their interactions was significantly lower than surveys reporting the other two possible mood combinations: concurrent high NA and low PA or high PA and low NA.

Implications. Momentary abnormalities in emotion experiences were associated with reduced social functioning and less positive responses to social interactions. Different anomalies in emotional experience are found to be associated with social functioning and self-assessment of functioning with more normative emotional experiences correlating with increased satisfaction with social functioning.

**Monday May 06**

### **Outcomes and economic value of recreation for adults with chronic moderate-to-severe acquired brain injury**

Mayada Saadoun M.D. M.P.H. M.Sc.

Introduction and objectives: Acquired Brain Injury is associated with a significant physical neurological and psychosocial impairments explaining its high economic burden. Although associated with improving biopsychosocial status access to multidisciplinary rehabilitation services remains limited. Participation in meaningful activities is a major goal for people with chronic moderate-to-severe acquired brain injury (ABI). This study examined impact and economic value of participation in recreation and exercise program in particular. Methods: This is an exploratory cross-sectional study with 36 adults in ABI-supported living group homes in eastern Massachusetts. Participants' demographics participation hours of diverse recreation activities costs of recreation programs and outcome measures (brain injury function and health-related quality of life) were collected in 2013-2015.

Bivariate statistics ordinary least squares regression and economic analyses were performed to investigate the association between participation in recreation and outcome measures. Results: Participation in the exercise program was significantly associated with better functional outcome. Twenty residents participated in exercise program in 2014 (average of 104 hours  $\pm$ 32 per year). Those who did not participate in exercise (n=16) showed a steeper deterioration in functional outcome during the study period. Exercise participation was associated with a 2.17-point lower (better) Mayo-Portland Adaptability Inventory-4 (MPAI-4) score (p=0.02). Program cost was \$1500 per person per year; annual spending of \$690 on exercise programming resulted in one unit of improvement in MPAI-4. The self-rated quality of life measure (EuroQol-5D-3L or EQ-5D) was not associated with the functional outcome (MPAI-4) observed by staff. Conclusions and

Recommendations: Participation in the exercise program was associated with a better functional outcome among the population with chronic ABI and is potentially cost-effective. Clinical providers should highly encourage people with chronic ABI to participate in exercise programs to improve their quality of life which could potentially reduce the biopsychosocial and economic burdens associated with ABI. Psychological barriers to participation in exercise such as depression insomnia fear and anxiety and stigma against ABI should be addressed when present. Economic evaluation could potentially be strengthened by developing a crosswalk method to estimate equivalent rating items in EQ-5D corresponding with the existing MPAI-4 scores.

**Monday May 06**

### **Psychotherapy Usage by Medical Students: A Review of Barriers and Potential Outcomes**

Caroline Doyle; Albert Dickan M.D.; Alyssa Burd; Syed Qadri

**Background** It is no easy task to endure the pace rigor and responsibility of medical school. Prior studies have established that medical students experience higher rates of stress depression anxiety and burnout compared to the general population. However the most effective techniques to combat these alarming rates remain unclear. In this paper we sought to identify the benefits of psychotherapy for medical students experiencing stress-induced mood disorders including anxiety and depression. Psychotherapy (i.e. talk therapy) is a method of discussing one's life events in order to identify ways to improve their own beliefs thoughts and actions. Therapy can be targeted for certain mood disorders or psychopathology and has been shown to be very effective for many people. We sought to discuss and evaluate the potential successes of therapy in reducing stress anxiety and depression among medical students while also evaluating the barriers and issues that may diminish the utilization of therapy in this population. **Methods** A literature review regarding the relationship between medical students and therapy was conducted using the following sites: PubMed Google Scholar NIH and ASA Psych. There were no exclusion criteria allowing inclusion of an array of articles including primary literature clinical trials and case-studies. Twenty-three articles and websites deemed to contain peer-reviewed evidence were carefully read and used as relevant citations. **Results** While overall current data is limited several studies showed improvement in medical student mental health after trials with therapy and/or therapy-learned techniques such as mindfulness. The primary barrier from pursuing therapy as a means of mental health support was stigma. This stigma was a result of the competitive and invasive nature of medical education with students fearing that seeking mental health help would make them perceived as weak by their peers and evaluators. Students were also found to attribute barriers such as accessibility busy schedules and financial cost to their hesitancy to try therapy. **Conclusions** While still relatively under-explored the preliminary outcomes of medical students participating in therapy is promising for improvement of stress-induced

mood disorders. Medical school curricula must prioritize student wellness by dismantling barriers of stigma accessibility and negative self-perception in order to promote options such as therapy. We believe this research should be taken further by looking into patient outcomes after seeing providers who have previously gone to or are currently in therapy.

**Monday May 06**

### **QT Interval - Can the Computer Measurement be Trusted?**

Daniel Fisher M.D.; Robert Buntyn; Azl Saeed; Vaskar Mukerji

**Background:** QT intervals provide critical guidance in treatment selection for psychiatrists. The accuracy of the measurement affects treatment decisions in patients with overdose underlying cardiac pathology and treatment with multiple QT-prolonging agents. Both false positive and false negative results may significantly impact treatment with medication selection. False positive QT prolongation may lead to the selection of second-line or third-line treatments. False-negative results may put the patient at risk of torsade de pointes with the selection of QT-prolonging treatment. Most ECGs recorded are automatically analyzed and clinical decisions are often made upon the computer-measured QT interval. The variation between computer and manually measured QT intervals is not well-established. **Objective:** The study aimed to compare computer-determined and manually measured QT intervals. **Methods:** A series of 200 routine ECGs were reviewed as part of this project. Computer-measured QT intervals were compared with manual measurements. The threshold method was utilized for manually measuring QT intervals. The Bazett formula was then used to calculate the corrected QT interval (QTc). The presence of various abnormalities in these ECGs was recorded. **Results:** Of the 200 ECGs 156 were from males and 44 were from

females. Normal sinus rhythm was present in 170 of the 200 ECGs. Atrial arrhythmias (tachycardia fibrillation or flutter) were present in 26 of the 200 ECGs along with 1 multifocal atrial tachycardia and 3 with second-degree atrioventricular block. Differences were noted between the computer-measured and manually measured QT interval and QTc for the following: Atrial arrhythmias (tachycardia fibrillation or flutter); AV blocks; presence of baseline artifact abnormal ST-T waves and U waves. The computer measurement varied both higher and lower than the manual measurement. There was no difference identified between the manual and computer-measured QT interval and QTc in other ECGs in normal sinus rhythm. Conclusion: Our observations are particularly important for psychiatrists and other physicians who rely on the QT measurement for clinical decision making. The findings of this study suggest that in patients with certain arrhythmias if an accurate reading of the QT interval is needed then manual measurement should be considered. This was a small study which did not allow for statistical analysis. Further study with a larger sample size should be considered for statistical significance.

Monday May 06

### **Real-World Comparative Effectiveness of Antipsychotic Agents in a National Sample of Medicare Beneficiaries with Schizophrenia in the United States**

Pengxiang Li; ZHI GENG; Carmela Benson; Charmi Patel; Jalpa Doshi

Background: Although about half the individuals with schizophrenia receive coverage through Medicare little is known about the comparative effectiveness of antipsychotic treatments in this population. This study aimed to compare effectiveness of long-acting injectables (LAIs) and daily oral antipsychotics (OAPs) across different agents and dosing intervals in a national sample

of Medicare beneficiaries with schizophrenia. Methods: This observational study used 2006-2019 national fee-for-service Medicare claims to identify all beneficiaries with schizophrenia and ≥1 antipsychotic fill between 01/01/2006 to 12/31/2019. The primary outcome was treatment failure a composite measure of psychiatric hospitalization antipsychotic discontinuation (continuous gap of ≥60-days in antipsychotic use) suicide attempt or death. Within-individual Cox regressions were used in which each individual served as his or her own control to remove selection bias. In the first set of analyses we compared outcomes across all LAIs (haloperidol fluphenazine risperidone olanzapine aripiprazole paliperidone) and OAPs (first-generation antipsychotics haloperidol fluphenazine other; second-generation anti-psychotics risperidone olanzapine aripiprazole paliperidone quetiapine ziprasidone lurasidone clozapine other). In a second set of analyses we further separated the LAI agents with sufficient sample size by dosing interval: paliperidone (every month and 3-months) aripiprazole (every month and 6-8 weeks) and fluphenazine (every month and 6 weeks). Risperidone LAI (primarily consisting of every 2-week dosing interval) was used as the reference group. Results: The final sample included 152835 beneficiaries (mean age 53.5 years 54.0% male 61.5% White). Compared to risperidone LAI all OAPs except clozapine (HR 0.95; 95%CI 0.91-0.98) and all LAIs except paliperidone (HR 0.96; 95%CI 0.92-0.99) were associated with a significantly higher hazard (HRs 1.09 to 2.03) of treatment failure. In the analyses of selected LAI agents by dosing interval paliperidone LAI every month (HR 0.95; 95%CI 0.92-0.98) paliperidone every 3-months (HR 0.69; 95%CI 0.62-0.76) and fluphenazine every 6 weeks (HR 0.93; 95%CI 0.89-0.99) were associated with a lower hazard of treatment failure and fluphenazine LAI every month (HR 1.43; 95% CI 1.38-1.49) and aripiprazole LAI every month (HR 1.09; 95% CI 1.04-1.15) were associated with a higher hazard of failure compared to risperidone LAI. Aripiprazole LAI every 6 to 8 weeks was not statistically different than risperidone LAI. Conclusions: This real-world study found that all OAPs except clozapine had a higher risk of treatment failure

compared to risperidone LAI. Only paliperidone LAI (every month and 3-months) and fluphenazine LAI (every 6 weeks only) had a lower risk of treatment failure compared to risperidone LAI. Paliperidone LAI every 3-months had the lowest risk of treatment failure in our study. This study was funded by Janssen.

**Monday May 06**

### **The Diagnostic Yield of Genetic Testing for Schizophrenia Spectrum Disorders: A Systematic-Review and Meta-Analysis.**

Harman Brah; Nimrat Sran; Sanjana Sanghani; Aaron Besterman

Background: Schizophrenia spectrum disorders are underpinned by a complex genetic architecture ranging from small effect single nucleotide polymorphisms to impactful rare copy number variants. Clinical genetic testing allows for the identification of high impact variants that can inform genetic counseling in schizophrenia. However the exact measure of diagnostic yield—a critical metric for clinical decision-making—remains uncertain. This study aims to systematically review and meta-analyze the diagnostic yield of genetic testing in schizophrenia spectrum disorders to inform and refine genetic counseling and testing practices. Methods: We conducted a systematic review adhering to a registered PROSPERO protocol (CRD42023409096) and the PRISMA guidelines. Our search across MEDLINE EMBASE and APA PsycINFO databases spanned from January 1 2008 to March 17 2023 initially identifying 6809 studies. The search strategy employed keywords such as schizophrenia schizoaffective disorder psychosis copy number variation whole genome sequencing and chromosomal microarray. Rigorous screening on Covidence by dual independent reviewers with third-party adjudication for discrepancies distilled 34 studies for final inclusion. Using a random-effects meta-analysis we computed the pooled diagnostic yield—defined as the proportion of individuals

with a pathogenic or likely pathogenic variant on genetic testing. Publication bias was assessed via the Egger test and inter-study variability through the I<sup>2</sup> statistic. Results: The meta-analysis revealed a substantial pooled effect size indicative of the diagnostic yield (estimate = -2.9438 95% CI = -3.3160 to -2.5717) with a pooled diagnostic yield of 5.12% (95% CI = 3.62% to 6.61%). In other words the meta-analysis identified a significant and meaningful difference in diagnostic yield due to genetic testing. However significant heterogeneity was observed (I<sup>2</sup> = 96.97%) signaling variability in diagnostic outcomes across studies. Publication bias was not detected (Egger's test p-value = 0.1104) lending robustness to our findings. Conclusion: Our findings affirm the diagnostic utility of genetic testing in schizophrenia spectrum disorders with a significant pooled yield similar in magnitude to autism spectrum disorders which underscores its potential in genetic counseling and patient management. The high heterogeneity invites caution and suggests that the yield may be influenced by diverse study characteristics or population-specific factors. These insights advocate for personalized interpretation of genetic test results and underscore the need for standardized testing frameworks. Our study provides a pivotal reference for mental health clinicians and genetic counselors in the integration of genetic testing into the nuanced landscape of schizophrenia care.

**Monday May 06**

### **The Dr. June Jackson Christmas Medical Student Program: A Multi-level Psychiatric Pipeline Program**

Patrice Malone M.D.; Jade Avery; Janis Cutler M.D.; Melissa Arbuckle; Nicole Pacheco

Background: Psychiatry is uniquely affected by the dearth of diversity in its workforce.<sup>1</sup> For instance there exists a marked discrepancy between the



representation of racial diversity among psychiatric trainees and the part of the total population that people of color represent.<sup>23</sup> To this end the Dr. June Jackson Christmas (JJC) Medical Student Program was created for trainees from historically underrepresented groups to explore psychiatry as a career and further enrich their knowledge of mental health illness.

**Methods:** The JJC Program began in 2016 with 5 rising second year medical students with a 5-week clinical experience that was funded initially by an APA/SAMHSA Minority Fellowship and now is support by a gift from the Leon Levy Foundation. Clinical track students rotate on 5 different clinical sites: mobile crisis outpatient inpatient comprehensive psychiatric emergency program and the consultation liaison psychiatric service. In 2017 JJC was expanded to include an 8-week research track funded by the NIMH. Research track students are paired with a Principal Investigator to conduct behavioral health projects over 8-weeks. In 2021 a 4-week senior medical student visiting elective was added to the JJC Program with a focus on community psychiatry. Participants are financially supported with a stipend are paired with a trainee and/or faculty mentor participate in didactics and attend fieldtrips in the community to witness psychiatry outside of the academic setting--all in an effort to reinforce and broaden their interest in psychiatry.

**Results:** Since 2016 51 students from 35 medical schools have participated 26 students in the clinical track 15 in the research track and 10 in the visiting elective. The clinical track was put on hold in 2020 due to the COVID-19 pandemic and only accepted one local medical student in Summer 2021 due to restrictions for visiting students. Due to the pandemic the research track and visiting elective were conducted virtually in 2020/2021 and 2021 respectively. Feedback following the program has been overall positive. Participants report that they benefit from getting a more well-rounded view of what a profession in psychiatry has to offer enjoy connecting with other students who having similar interests and are particularly grateful for the mentorship embedded in the program. Among those participants who have since graduated from medical school (n=29) 22 (76%) have now entered psychiatry residency.

**Conclusions:** This program has created an opportunity for medical students from historically underrepresented groups to expand their exposure to psychiatry through additional clinical and research experiences. The clinical experience goes well beyond what they would normally receive during their psychiatry clinical clerkship and the mentored research projects provide a better understanding of the scientific breadth of possibilities in psychiatry. Our primary ongoing challenge remains funding support.

**Monday May 06**

### **Training the Imposters: Identifying Novel Imposter Phenomenon Risk Factors in Medical Trainees**

Sek Eun Lee; Naomi Ambalu; Stephanie Crane MD; Nathan Carroll D.O. M.B.A.

**Introduction:** Imposter Phenomenon (IP) is characterized by persistent internalized fears of being exposed as a “fraud.” IP's negative self-perception can result in depression and anxiety impaired job performance job satisfaction and burnout (1)(2). Little is known however regarding how those internalized fears develop into IP. Therefore we performed a cross-sectional study to identify potential risk factors for the condition focusing on lived experiences and relationships.

**Objective:** To identify psychological and social-dynamic traits correlating with IP. **Methods:** A cross-sectional survey was distributed to medical students and residents at Hackensack Meridian Health through program directors. Participants were asked to rank 28 psycho-social questions on a 5-point Likert Scale (1=strongly disagree to 5=strongly agree) and the 20-item Clance IP (CIP) scale. Higher aggregate CIP Scores correlate with an increased chance of experiencing imposter feelings. Data were evaluated using linear models.

**Results:** 129 individuals (66 medical students & 63 residents/fellows) responded to the survey invitation. 96.12% of the respondents reported

'moderate' or higher levels of IP feelings and nearly 25% of the responses were at the 'intense' level. The mean was 69.5 falling into the 'frequent' range. Feelings of: 'Perception of parents or siblings as high achievers' 'academic difficulties' 'believing someone else deserved their opportunity' 'inability to appreciate accomplishments' 'perfectionism' 'critical self-assessment' 'sense of self-worth being tied to medicine' and 'distinguishing roles of physician vs. sense of self' correlated with statistically significant higher CIP scores even after adjusting for demographics. Controlling for age training and gender resulted in novel observations. Women and medical students who strongly felt someone else deserved their spot and men who tied their self-worth to being a physician had higher CIP scores. 'Academic difficulties' were especially impactful to medical students. Both medical students and residents who could not 'appreciate their accomplishments' and were 'critical of themselves' had higher IP scores. Conclusion: Our results correlated with the hypothesis that IP is a relational affliction. Lived experiences some inherent to medical training result in internalized feelings of fraudulence due to an externalized locus of control & validation. This is a natural extension of existing research showing that IP is worsened by low self-esteem and institutional culture and improved by validation positive affirmation and reflection(3). The temporal relationship with some factors is unclear. For instance is an individual unable to appreciate their accomplishments because they have IP or vice versa? A longitudinal prospective study based on these results may shed further light on temporality. Awareness of this research could assist in mindful approaches to building resilience amongst trainees.

**Monday May 06**

### **Trends in the Poster Presentations by International Medical Graduates at the Annual APA Meetings**

Shahzain Hasan M.D.; Misbah Alam M.D.; Farhan Mohammed M.D.; Jose Carlos Real

Medical students trainees and healthcare professionals present their posters at national conferences to receive feedback gain knowledge network and enhance their biodata to enter residency programs (1). This exercise has gained popularity over the past few years including international medical graduates (IMGs) due to increased competitiveness to enter residency programs particularly psychiatry (2). One of the largest psychiatric meetings in the United States (US) is the American Psychiatric Association (APA) annual meeting which provides a popular platform for psychiatry applicants from around the globe to present their posters on the big stage. In the past poster contributions have been dominated by US graduates. However many IMGs mainly from South Korea India and Pakistan have presented posters in the past few years. We gathered poster presentation data from 2015 to 2021 to compare the yearly frequency poster topic and author's country of origin between the US IMGs and other medical graduates. A cross-sectional study yielded 6378 poster presentations at the APA meetings from 2015 to 2021. There was no annual APA meeting in 2020 due to COVID-19. Data entry and statistical analysis were done using Statistical Package for Social Sciences 25.0 (SPSS v25.0). Frequencies amongst various variables were computed to compare distributions and topics of poster presentations by the IMGs versus US graduates over six years. The results showed that most participants were US graduates increasing from 39% in 2015 to 59.8% in 2021. Most IMGs during the six years reviewed were from India Pakistan South Korea and Canada (i.e. 92.7%). Poster presentations by the Indian IMGs were 11.6% in 2015 and 7.7 % in 2021 but the decline was more significant in the South Korean and Canadian IMGs. Paksitani IMGs poster presentations slightly increased from 4.2 in 2015 to 5.8% in 2021. Most posters (1664/6378) were presented in 2018 before the COVID pandemic. Despite a gradual increase in post-COVID presentations the pre-COVID numbers in 2018 have not been reached yet. Regarding the topic the most significant increase was observed in

posters on mental health (15% in 2015 to 34% in 2021) perhaps due to COVID-related psychiatric effects. US graduates and South Korean and Pakistani IMGs were the ones who switched from psychopharmacology to mental health. In contrast Canadian IMGs continued to focus on mental health topics over six years. Although psychopharmacology declined in 2018 it did not change much in 2015 and 2021. However schizophrenia posters decreased from 11.5 in 2015 to 6.9% in 2021 and depression posters from 10.2% in 2015 to 8.6% in 2021. Overall the results suggest the continued dominance of the US graduates with some country-of-origin-based differences in poster presentations by the IMGs (3). The data also showed the effects of a pandemic on the number of poster presentations and their topics.

**Monday May 06**

### **Understanding attitudes toward mental health and barriers to seeking mental health treatment among Asian American Christian adults**

John Lim; Xiaoxi Ouyang; Rebecca Yamamoto; Eunice Yuen; Merlin Ariefdjohan

**INTRODUCTION** Asian Americans (AAs) experience a sizable burden of mental illness (MI) but they are less likely to seek mental health (MH) services than the general population. Although most AAs identify as religious with the majority being Christian no prior studies regarding MH have been conducted in faith-based AA communities. Using a mixed-methods approach we aimed to identify the attitudes of Asian American Christian (AAC) adults toward MH and to explore potential strategies to decrease barriers in MH-seeking attitudes in this population. **METHODS** Partnering with a local Chinese-American church in Washington D.C. our research team used a mixed-methods analysis to evaluate data from surveys and focus groups. The primary outcomes

of the surveys (n=40) were participants' self-reported levels of MH literacy acculturation and religiosity as measured using the following validated scales: Mental Health Literacy Scale Suinn-Lew Asian Self-Identity Acculturation Scale and Duke Religion Index. During focus groups participants were invited to share their thoughts on survey results and other topics relevant to AAC MH attitudes beliefs and barriers. Consensual Qualitative Research protocols guided qualitative thematic content analysis. **RESULTS** Across all age groups in the focus groups participants identified having a "strong community" as a protective factor for AACs. Identified barriers include stigma toward MI from the Asian culture of "saving face" shame and the perceived burden on one's family. Older survey participants (>50 years old) tended to have lower MH literacy and stronger Western identification. Length of residence in the U.S. could be a better predictor of acculturation rather than age. Multiple participants noted the association of MI with "demons" and supernatural forces and that Christian communities may (inadvertently) reinforce guilt/shame of MI. Furthermore participants expressed hesitancy toward MH resources that do not align with Christian viewpoints. Finally multiple participants reported that MH issues are simply not talked about enough in AAC communities. Potential interventions to decrease barriers to MH treatment include MH education for both church members and leadership including "workshops related to MH awareness" providing educational materials such as brochures and bulletin board postings and incorporating MH topics in sermons and seminars. **DISCUSSION** Data from the focus groups revealed that MH issues are not frequently discussed in AAC communities; this is possibly limiting literacy and increasing the stigma against MH further decreasing discussions related to MH topics. Further research is needed to explore the intersectionality of barriers that AACs face in seeking MH treatment. Effective interventions will likely require buy-in and support from community members.

Monday May 06

## Understanding the Resources Medical Students Find Beneficial to their Mental Health and Barriers to Accessing Care

Ghazal Javaid; Juliet Villegas; Stacey Fanning Ph.D.; Jeffrey Gardere Ph.D.

Background: This study outlines an important topic in the medical student community: mental health. Previous research has found that the rates of suicide and depression are increasing in the medical student population. However not much research has been done to understand the factors that are leading to this increase resources this population finds helpful or reasons why this population might not be getting proper care. Objective: To identify the resources medical students find beneficial to their mental health and the perceived barriers they must overcome to attain mental health care. Methods: In the Fall of 2023 a questionnaire was distributed to the enrolled students in TouroCOM Harlem (n=200). The questionnaire assessed the state of their mental and physical health the factors that affect their mental health and a series of questions asking what they believe helps their mental health to what extent it helps and what stops them from accessing various types of help. Responses were analyzed using descriptive statistics to identify common themes. Results: According to the GAD-7 questionnaire 25% of students have moderate/severe generalized anxiety. According to the PHQ-9 questionnaire 24.86% of students have moderate to severe/severe depression. Furthermore 65% of participants reported using a professional mental health resource: outside-school therapy/counseling seeing a psychiatrist and school counseling being the top three professional resources used. Of those who have used outside therapy/counseling 82.25% of students found it to be very or somewhat helpful and 75.51% of students would use it again. Of those who use or have seen a psychiatrist 91.67% of students found it to be very or somewhat helpful and 84.85% of students would use it again. Of those who have used school counseling

44.55% of students found it to be very or somewhat helpful and 33.33% of students would use it again. Exercise/diet (79.87%) reaching out to a loved one (72.96%) and meditation (31.45%) were the top three self-help resources being used by students. This data shows that there are proven resources that students find helpful and would be willing to use again. However time (68.75 %) finances (44.89%) and insurance coverage (42.05%) were the top three moderate or severe barriers to accessing care. Conclusions: This is a call to action for the medical school community to create a more supportive environment that maintains good mental health and assists students struggling with their mental or physical health. It also encourages students to use resources reported as being helpful.

Monday May 06

## Unraveling COVID-19's Impact: Symptom Screening and Seclusion Practices in Psychiatric Care

Katerina Liong B.S.; Michael Wang B.S.; Adam Lowry; Angela Le D.O.; Shabnam Sood

Background: The COVID-19 pandemic caused by the SARS-CoV-2 virus has presented unique challenges for psychiatric hospitals due to the diversity of symptoms across variants and difficulty controlling for infection in a crowded environment. Our hospital's protocol designates an individual as "Person Under Investigation" (PUI) requiring isolation after endorsing one or more COVID-19 symptoms which comes at significant cost to patients staff and systems. Objectives: This study primarily aimed to explore the prevalence and predictive value of COVID-19 symptoms across three distinct variant-predominant time periods [alpha delta omicron] and to determine the impact of hospital policies on rates of agitation via seclusion and restraint (S&R) usage in an involuntary psychiatric hospital. Methods: Retrospective chart review using REDCap for HIPAA-compliant data storage and Statistical Package for the Social Sciences (SPSS)

for data analysis. Symptom prevalence reported via PUI checklist was tabulated when an individual developed 1+ COVID-related symptoms. S&Rs were tabulated 48 hours before and after being made PUI using paired data. Results: 193 of 238 adults met inclusion criteria 77.7% of whom were white 15.5% black followed by American Indians and Asians. Only 15 of the 193 individuals had a positive lab result after being made PUI. 11 tested positive for COVID 3 for Influenza A and 1 for RSV. The remainder still required isolation until asymptomatic. Symptoms among the 11 COVID positive individuals were nasal congestion (5) body aches (4) sore throat (4) headache (3) cough (3) nausea/vomiting (2) fatigue (2) and loss of taste or smell (1). There were 3 COVID positives during period 1 (alpha) 1 during period 2 (delta) and 8 during period 3 (omicron). Predictive values for variant-specific symptomatology were inconclusive due to low number of positive patients in each time period. Frequency of S&R events were not significantly different before vs. after PUI ( $p > 0.999$ ). Conclusions: Current symptom-based quarantine measures aimed at detecting early infection and preventing spread are sensitive for symptomatic COVID infections but were found to have low specificity in diagnosing patients due to confounding factors mimicking COVID infection of both infectious (i.e. Flu RSV) and non-infectious (i.e. medication adverse effects) etiologies. PUI-type hospital policies require significant resource allocation increase staff burnout and lead to false positive screens with consequences that merit further investigation. The current study did not find an increase in frequency of S&R orders following PUI designation though future studies may explore the impact of PUI policies on psychiatric outcomes such as length of stay. Given the fewer-than-expected COVID-positive cases the findings presented may help guide COVID-19 psychiatric hospital policies going forward to improve the balance between policy burden and positive patient outcomes.

Monday May 06

## Unveiling the Role of Intestinal Permeability in Predicting Metabolic Syndrome and symptom severity in Schizophrenia.

miguel ALFONSO RAMOS; Belen Arranz; Carla Hernández Rambla; Miguel Bernardo M.D.; Maria Garcia-Portilla

1. INTRODUCTION. Metabolic endotoxemia (ME) involves elevated blood lipopolysaccharide (LPS) levels even without infection and is associated with chronic inflammatory conditions like obesity type 2 diabetes fatty liver disease and pancreatitis.<sup>1</sup> Emerging evidence suggests that ME plays a role in the pathophysiology of Metabolic Syndrome contributing to the persistent low-grade inflammation and insulin resistance associated with this condition.<sup>2</sup> Blood LPS levels are influenced by factors such as gut health changes in the gut microbiome and chylomicron transport.<sup>3</sup> In the bloodstream LPS binds to proteins particularly LPS-binding protein triggering the Toll-like receptor-4 system which initiates inflammation and sustains a chronic inflammatory state.<sup>4</sup> Additionally endotoxemia has been proposed as a contributor to chronic diseases such as schizophrenia.<sup>5</sup> 2. AIM. To analyze the relationship between LPS disease severity cognition and metabolic syndrome in schizophrenia. 3. METHODOLOGY. A cross-sectional cohort study involving 475 patients diagnosed with schizophrenia spectrum disorders was conducted. Assessments included disease severity (PANNS) cognitive function (SCIP) cognitive reserve (CRASH) lifestyle habits (PREDIMED IPAQ) LPS serological levels (marker of intestinal permeability) health markers (blood lipid profile insulin glucose protein albumin CRP) and Metabolic Syndrome criteria (FR-SM). Statistical analyses included Pearson correlation tests and backward stepwise regression. 4. RESULTS: Negative Symptoms: Elevated LPS levels positively correlated with symptom severity (Total PANSS  $p = 0.044$  negative PANSS  $p = 0.02$ ). Cognitive Reserve: LPS levels inversely correlated with cognitive reserve (CRASH  $p = 0.01$ ). Metabolic Markers: LPS levels



positively correlated with metabolic markers (LDL cholesterol total cholesterol triglycerides insulin glucose APO-B all  $p < 0.001$ ) and CRP ( $p = 0.008$ ). LPS correlated negatively with serum HDL and Apo-A1 levels (both  $p = 0.001$ ). Regression model ( $F=10.525$   $p=0.001$ ) included as predictors: Total PANSS ( $B=0.011$   $p=0.005$ ) CRASH ( $B=-0.034$   $p=0.007$ ) LPS levels ( $B=0.067$   $p=0.031$ ) and CRP levels ( $B=0.019$   $p=0.05$ ). being the number of risk factors of metabolic syndrome the dependent variable. 5. CONCLUSIONS. High intestinal permeability (LPS) relates to more severe total and negative symptoms in schizophrenia. High LPS is related to low cognitive reserve without significant cognitive impairment (SCIP).

Increased intestinal permeability worsens metabolic outcomes elevating the risk of metabolic syndrome. The predictive model for metabolic syndrome incorporates LPS levels (intestinal permeability) disease severity inflammatory markers (CRP) and cognitive reserve as significant predictors.

**Monday May 06**

## **Poster Session 9**

**Monday May 06**

### **Behavioral and Psychosocial Factors Related to Mental Distress Among Medical Students**

Kathleen Carlos MD PhD

Introduction Physicians die by suicide at rates higher than the general population with the increased risk beginning in medical school. To better understand why this study examined the prevalence of mental distress (e.g. depressive symptoms suicide risk) and behavioral and psychosocial risk factors for distress as well as the associations between mental distress and risk

factors among a sample of medical students in a pre-COVID-19-era. Methods Students enrolled in a large California medical school in 2018-19 ( $N=134$ ; 52% female) completed questionnaires assessing sociodemographic characteristics depression and suicide family history health behaviors and psychosocial well-being. Assessment scores indexing mental distress (e.g. depressive symptoms thoughts of suicide in the past 12 months suicide risk and history of suicidality) and risk factors (e.g. stress subjective sleep quality alcohol use impostor feelings and bill payment difficulty) were compared across biological sex using chi-squared tests and associations between mental distress and risk factors were determined through logistic regression. Results Elevated mental distress indicators were observed relative to the general public (e.g. 16% positive depression screen 17% thought about suicide in previous 12 months 10% positive suicide risk screen 34% history of suicidality) as well as elevated risk factors (e.g. 55% moderate or high stress 95% at least moderate impostor feelings 59% poor sleep quality 50% screened positive for hazardous drinking (more likely in females) 25% difficulty paying bills). A positive depression screen was associated with higher stress higher impostor feelings poorer sleep quality and difficulty paying bills. Suicidal ideation in the previous 12 months suicide risk and a history of suicidality were independently associated with higher levels of impostor feelings. Discussion Higher scores on assessments of depressive symptoms and suicidal thoughts and behaviors were related with several individual-level and potentially modifiable risk factors (e.g. stress impostor feelings sleep quality bill payment difficulties). Future research is needed to inform customized screening and resources for the well-being of the medical community. However it is likely that modification of individual-level risk factors is limited by the larger medical culture and systems suggesting that successful interventions to mitigate suicide risk for medical providers needs to address multiple socio-ecological levels.

Monday May 06

## Behavioral Emergencies on Medical and Psychiatric Inpatient Units: A Quality Improvement Project

Facundo Sanchez M.D.; Melissa Begolli M.D.

**Purpose** To assess the frequency location and hourly trends of Behavioral Emergencies (BE) across different unit locations (both psychiatric and medical) at Lincoln Hospital Bronx NY. This initial stage establishes the essential framework to develop a more comprehensive understanding of BE to help guide decisions regarding resource allocation and the development of effective prevention strategies. **Methods** BE occurring during the year 2021 were recorded on a log at the end of each emergency episode by a behavioral health provider that included date time location intervention participants a brief description of the event and debriefing. To assess whether certain locations exhibit a disproportionately higher frequency of events a mixed-effects model with Poisson distribution was employed. In this model location was designated as a random effect acknowledging the potential correlation or clustering of events within specific locations. A similar model was used to assess for variations in occurrences throughout the day separately analyzing on-hours versus off-hours and weekdays versus weekends. Temporal correlations between adjacent clock hours were considered acknowledging the possibility of events clustering at specific times. The analysis was conducted using R version 4.2.3. **Results** In 2021 a total of 417 BE were documented. Among these incidents 58% occurred on medical/surgical floors 14.6% took place in inpatient psychiatry units and 13.2% in the psychiatric emergency room. From the 58% of BE that took place on medical/surgical floors 30.6% occurred in the surgical units. Surgical units showed a disproportionately higher number of events with a relative risk (RR) nearly 7 times above other units (RR= 6.97 p<0.001). Additionally surgical floors exhibited an elevated likelihood of experiencing repeated calls following the initial

event (odds ratio= 1.80 p=0.003). Psychiatric units exhibited a disproportionately higher frequency of events between 11 AM and 12 PM approximately 12 times higher than during other hours (p=0.017). This pattern coincided with the conclusion of morning rounds. Notably the temporal variation observed during weekdays was not present on weekends. The same temporal pattern was absent in medical floors. Further during the weekends the proportion of BE decreased in the psychiatric units (from 17.7% to 5.7% of the total calls) but increased in the medical/surgical units (from 55.6% to 65.1%). **Conclusions** Surgical units exhibited a significantly higher event frequency and repeated calls. Psychiatric units showed significantly elevated event rates during weekdays around 11AM coinciding with rounds but this pattern did not extend to medical floors. On weekends BE proportions shifted decreasing in psychiatric units and increasing in medical/surgical units. These findings offer valuable insights for resource allocation staff education and the future phases of this quality improvement project.

Monday May 06

## Cannabis Use and Brain Changes: Implications for Schizophrenia Susceptibility

Najiha Alam; Tina Singh; Shannon Giliberto

**Background:** Schizophrenia is a multifactorial mental disorder characterized by hallucinations delusions and cognitive deficits. Genetic neurochemical and neurodevelopmental factors play pivotal roles in its onset and progression.<sup>1</sup> Research has shown that the onset of schizophrenia can be associated with early cannabis use. Cannabis is a widely consumed psychoactive substance that primarily interacts with the endocannabinoid system affecting mood cognition and perception.<sup>23</sup> Individuals who had tried cannabis by age 18 were 2.4 times more

likely to be diagnosed with schizophrenia than their abstinent counterparts. Both schizophrenia and cannabis use involve alterations in neurochemical pathways and brain structures.<sup>4</sup> This complex relationship underscores the need for further research of the interplay between cannabis use and schizophrenia susceptibility. This literature review provides a summary of the current understanding of how cannabis use affects the brain and its relevance to the development of schizophrenia. **Methods:** A thorough analysis of peer-reviewed literature on PubMed was conducted on studies published between 2000 and 2023 that examined the effects of cannabis use on brain structure and function as well as its association with schizophrenia susceptibility. **Keywords** used include “schizophrenia” “cannabis” “brain” and “adolescent.” Other inclusion criteria included open-access and English concluding in a total of 15 articles. **Results:** Accumulating evidence suggests that cannabis use during adolescence can lead to structural brain alterations in regions associated with schizophrenia such as the prefrontal cortex hippocampus and striatum potentially contributing to schizophrenia-like cognitive and psychotic symptoms.<sup>5</sup> A few studies reveal that initiating cannabis use at a younger age is linked to increased gray matter volume and more severe positive psychotic symptoms.<sup>6</sup> Moreover both cannabis users with and without schizophrenia showed reduced cerebellar white-matter volume compared to healthy non-users with the most significant reduction observed in cannabis users with schizophrenia.<sup>7</sup> Additionally research involving mouse models suggests that adolescent cannabinoid exposure can lead to behavioral and molecular changes resembling aspects of schizophrenia pointing to metabotropic glutamate receptor type 5 (mGluR5) as a potential therapeutic target.<sup>8</sup> These findings highlight the vulnerability of the adolescent brain to cannabis and its potential implications for schizophrenia-related symptoms. **Conclusion:** In summary this review highlights the intricate link between cannabis use and schizophrenia sharing neurochemical pathways and structural brain changes. Further research is essential to unravel this complex relationship aiding in the

development of prevention and treatment strategies for schizophrenia.

**Monday May 06**

### **Case Series Review Using Modified HoNOSCA to Improve Quality and Outcomes of Telepsychiatry Assessments of Adolescents in the Emergency Department**

Tae Un Kim D.O.; Peng Pang M.D.

**Objectives:** Comprehensive assessment of adolescent risk factors via telepsychiatry in our emergency department (ED) is challenging which increases the potential for discharging high-risk patients without adequate harm mitigation. We utilize modified Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) including novel questions to further address salient risk factors such as parental support deficits. **Methods:** An independent reviewer scored 10 patients who were discharged from the ED using HoNOSCA Brief Psychiatric Rating Scale (BPRS) and Children’s Global Assessment Scale (CGAS) at 2-time points: at the ED and at our bridging clinic within 5 days of discharge. We added 2 items to HoNOSCA to reflect parental support deficits and extremely risky behavior in adolescents. The Wilcoxon signed-rank test was used to detect the differences in assessments at the 2-time points. The convergent validity of HoNOSCA with BPRS and with CGAS respectively were tested using Spearman’s rank correlation coefficients. **Results:** The total HoNOSCA scores at the ED and 5-day follow-up for 10 patients differed significantly; symptoms and functional impairments appeared worsened overall at follow-ups; using the Wilcoxon signed-rank test the value of W was 1 and the critical value for W at N = 10 ( $p < .05$ ) was 8; the result was significant at  $p < .05$ . Subsets of symptoms functioning and parental support deficits scored consistently worse at follow-ups. Specifically disparities in parental support deficit scores appeared to be the most clinically significant. The

associations between HoNOSCA symptom sums versus BPRS and HoNOSCA function sums versus CGAS were considered statistically significant  $r_s = 0.63498$   $p$  (2-tailed) = 0.04855  $r_s = -0.95307$   $p$  (2-tailed) = 2E-05 respectively indicating convergent validity of HoNOSCA with BPRS and CGAS.

Conclusions: This case series of 10 adolescents discharged from our ED scored differently in symptoms functioning and parental support deficit domains of HoNOSCA at follow-ups suggesting inadequate ED risk assessments prior to community referrals. HoNOSCA can be used to improve the quality of crisis evaluations of adolescents by underscoring functional domains and psychosocial supports which may not be consistently emphasized in our current practice.

**Monday May 06**

## **Catastrophic Effects of Psychogenic Polydipsia**

Davin Evanson

Patients with hyponatremia are at risk for severe complications including seizures coma and death. Psychiatric patients are particularly susceptible to death from hyponatremia due to the association between psychiatric conditions and psychogenic polydipsia characterized by water intoxication. The case report presents a schizophrenic patient who presented with altered mental status leading to a difficult differential diagnosis decision between Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH) Diabetes Insipidus and Psychogenic Polydipsia. The patient was exhibiting strange behaviors of wandering around with limited articles of clothing on and was found down with bloody emesis prior to being admitted to the hospital. Relevant laboratory results included a serum sodium of 115 mmol/L (136 - 145 mmol/L) Serum Creatinine 0.78 mg/dL (0.60 - 1.30 mg/dL) serum osmolality 246 mOSM/K (280 - 290 mOSM/K) urine sodium 16 mmol/L (>20 mmol/L) urine creatinine 51.9 mg/dL (20 - 320 mg/dL) and

urine osmolality 280 mOSM/K (300 - 1200 mOSM/K). Lithium level was 0.1 mmol/L (0.6 - 1.2 mmol/L) and Thyroid Function test was 0.644 uIU/mL (0.450 - 5.330 uIU/mL). Electrocardiogram (EKG) findings revealed sinus rhythm with premature ventricular complexes and a nonspecific ST abnormality alongside sinus rhythm with first-degree atrioventricular (A-V) block. The patient was on Lithium 300 mg three times daily for the past four years Lorazepam 1 mg nightly and Paliperidone Palmitate 234mg/1.5mL syringe once monthly. The patient's hospitalization was further complicated by a tremor approximately eight hours after presentation accompanied by 4700 mL of urine output. Intubation was necessary for airway protection and concerns regarding aspiration pneumonia due to active emesis and obtundation. An electroencephalogram revealed generalized background slowing indicative of diffuse cerebral dysfunction possibly due to toxic metabolic and multifocal brain abnormalities. There was no seizure activity indicated attributing seizures to hyponatremia with the potential for resolution following electrolyte correction. The patient received 0.9% normal saline at a rate of 100 mL/h resulting in a sodium increase to 125 mEq/L within 12 hours. After 16 hours of intubation the patient self-extubated and expressed a need for water. Upon becoming alert and oriented the patient provided some history acknowledging excessive pre-admission fluid consumption due to thirst and dry mouth. Fluid restriction was initiated while allowing for self-correction. When questioned about water intake the patient indicated a preference for iced tea as his favored source of hydration. Ultimately the patient was diagnosed with psychogenic polydipsia due to polyuria as the causative factor for hyponatremia. The positive response to fluid restriction emphasized a psychological origin for polyuria reinforced by the patient's psychiatric history and the observed periods of delirium.

**Monday May 06**

## **Compulsory Psychiatric Admission into Hospital on the Isle of Man – Improving the Quality of Section Papers**

Richard Hillier Ph.D. M.B.; Rupal Ekeberg

**Introduction** Depriving someone of their liberty even for their own health is a serious matter. There are strict regulations around when this can be done in the form of legislation under the Mental Health Act (MHA). For both 28 day detentions under Section 2 of the MHA and 6 month detentions under Section 3 an approved Social Worker (ASW) needs to seek the opinion of two Section 12 approved doctors as to whether compulsory detention is required. The doctors must decide that the patient has a mental illness of a nature and/or degree that detention against the patient's wishes is warranted as for a Section 2 or necessary as for a Section 3 in the interests of the patient's health safety or to protect the safety of others. If the doctors agree that detention is required they then complete recommendations and the ASW makes an application to detain the patient. Checks and balances need to be in place to ensure that the compulsory detention is not misused. Section papers are scrutinised at the time of detention and errors corrected when noticed. Here we present two cycles of an audit of the quality of recommendations on section papers. **Methods** We looked at section papers of all patients that were detained in March 2021 and March 2022 and compared them to a checklist for good practice. The checklist had seven items essential for good practice and supporting the legality of detention under the MHA. **Results** In March 2021 there were 7 patients detained under the MHA across the two wards 1 under a Section 2 1 admitted under a Section 3 as well as 5 that were admitted under a Section 2 and subsequently been re-graded to Section 3. Of the Section 2 papers 50% had significant errors or omissions on a number of criteria (n=2 for 2 errors n=1 for 5 errors) making the basis for detention unclear in these cases. Similarly 50% of Section 3 recommendations had errors or omissions (n=2 for 2 errors n=1 for 5 errors). In March 2022 there were 11 patients detained under the MHA across the two wards 2

under a Section 2 and 9 admitted under a Section 3. There were still errors in the recommendations. Of the Section 2 papers 50% had significant errors or omissions on a number of criteria (n=1 for 5 errors). For the Section 3 recommendations 5 out of 9 had errors or omissions (n=4 for 1 error n=1 for 2 errors). **Conclusions** There was improvement in the quality of section papers in the re-audit with fewer errors and omissions. Although there were a similar number of papers with some errors there were fewer papers with multiple errors. One improvement was that more of the detention criteria were met. The nature and degree of mental illness were described clearly in the re-audit. This may be explained by training that was implemented following the first audit. Our results show that there is room for further improvement and more training may be indicated.

**Monday May 06**

## **Confronting Competency Restoration in Substance Abuse Patients in Correctional Settings**

Abby Chainani M.D.; Jonathan Hyacinthe D.O.; Jose Capiro; Daniel Grimes

**Background:** The most common behavioral syndrome in correctional settings substance abuse can present a barrier to competency restoration. Historically cognitive limitations have been understood to be the major barrier to restoring competency. Studies have shown substance use diagnoses have not been significantly associated with failure of competency restoration. This review postulates substance use directed therapies in correctional settings play a major role in swift competency restoration. **Methods:** A MEDLINE search was performed using key terms "competency restoration" "substance use" "mental prison". The first half of the searched studies focused on patients in prison setting with substance abuse history and its effect on competency restoration. Reviews from journals of law and psychiatry were evaluated and discussed. The second half



focused on current evidence available for behavioral treatment modalities for substance use in patients in prison settings. Systematic reviews were used as evidence for determination of efficacy of substance use behavioral treatments in prison settings. Results: A systemic review described motivational interviewing and cognitive skills with relaxation therapy may benefit patients in preventing further drug use and recidivism. More evidence is currently available for cognitive behavioral therapy in therapeutic community prison-based setting. Many of the studies referenced are not part of the US judicial system; hence applicability of studies may be hindered. Conclusion: While substance abuse presents a barrier to competency restoration available substance use therapies in correctional settings may prevent significant prolongation of competency restoration. Further investigation is needed to evaluate a more complete host of therapies that may benefit patients with substance abuse history in correctional settings most as well as its effect on time required to restore competency. There is no research funding to disclose.

Monday May 06

## Early Detection and Intervention in Schizophrenia

Abdul Rahim Khan; Shawn Hingorani MS4

Background: There is evidence to suggest that treating psychosis during the prodromal phase of schizophrenia may improve the clinical and functional outcomes in those who later develop schizophrenia. However the early predictors of schizophrenia are not predictable enough to support biological treatments. This means that exposure of patients to antipsychotic medications during the prodromal phase may be unethical due to the adverse effects associated with these drugs. Nevertheless few studies conducted during the prodromal phase have produced positive results but without reporting the conversion rates

hence limiting the clinical application of the findings. It is crucial to develop reliable predictors for early diagnosis of schizophrenia. In this review we have analyzed the current literature investigating the biological predictors of schizophrenia during the prodromal phase of the illness. Methods: We conducted a systematic literature search on PubMed utilizing the following keywords: (early schizophrenia OR prodromal psychosis OR positive symptoms) AND (diagnosis OR early treatment OR early intervention OR predictors) with a filter of the last ten years to include all original studies (i.e. diagnostic interventional trials cohort and cross-sectional studies). All reviewed data was delineated to answer pertinent clinical detection diagnosis and management questions related to the prodromal phase of schizophrenia. Results: A total of 50 original studies were included in our scoping review. The prodromal phase of schizophrenia is underdiagnosed and under treated due to unreliable predictive biomarkers. Although studies have investigated some early predictors of schizophrenia based on glutamate oxidative stress and genetic models the results are not supportive enough to justify antipsychotic treatment during the prodromal phase of the illness. The utility of clinical interviews such as Comprehensive Assessment of the At-Risk Mental State and Structured Interview for Psychosis-Risk Syndrome in early diagnosis of schizophrenia is also limited. Nonetheless timely assessments during the prodromal phase using these scales can help improve the diagnosis. Although some clinical trials have shown that antipsychotic treatment during the prodromal phase can be helpful the real impact of this treatment cannot be assessed unless it is known how many of the treated patients progressed to schizophrenia and how many improved with early treatment. Conclusion: Early detection and intervention strategies during the prodromal phase of the illness are crucial to enhancing long-term clinical and functional outcomes in schizophrenia patients. More research is required to develop more reliable and valid early predictors of schizophrenia and also study the conversion rates after antipsychotic administration in the prodromal phase.

Monday May 06

## **Efficacy and Safety of Valproate as an Adjunctive Treatment for Agitation/Aggression in Schizophrenia Spectrum Disorders: A Systematic Review**

Jonathan Stone BS; Mohan Gautam D.O.;M.S.

**Background:** Agitation and aggression are prevalent and challenging symptoms in schizophrenia spectrum disorders. While antipsychotic medications are the primary treatment the potential role of adjunctive medications like valproate is gaining attention. This literature review delves into the efficacy and safety of valproate as an adjunctive treatment for these symptoms. **Methods:** A systematic search was conducted across two major databases: PubMed and EMBASE. The search strategy employed the following keywords: “(Valproate OR divalproex) AND (aggression OR agitation) AND (schizophrenia OR psychosis)”. The inclusion criteria focused on randomized controlled trials (RCTs) published in English over the past 20 years. **Results:** Out of the initial 36 studies identified two RCTs were selected for in-depth analysis. Both studies highlighted the potential benefits of adjunctive valproate in significantly reducing agitation and aggression symptoms in schizophrenia patients with minimal adverse effects when compared to standard antipsychotic treatments. **Conclusion:** The systematic literature review underscores the potential therapeutic role of valproate as an adjunctive treatment for agitation and aggression in patients with schizophrenia spectrum disorders. Both identified RCTs consistently highlighted the efficacy of valproate in significantly reducing these challenging symptoms with a favorable safety profile. These findings suggest that valproate can be a valuable addition to the therapeutic arsenal for managing agitation and aggression in schizophrenia especially in cases where primary antipsychotic

treatments may not suffice or when additional symptom control is desired. However it's imperative to approach its use with caution considering individual patient factors and potential drug interactions. While the current evidence is promising there remains a need for more extensive large-scale studies to further elucidate optimal dosing treatment duration and long-term effects thereby paving the way for more definitive clinical guidelines on the use of valproate in this patient population.

**Contribution to Existing Literature:** While several studies have explored various treatments for agitation and aggression in schizophrenia this review specifically underscores the potential of valproate as an adjunctive option. By synthesizing results from RCTs this review offers a consolidated perspective on valproate's efficacy and safety emphasizing its potential role in clinical settings and highlighting areas for future research.

Monday May 06

## **Evaluating the Safety and Efficacy of Doxazosin in Managing PTSD-Related Nightmares Among Normotensive Patients: A Comprehensive Literature Review**

Kevin Regan OMS-II; Adam Friedman BS MBS; Alex Vega BS; Martin Forsberg MD

**BACKGROUND:** Post-Traumatic Stress Disorder (PTSD) is a psychiatric condition manifesting as intrusive memories heightened arousal and emotional numbing following exposure to traumatic incidents. Prazosin an alpha-1 adrenergic antagonist has been studied for its applicability in treating PTSD symptoms particularly nightmares. Increasingly Doxazosin is being considered as an alternative. It shares the alpha-1 adrenergic antagonist mechanism but offers pharmacokinetic advantages including a longer half-life that allows for once-daily dosing and slower peak plasma levels potentially reducing the risk of hypotension and orthostatic events. Despite these benefits questions remain about Doxazosin's safety profile in the PTSD

population a concern this literature review aims to address. **PURPOSE:** To investigate Doxazosin's safety and efficacy in normotensive PTSD patients with nightmares. **METHODS:** A comprehensive literature search was performed in PubMed and Embase databases using the keywords "doxazosin" "hypotension" "hypertension" "normotension" "prazosin" "PTSD" "nightmares" "pharmacokinetics" "blood pressure" "Doxazosin GITS" "safety" and "efficacy." Inclusion criteria specified peer-reviewed studies after 1983 focusing on human trials and case series case reports and retrospective chart reviews. Exclusions were made for non-English studies studies involving pheochromocytoma animal studies and participants who were under 18 years of age. Outcome measures evaluated were both quantitative - blood pressure values in mmHg nightmare cessation doses of Doxazosin used and time after Doxazosin administration - as well as qualitative such as side effects related to Doxazosin usage. Articles selected spanned from 1983-2023 and data were extracted based on methodology sample size and key findings. **RESULTS:** Overall the incidence of hypotension appears to be relatively low among PTSD patients treated with doxazosin. Compared to prazosin doxazosin seems to offer fewer side effects including a reduced risk of hypotension. The drug's longer half-life contributes to maintenance of effect throughout the night which may facilitate improved adherence. While orthostatic hypotensive events were reported in some studies it can be largely attributed to the first dose effect and the impact was generally not severe enough to discontinue treatment. Dosing levels and formulation type (GITS vs. standard) also influence the incidence of hypotension. **CONCLUSION:** Doxazosin appears to be a promising alternative to prazosin for treating PTSD-related nightmares with a lower incidence of hypotension and its related side effects. However more extensive research is needed to conclusively establish its safety profile. This review adds to a growing body of literature regarding off-label use of alpha-1 adrenergic antagonists for the treatment of PTSD and other pathologies within the field of psychiatry.

**Monday May 06**

## **Excitatory Catatonia Treatment**

Alexander Bao M.D.

**INTRODUCTION:** Catatonia is a syndrome that is associated with several psychiatric illnesses most commonly with mood disorders. There are two subtypes of catatonia described in the literature. The most common type is the "retarded" type and is categorized by immobility mutism withdrawal and rigidity. Another less common type is the "excited" type characterized by psychomotor excitement echopraxia/ echolalia and odd mannerisms. First line treatment for catatonia is benzodiazepines but ECT may be necessary if symptoms are refractory. **METHODS and RESULTS:** Here we present three cases of excited catatonia. Our first case is Ms. A 35 year 35-year-old female with no clear psych history who presented to our ED disorganized with echopraxia echolalia verbigeration and negativism. In the ED she underwent an Ativan challenge under the suspicion of catatonia. She had a partial response to 3 mg IV Ativan and her Bush Francis score was reduced from 12 to 8. At 5 mg IV Ativan her Bush Francis was further reduced to 6 from 8. She was diagnosed with Catatonia and was then discharged from the ED back to her facility. Ms. B is a 64-year-old female with schizoaffective disorder bipolar type who came in with symptoms of paranoia and depressed mood. While escalating her antipsychotics she became more disorganized. Patient had smeared feces in her mouth was crawling on the floor and had additional posturing combativeness verbigeration and negativism. She was diagnosed with malignant catatonia. All neuroleptics were stopped and scheduled lorazepam was started. Once hyperkinetic symptoms stopped and vital signs normalized she was titrated onto clozapine. Ms. C is a 75-year-old female with past history of bipolar I disorder that was previously managed with lithium monotherapy. She presented with

excited catatonia during her intake visit and her husband confirmed that she has been catatonic for the past four years. At the time she was seen at our clinic she had a Bush Francis score between 15-20 marking positive for odd mannerisms grasp reflex perseveration Gegenhalten exaggerated obedience excitement echopraxia and stereotypy. An IV lorazepam challenge was attempted in the ED and a small improvement in Bush Francis was noted. Unfortunately she could not tolerate the medication and was overly sedated. She was later admitted again to start ECT treatment of her catatonia. **DISCUSSION and CONCLUSION:** First line treatment of catatonia is with benzodiazepines usually starting with a dose of 2 mg IV lorazepam. A dose of 6- 21 mg daily is adequate for treating catatonia in most patients however a higher dose may be necessary. When catatonia does not respond to benzodiazepine treatment the next step in treatment is ECT. It is a first-line treatment for more acute cases such as malignant catatonia or severe excitatory catatonic. ECT is effective for all forms of catatonia and the response rate to ECT in catatonia is estimated to be between 80- 100%.

**Monday May 06**

### **Gut and oral microbiome modulate molecular and clinical markers of schizophrenia-related symptoms: A transdiagnostic multilevel pilot study**

Jakleen Lee; Jose Clemente PhD; Dolores Malaspina M.D.; Oded Gonen PhD; Jessica Robinson-Papp MD MS

Although increasing evidence links microbial dysbiosis with the risk for psychiatric symptoms through the microbiome-gut-brain axis (MGBA) the specific mechanisms remain poorly characterized. In a diagnostically heterogeneous group of treated psychiatric cases and nonpsychiatric controls we characterized the gut and oral microbiome plasma cytokines and

hippocampal inflammatory processes via proton magnetic resonance spectroscopic imaging (1H-MRSI). Using a transdiagnostic approach these data were examined in association with schizophrenia-related symptoms measured by the Positive and Negative Syndrome Scale (PANSS). Psychiatric cases had significantly greater heterogeneity of gut alpha diversity and an enrichment of pathogenic taxa like Veillonella and Prevotella in the oral microbiome which was an accurate classifier of phenotype. Cases exhibited significantly greater positive negative and general PANSS scores that uniquely correlated with bacterial taxa. Strong positive correlations of bacterial taxa were also found with cytokines and hippocampal gliosis dysmyelination and excitatory neurotransmission. This pilot study supports the hypothesis that the MGBA influences psychiatric symptomatology in a transdiagnostic manner. The relative importance of the oral microbiome in peripheral and hippocampal inflammatory pathways was highlighted suggesting opportunities for probiotics and oral health to diagnose and treat psychiatric conditions.

**Monday May 06**

### **Identifying Cognitive Distortions in Physician Guilt Through Media**

Vincent Zhang MPH; Allison Dinar D.O.; Fauzia Arain M.D.; Douglas Opler M.D.

Background: Physicians will observe adverse outcomes during their career including death. When adverse outcomes occur physicians are potentially prone to feelings of undeserved guilt. Attention has been drawn to the connection between physician guilt and negative outcomes such as burnout and suicide. Cognitive processing therapy (CPT) is an evidence-based form of cognitive behavioral therapy used to treat post-traumatic stress disorder. Cognitive behavioral concepts derived from CPT may be helpful in providing physicians insight into undeserved guilt. CPT assists patients in challenging maladaptive

cognitive distortions that contribute to dysphoria and undeserved guilt. Teaching psychiatry through media has been shown to be an effective method which fosters interest in the subject and engenders strong and lasting impressions by learners. We reviewed movies and television shows for examples of cognitive distortions that contribute to feelings of undeserved guilt as a potential teaching aide to help physicians gain insight into the undeserved guilt that may occur in a healthcare career. Methods: Search results on Google were performed for “movies+ physician guilt” “television show+ physician guilt” and “popular media+ physician trauma.” Media was then reviewed for cognitive distortions derived from CPT. Additional examples were added from our own knowledge base. Of the eight movies and six television episodes found with examples of physician guilt five from each category were chosen. Results: Analysis of these examples (such as House S2 E3: Humpty Dumpty (2005) The Unknown Girl (2016) The Doctor (1991) Awakenings (1990) John Q (2002) and Grey’s Anatomy S8 E24: Flight (2012)) found that physician guilt is portrayed in these media. The most common theme in these examples was that of a critical mistake being made by a physician and then a feeling of guilt due to the patient suffering which did not always represent a cognitive distortion. However cognitive distortions that did present included concepts such as hindsight bias (a doctor thinking what he/she could have done to stop a past traumatic event) outcome-based reasoning (‘my patient had a bad outcome so it must have been due to my bad choices’) personalization (accepting blame for something outside the physician’s control) and magnification (blowing a small mistake out of proportion especially when it does not significantly impact patient care) Discussion and Conclusion: These media provided a readily available and memorable pool of examples of undeserved physician guilt. Cognitive distortions were underlying many of these examples. As such media serves as a potential tool to assist physicians in understanding and addressing undeserved guilt and so could be used as part of an intervention to assist physicians in more

realistically appraising adverse outcomes combating burnout and maintaining wellness.

**Monday May 06**

### **Investigating the Acceptability and Feasibility of a Wellness Mobile App for Medical Students: A Qualitative Analysis of Perspectives from Providers**

Sungmin Hong; Priyanka Algu; Mohana Biswas; Sunny Tang; Julia Tartaglia M.D.

Background: Medical students face unique pressures and increased rates of burnout depression anxiety and stress compared to their peers. While the market is currently saturated with wellness mobile apps no apps have currently been developed to target the needs of medical students. In a user-informed design process it is important to solicit perspectives from key stakeholders which include both patients as well as providers who would prescribe the tool. The primary purpose of our study is to assess the attitudes of mental health providers toward a wellness app for medical students. Furthermore we aim to assess current problems medical students raise in therapy and treatment modalities used by providers. Methods: Qualitative data was collected from clinicians from multiple medical schools. All seven participants had direct experiences treating medical students’ mental health. Participants were interviewed and shown images of a potential app for medical students. The interviews were recorded transcribed verbatim analyzed for themes and subthemes. Results: Four themes were identified: clinicians’ views of the specific mental health needs of medical students general acceptance toward a mental health app to supplement their treatment ideas of necessary components of an app and ideas of potential barriers of an app. Participants identified that anxiety imposter syndrome work/life balance and relationships were common major mental health



concerns they heard from medical students. Participants have familiarity with mental health apps catered to general audiences. Participants expressed favorability toward prescribing a mental health app for medical students but expressed uncertainty on the efficacy of such an app. Discussions about necessary functions of the app included the following themes: peer support medical student community facilitation (i.e. mood clouds social media-like posts) and emergency resource accessibility. Barriers to the app included cost privacy concerns and patient-specific preferences. Conclusion: A focus group of mental health clinicians who treat medical students agreed that a wellness app catered to medical students would be a beneficial addition to their practice. Participants particularly favored aspects that facilitated community building.

**Monday May 06**

### **Leave Your Bias at the Door: Managing the Stigma Surrounding Treatment for Mental Illness in Medical School**

Farid Jabbari BS; Brigette Torrise M.D.

Despite efforts to increase public awareness and normalization of mental illness this topic continues to hold a stigma amongst medical professionals ultimately resulting in reduced treatment-seeking behavior delayed support and worse health outcomes for medical students. The emphasis on developing a professional identity in medical school allows for the minimization of students' vulnerability to the sick role and the abeyance of mental health issues due to the accumulation of long work hours stressful clinical experiences and poor accessibility to sick leave.<sup>3</sup> This occurs in the setting of fear that disclosing the diagnosis and treatment of a mental illness will influence their prospects in residency applications and the medical licensure process.<sup>12</sup> As elucidated by the case here trauma and stress experienced in medical school may

worsen prior mental health issues as well as become the source for new psychiatric illnesses such as PTSD resulting in an affected student taking a leave of absence (LOA). The distress during this LOA is exacerbated by concern that the care received during this time would hold stigma upon their potential return to school. A 28-year-old patient with a history of depression and ASD was brought in to psychiatric emergency services by ambulance on a Public Officer Hold for erratic behavior and suicidal thoughts. On initial evaluation they described a traumatic experience in medical school one year ago that led to worsening symptoms of depression and PTSD resulting in a leave of absence from school. They struggled to provide a linear account of events and required frequent redirection but reported engaging in suicidal behaviors and noted similar suicidal intent on presentation. Collateral information was obtained from parents who stated that the patient engaged in a spending spree minimal sleep hours unsafe behavior and paranoia toward the family for the past few months. This patient was admitted for inpatient treatment for concern of untreated bipolar disorder and started on an appropriate antipsychotic resulting in improved mental status including good judgment and insight. They expressed a desire to continue receiving care however they also elaborated on the distress they felt around a return to medical school and whether this was something that they would still be able to pursue given the potential consequences of having needed and received psychiatric care. In this poster we discuss the challenges of managing countertransference while caring for a fellow health professional-in-training and recommend the production and amplification of explicit policy to protect the well-being of young health professionals who are as vulnerable to mental illness as the patients they seek to serve.

**Monday May 06**

## **Navigating Suicidal Ideation: Distinguishing Psychosis - Induced vs. Depression-Related Symptoms - A Case Report**

Natasha Anand; Daniel Ko; Matthew Louie; Parisa Hashemi D.O.

In this case study we explore the intricate diagnostic and therapeutic challenges posed by a patient presenting with concurrent psychotic and depressive symptoms particularly suicidal ideation within the context of catatonia. Our subject is a 20-year-old Hispanic male with a complex psychiatric history encompassing post-traumatic stress disorder depressive disorder anxiety disorder obsessive-compulsive disorder and attention deficit hyperactivity disorder. He has previously been hospitalized for psychiatric reasons and has a history of vague past suicide attempts. Notably the patient has also struggled with substance abuse involving marijuana and alcohol. The patient's initial presentation was characterized by catatonia evident through psychomotor retardation limited speech and command auditory hallucinations self-harm accompanied by paranoia. The primary focus of admission was to address psychosis attributed to his history of schizophrenia and auditory hallucinations. However the clinical picture grew more intricate as depressive symptoms emerged intertwining with suicidal ideation. To manage the catatonic symptoms the patient was administered lorazepam leading to gradual improvements during hospitalization. Paradoxically as the catatonia improved psychosis surfaced with the patient reporting severe command auditory hallucinations that compelled him to engage in self-harm and endorse suicidal thoughts. Concurrently experiences of paranoia thought insertion and thought broadcasting were reported. To address these symptoms Abilify was introduced resulting in an overall improvement in psychosis though command auditory hallucinations persisted. Beyond the realm of psychotic symptoms the patient conveyed feelings of depression anger frustration and isolation. A poor self-image contributed to reduced food intake. Intriguingly the patient

believed that the voices and suicidal ideation were connected to his depression rather than the other way around prompting the introduction of Zoloft to target depressive symptoms. This case underscores the intricate nature of suicidal ideation in individuals grappling with comorbid psychotic and mood disorders. Pinpointing the primary disorder responsible for command auditory hallucinations and consequently suicidal ideation proved to be a challenging yet pivotal aspect of formulating an effective treatment plan especially in the context of initial catatonic features. The case stands out due to the initial prominence of catatonia which initially obscured both psychotic and mood disorder symptoms rendering it difficult to establish the primary cause of the patient's suicidality. Furthermore disentangling whether the patient's catatonia was primarily influenced by the psychotic or mood disorder remains a complex task given the patient's endorsement of symptoms from both categories and the lack of clarity regarding their chronological onset.

**Monday May 06**

## **Neurobiological Correlates of Psilocybin Response in Depressed Patients**

Muhammad Youshay Jawad M.D.

Many patients with Major Depressive Disorder (MDD) fail to respond to their antidepressants adding time and cost to find the most effective treatment with a negative effect on clinical and functional outcomes. Due to a delayed antidepressant response from monoaminergic antidepressants and a growing treatment-resistant depression (TRD) population efforts are underway to find more effective tolerable and rapidly acting treatments. The FDA approval of the rapidly acting intranasal formulation of a psychedelic drug esketamine has reignited interest in other psychedelic agents such as psilocybin and 3,4-methylenedioxymethamphetamine in the

management of various psychiatric disorders. The resurrection of clinical research with psychedelics has produced promising results in the management of MDD post-traumatic stress disorder and substance use disorder. The review was primarily aimed at synthesizing the pre-and-post treatment changes in different functional areas and neural circuits of the brain after patients with MDD were administered a therapeutic dosage of psychedelics primarily focusing on psilocybin and secondarily to find putative neuroimaging biomarkers that can predict and/or inform foregoing treatment. Hence the following criteria were formed for the selection of studies following PRISMA guidelines. All online databases (i.e. MEDLINE(R) Embase Classic PsycINFO Ovid Cochrane and CINAHL) were systematically searched using the following string: (psilocybin) AND (psychedelics) AND (MRI) OR (fMRI) OR (PET) OR (SPECT) OR (imaging) OR (neuroimaging)). Database search results were imported into the Covidence platform for deduplication screening and risk of bias assessment. After screening 391 studies only six neuroimaging studies remained in this systematic review to synthesize the neurobiological basis of brain resetting effects of psilocybin and identify neuroimaging correlates of psilocybin response in depressed patients<sup>1-5</sup>. Most prominent findings from the reviewed studies included changes in activation or functional connectivity within or between one or more of the specific brain regions in the Default Mode Network (ventromedial prefrontal cortex posterior cingulate cortex precuneus and inferior lateral parietal cortex) Central Executive Network (dorsolateral prefrontal cortex and the lateral posterior parietal cortex) and Salience Network (anterior cingulate cortex amygdala and parahippocampal gyrus). Psilocybin and other psychedelics may be the only antidepressants after ECT with a positive correlation between a transient brain reset" mechanism and antidepressant response which can potentially revolutionize depression treatment. Future research should be conducted in large RCTs to replicate and confirm the results from the reviewed studies particularly concerning the global integration of dysregulated brain networks underlying psilocybin's response."

**Monday May 06**

### **Novel Presentations of Post-Infectious Catatonia: A Case Series**

George Han M.D.; Beatrice Huang D.O.; Michael Collins D.O.; Theodora Browne D.O.; Peyton Thigpen

Background: Catatonia has long been recognized as a significant neuropsychiatric disorder that has been associated with many etiologies. While catatonia is often associated with primary psychiatric etiologies it has also been attributed to medical etiologies such as post-infectious states. Here we present three cases of patients who exhibited catatonic symptoms during their hospital courses after recent COVID-19 infections. Case 1: 49 year old male with no medical history but a confirmed recent COVID-19 infection presented with first-break psychosis. His psychosis began remitting upon treatment with PO Olanzapine but he developed symptoms of catatonia including poor oral intake mutism and generalized hypoactivity correlating to a Bush-Francis Catatonia Rating Scale (BFCRS) score of 6. Following a challenge with PO Lorazepam with positive results he was initiated on scheduled Lorazepam with continued improvement sustained through discharge and his outpatient follow-up appointment. Case 2: 17 year old male with a history of generalized anxiety disorder who presented with exacerbation of anxiety as well as new onset psychosis and disorientation in the setting of recent COVID-19 infection. Initial trial of low dose Quetiapine exacerbated his symptoms and he began exhibiting new symptoms of catatonia including mutism withdrawal poor oral intake and fluctuation in mentation (BFCRS score 13). The patient achieved a partial response with IV Lorazepam and further improvement with inpatient ECT treatments. He was discharged on PO Lorazepam and scheduled outpatient ECT. Case 3: 28 year old pregnant female with a history of postpartum depression

who presented with progressively worsening mutism immobility and poor oral intake (BFCRS score 14) after a COVID-19 infection. Due to initial concerns for paranoia and internal preoccupation she was trialed on IM Ziprasidone and Olanzapine with minimal improvement in her symptoms. A dramatic improvement in symptoms occurred after an IM Lorazepam challenge. She was started on scheduled Lorazepam PO or IM in addition to Sertraline and was eventually discharged. The patient was readmitted due to recurrence of catatonia (BFCRS score 8) from medication noncompliance. She was restarted on scheduled high dose Lorazepam and ECT was pursued. She eventually completed 14 sessions of ECT with steady improvement in symptoms. PO Lorazepam was continued after her delivery and she continues to receive the medication in the outpatient setting. Conclusion: This series aims to highlight the heterogeneous presentation and management of post-infectious catatonia in patients with a variety of psychiatric histories. Standard treatment with benzodiazepine and ECT appears to be beneficial. While these cases responded adequately to standard management of catatonia this series adds to the growing body of literature that describes neuropsychiatric manifestations of COVID-19.

Monday May 06

### Outcomes in psychotherapeutic interventions for co-occurring chronic pain and substance use disorders

Lynn Nguyen; Celeste Nadal M.D.; Samuel Mendez Araque

Background Chronic pain defined as pain for greater than three months is often treated with opioids. Although patients with chronic pain typically take opioids as prescribed some patients are at risk for developing behaviors associated with addictive opioid use. An estimated 11.5% of these patients engage in opioid misuse in the form of drug-seeking attempts use of opioids to self-medicate or unauthorized dose escalation. Since

non-pharmacological interventions have shown efficacy in managing chronic pain and substance use disorders as separate conditions psychotherapies that treat comorbid chronic pain and substance use disorders can be beneficial for patients. This review explores psychotherapies used in treating patients with comorbid chronic pain and substance use disorders to provide perspective on which therapies exist as well as their efficacy. To the researchers' knowledge this is the first review on this topic since 2018. Methods The literature search was conducted using PubMed. Search terms were selected using DSM IV and V and ICD 8 and 9 diagnoses and combined using Boolean logic principles. Studies were included if patients had comorbid substance use disorder (e.g. dependence abuse etc.) and chronic pain syndrome (e.g. fibromyalgia chronic fatigue syndrome etc.) diagnoses participants were age 18 or older and psychotherapeutic interventions were implemented. Only English articles presenting US-based interventions and original data on our topic were included. Results The PubMed search yielded 1937 references; 25 additional references were identified through other sources. 1880 sources (including 5 duplicates) were excluded based on title and abstract; 41 of the remaining 82 met inclusion criteria. These trials utilized a variety of interventions that were found to be efficacious including acceptance and commitment therapy (ACT 3 trials); cognitive behavioral therapy (CBT 10 trials); the mindfulness-oriented recovery enhancement (MORE 10 trials) model; interventions combining multiple modalities of psychotherapies (5 trials); and various other psychotherapeutic models (13 trials). Of these settings included primary care (5 trials) technology such as phone or Internet (5 trials) and group settings (3 trials). Conclusion This study demonstrated that several existing psychotherapies have proven effective in treating patients with co-occurring substance use disorders and chronic pain. More treatments are being developed as evidenced by a number of protocols in place for future studies ongoing trials and experiments with yet unpublished findings. Psychotherapy for comorbid chronic pain and substance misuse is rich for exploration; further

investigation may lead to a wider variety of treatments that clinicians can offer to complex patients.

**Monday May 06**

### **Outpatient Clinic Lithium Monitoring Utilizing Epic SmartSets**

Amal Bhullar M.D.; Shelby Goicochea M.D.; Sophia Lincoln; Brian Celso; Kitty Leung

Background: Lithium is an effective medication and considered the gold standard treatment for bipolar disorder. Lithium has a narrow therapeutic index with potential systemic side effects and fetal complications and requires careful and consistent monitoring. Prior research found that lithium monitoring was either delayed or absent in accordance with the APA recommendation guidelines. The objective of this study was to assess and improve lithium monitoring practices. Methods: A retrospective observational study was done on adult patients prescribed lithium in a psychiatric outpatient clinic of an academic center between January to June 2023 via the EHR. Pre-intervention data was collected on ordered labs (calcium pregnancy tests CBC CMP lipid panel A1C and thyroid studies) and a prescriber survey self-rating their knowledge and confidence in lithium monitoring using a 5-point Likert scale. A seminar on lithium best practice guidelines and integrated advisory on the implementation of a smartset in the EHR. Post-intervention data on ordered labs and prescriber survey assessed changes in lithium monitoring practices. A t-test for independent samples was calculated to identify pre- and post-intervention differences for all lab orders. Results: A total of 171 lithium encounters (63 pre- and 108 post-intervention) were analyzed during the study period. The pre-intervention survey showed 20% of prescribers reported they did not feel confident knowing which labs to order which was reduced to 0% on the post-intervention survey and 55% of prescribers did not feel confident knowing how

frequently to order labs which was reduced to 0% on the post intervention survey. Ninety percent of those surveyed agreed that a smartset for lithium would be useful and 90% also agreed that a smartset would save time. The overall test of all lithium orders and results was statistically significant ( $F = 11.86$   $p = .002$ ). No pregnancy tests were ordered during the study period.

Conclusion: Lithium is commonly prescribed at an outpatient psychiatry clinic. An integrated best practice advisory alert and smartset were implemented in the EHR with the goals of improving awareness of lab results improving appropriate monitoring and lessening documentation burden for an encounter.

Limitations of this study include its small sample size along with not being able to include labs ordered by primary care prescribers or those completed at outside facilities. Future research should consider further longitudinal data and assessment of additional intervention strategies on practice outcomes.

**Monday May 06**

### **Personal and Social Functioning in Schizophrenia and Bipolar Affective Disorder-Type I Patients on Long-Acting Injectable Antipsychotics:A Pilot Study**

Svetlana Milenkovic M.D.

Abstract Background: Long-acting injectable have decreased the rates of mortality and hospitalization in schizophrenia patients only while their beneficial effects are even more controversial in bipolar affective disorder – type I patients. Working Hypothesis: The aim of this study is to investigate if long acting injectable antipsychotics have decreased a risk of rehospitalization improved tolerability functionality and quality of life in schizophrenia and bipolar I patients. Study Design and Methods: This is a pilot retrospective study in which assessment of personal and social functioning



was conducted by Social and Personal Performance Scale as well as with a therapeutic consultation with patients and their family members and charts review of 10 patients with schizophrenia and bipolar I disorder on Aripiprazole Once Monthly or Paliperidone Palmitate Once Monthly or Risperidone Consta injections. Study Results: This pilot study included 5 patients with schizophrenia/schizophrenia spectrum disorders (age range 34-74; 40% male) and 5 patients with bipolar affective disorder-type I (age range 33-58; 40% male). Prior to study period 80% of patients in both study groups were on no medication(s) or oral medication(s) including oral antipsychotic. One patient in schizophrenia group was on Modecate depot injection and was switched to Paliperidone Palmitate Once Monthly while one patient in bipolar I group was on Risperidone Consta and oral Olanzapine and remained on it (as per patient's preference). Duration of study period varied from less than one year in both study groups up to 10 years (median 2-3 years) in schizophrenia group and up to 15 years (median 1-3 years) in bipolar I group. All the study participants were unemployed and not involved in academic study. Prior to study period all participants had 3 or more hospitalizations. On long acting injectable one patient with schizophrenia (Dual Diagnosis) and one patient with bipolar I (on Risperidone Consta) were hospitalized. All study participants on long acting injectable have shown remarkable improvement in decreased rate of hospitalization symptom control (including disturbing and aggressive behaviors) medication tolerability self care activities of daily living personal and social relations development of volunteer/career goals and involvement in academic study. The later was mostly observed in bipolar I patients where one patient completed academic study. On a long acting injectable antipsychotics Personal and Social Performance Scale Scores of 40 50 55 60 and 65 were observed in schizophrenia group while the same Scale Scores of 50 60 70 80 and 85 were observed in bipolar I group. Conclusion: based on this observation there is a potential for a gainful employment in some bipolar patients on long acting injectable. Further higher quality

studies with a larger sample size needs to be conducted in order to verify the results that were found in this pilot study.

**Monday May 06**

### **Preclinical medical students' experience leading group dialectical behavior therapy for a student-run mental health clinic: a qualitative study**

Jodie Nghiem BA;BS;M.B.A.; Michael Liu BA; Jessica Spellun; David Hankins

Background: While some medical schools have started to introduce training in psychotherapy techniques in the clerkship year the literature has not described such initiatives during the preclinical years. Currently preclinical students report low confidence in incorporating psychotherapy into clinical care due to lack of current training thus underscoring the need for earlier training in psychotherapy. The Wellness Qlinic is a student-run LGBTQ+ mental health clinic which offers group dialectical behavioral therapy (DBT) facilitated by preclinical medical students. As part of their preparation to supervise these DBT groups the preclinical students were trained in the basics of DBT's theoretical approach and how to facilitate such groups. Methods: We conducted a qualitative study to understand the experience and professional impact for student facilitators of the DBT groups. Student facilitators were recruited to participate in 1-hour semi-structured interviews. We performed thematic analysis which involved de-identifying transcribing and qualitatively coding interview recordings. Results: The Wellness Qlinic hosted 9 iterations of group DBT facilitated by preclinical medical students involving 18 student leaders and 30 patients. Twelve student facilitators were interviewed. Participants had a diverse array of specialty interests and were primarily motivated by the opportunity for early clinical experience. They reported improved clinical skills including increased comfort with silence confidence leading and working on an interdisciplinary team

and empathy for patients. Students reported increased appreciation of the impact of psychotherapy on patients and increased interest in incorporating psychotherapy in their future practice. Furthermore participants reported using DBT skills to cultivate wellbeing during clerkship year and in their personal lives. The most commonly cited skills included Radical Acceptance DEAR MAN Accumulating Positive Emotions and Opposite Action. Conclusion: Offering preclinical medical students the opportunity to lead group DBT therapy is a novel educational model which provides training on psychotherapy techniques well before most medical students are exposed to them. This program provided an opportunity for early direct patient experience in a supervised group setting which attracted medical students with a diverse range of specialty interests. Our group DBT model proved influential in providing medical students specific DBT skills to implement in future patient care interactions and to maintain their personal wellbeing throughout medical training. The broad appeal and profound impact of this program suggests the benefit of implementing similar curricula at other institutions.

**Monday May 06**

### **Predictors of Psychiatric Care Attendance: The Role of Psychiatric Symptoms and Psychosocial Factors**

Lauren Dori BS MBA; Drishti Patel BS MBA; Aneri Patel BS MBA; Mark Lukowitsky PhD

Background: Patients frequently miss scheduled mental health appointments posing challenges to their well-being and recovery and increasing chances of relapse or hospital admission. This study sought to investigate the influence of concomitant psychiatric symptoms and psychosocial behaviors on patients' attendance at follow-up psychiatric appointments. Methods: A retrospective chart review of 331 patients from a

large outpatient psychiatric clinic in the Northeast was conducted. Attendance data was calculated as the ratio of attended sessions to the total number of scheduled sessions during the initial 6 months of treatment. Attendance data was calculated as the ratio of attended sessions to the total number of scheduled sessions during the initial 6 months of treatment. Upon intake patients completed a battery of self-report measures to assess their mental health and psychosocial functioning. Nonparametric correlation tests were used to evaluate the relationship between patient attendance and the variables of interest given the non-normal distribution of attendance data. Results: On average patients in our sample attended 73.9% of their scheduled sessions. Lower attendance was associated with increased severity of panic disorder symptoms ( $r=-0.132$   $p<0.01$ ) psychotic symptoms ( $r=-0.110$   $p<0.01$ ) and sleep deprivation ( $r=-0.096$   $p<0.05$ ). Moreover higher reported levels of social conflict ( $r = -0.151$   $p<0.01$ ) and a dominant interpersonal style ( $r=-0.149$   $p<0.01$ ) were linked to decreased attendance. Conclusion: Identifying specific psychiatric symptoms and psychosocial factors may help providers target patient characteristics to improve adherence to mental health services ultimately improving patient outcomes. Our findings show that the severity of psychotic panic and sleep disorder symptoms adversely impact mental health appointment attendance. Additionally the influence of psychosocial factors such as social conflict and a domineering interpersonal style underscores the complexity of appointment attendance. Future research that attempts to modify these variables to improve treatment attendance would be an important preventative measure for improving treatment adherence and ultimately treatment outcomes.

**Monday May 06**

### **Psychiatric Education for the Digital Age: Psychiatry Boot Camp Podcast**

Max Lydiatt M.D.; Mark Mullen M.D.

The ever-evolving landscape of content delivery in medical education has moved quickly in the last 10 years. Lectures have been converted to active learning models and learners have embraced wacky but sticky mnemonic devices like “Sketchy medical” [1]. Today’s residents are used to learning how they want when they want. Podcasts are one of the fastest growing methods of asynchronous learning. [2] In the spirit of “meeting the learners where they are at” we took content delivered in “residency preparation courses” “crash courses” and “bootcamps” across the country and translated it into a medium that residents can listen to on their drive to work while exercising or driving across the country to start residency. This was driven by our published research which showed learners rave about these courses and desire more of them at both the medical school and residency level [3]. We aim to provide a further tool for educators as graduate medical education moves toward adult learning theory and embraces the increased efficacy of active learning models versus traditional lectures. We sat down with global experts to understand foundational topics in psychiatry; we developed the curriculum based on the available literature. Sometimes learners are more attuned to the latest educational media than their instructors. Our goal with this poster is to introduce psychiatric educators to this freely available accessible method of learning and to bring world class psychiatric education to learners across the globe.

**Monday May 06**

### **Puff and Psychosis: A Retrospective Cohort Analysis of Hospitalizations in Patients with Schizophrenia and Nicotine Use**

Synthia Lay M.D.; Long Nguyen D.O.; Rubani Sidhu M.D.; Rama Yasaei M.D.

Background: The association between smoking and patients with schizophrenia has been

established through epidemiology studies on various populations. There have been proposed hypotheses for this association one being that smoking ameliorates psychotic symptoms. This behavior not only increases the risk of medical comorbidities associated with smoking but it can also interfere with treatment and ultimately worsen prognosis. However few studies have examined specific outcomes in patients with schizophrenia who smoke. We aim to primarily determine if nicotine use affects the cumulative number of psychiatric hospitalizations in patients with schizophrenia and secondarily identify medical comorbidities in this population. Methods: This is a retrospective cohort study including 2270 patients from 2018-2022. Existing data was collected from the electronic medical record. A two-sample t-test was used to assess if there is a difference in the number of psychiatric hospitalizations between patients with schizophrenia who use nicotine and patients with schizophrenia who do not use nicotine. Any confounding variables were controlled using regression analyses. Results: There were a total of 2270 patients with diagnoses of schizophrenia schizoaffective disorder or bipolar disorder who were admitted to the mental health hospital between 2018-2022. 59.9% of patients had a lifetime smoking history. Patients who smoked had significantly ( $p < 0.01$ ) more hospitalizations (mean hospitalizations=1.52) than patients who never smoked (mean hospitalizations=1.20). The most common medical comorbidities were observed to be hypertension (33%) diabetes (16%) chronic obstructive pulmonary disease (5%) and coronary artery disease (3%). Conclusions: Patients with schizophrenia and lifetime smoking history had significantly more hospitalizations compared to patients with schizophrenia who never smoked. This can inform disease course in vulnerable populations with a greater propensity to self-medicate with substances.

**Monday May 06**

## Racial Differences in Psychotic Symptoms in Older Adults with Schizophrenia

Moazam Afzal B.S.; James Lu B.S.; Carl Ira Cohen M.D.

**Background:** Although African Americans(AA) are estimated to be 3 times more likely than Caucasians(C) to be diagnosed with schizophrenia there is little data on racial differences in schizophrenia especially among older adults who have had been diagnosed for many years. In the few studies of younger samples findings have pointed to minimal racial differences some variations in hallucinatory behavior disorganized behavior suspiciousness excitement and somatic concerns and a diminished likelihood of AAs receiving adequate treatment. **Methods:** The sample comprised 221 persons in NYC (C:62% AA:38%) aged 55 and greater living in the community(mean age 61 years) who had developed schizophrenia spectrum disorder before age 45; three-fifths were living in supported residences and two-fifths were living independently; all were receiving some clinical care. Persons with substantial cognitive impairment were excluded. We administered the Positive and Negative Syndrome Scale (PANSS) Center for Epidemiologic Studies-Depression Scale (CESD) Community Integration Scale(CIS) and additional items about their hallucinations and delusions. We contrasted AAs and C subjects on the presence severity topography (e.g. clarity loudness frequency) content and subjective causes of the various types of hallucinations and delusions. **Results:** AAs scored significantly higher on the PANSS positive scale (13.6 vs. 12.0) negative scale (12.9 vs. 11.3) and the total score (55.8 vs. 50.1) as well as significantly higher on the delusion and hallucination subscores. The differences persisted after controlling for social variables in linear regression. There were no racial differences in the CESD CIS or remission and recovery rates. Although AAs were significantly more likely to believe that people talked behind their backs (46% vs. 26%) there were no reported differences in delusional content. There were no significant racial differences in the self-reports of auditory hallucinations (24% for both groups) or

frequency loudness and clarity of hallucinations. Although not statistically significant it was noteworthy that one-third of AAs reported only hearing bad/unpleasant voices versus one-half of Cs and the latter were somewhat more likely to receive instructions and obey them. There were no racial differences in the prevalence of visual tactile or olfactory hallucinations. **Conclusions:** Although absolute PANSS scale score differences were not large there were significant racial differences with older AAs showing more severe symptoms than older Caucasians. However there were no significant differences in the prevalence of psychotic symptoms the symptom topography content or perceived etiology. The higher PANSS scores may reflect raters' biases since self-reported indices did not differ between racial groups. Alternatively the higher levels of symptoms may reflect under-treatment in older AAs and a potential point for clinical intervention.

Monday May 06

## Schizophrenia with religious delusions leading to severe and prolonged fasting: an interdisciplinary approach to care

Shivani Bhatt D.O.; Vishesh Agarwal M.D.; Kathleen Effler MD

Delusions are a cardinal feature of psychotic illness present in around 75% of people with a schizophrenia spectrum diagnosis (1). Religious themes are common with approximately 1/5 to 2/3 of all delusions containing religious content (1). In order to be considered a religious delusion the belief must not be a culturally acceptable religious belief (1). Unfortunately patients with religious delusions are more likely to experience conflicts between religion and psychiatric care making them less likely to adhere to psychiatric treatment (2). Additionally patients with religious delusions may have fewer collective religious practices and less support from their religious communities. (2) A middle-aged African-

American female originally from Uganda with a past medical history of schizophrenia was admitted to the inpatient psychiatric unit four times during a six-month period for worsening religious delusions medication noncompliance poor oral intake weight loss and poor self-care. During her initial admission her religious delusions and preoccupations were telling her to constantly pray and dry fast for 40-days to “get the demons out of her body. She was admitted with anorexia/cachexia severe enough to require medical monitoring for refeeding syndrome and consideration for enteral/parental nutrition. The patient’s sister was her surrogate decision maker as the patient lacked capacity to make medical decisions. Palliative care as well as the ethics committee were consulted for complex medical decisions. The patient was treated with an interdisciplinary approach to her care involving medicine psychiatry nutrition palliative care pastoral care social work and the ethics committee. On day 37 of her fast the patient voluntarily started to eat by mouth and was eventually able to be discharged home. She continued to require recurrent admissions but with notable medical and psychiatric improvement over the six-month period."

**Monday May 06**

### **Teaching the involuntary hold process and legal status to medical students and junior residents**

Jeremiah Atkinson M.D.

**Background/purpose:** The civil commitment process which merges the clinical and state legal systems can be confusing for patients and providers alike. Laws surrounding this process vary from state to state even in the same geographical region. This is particularly true for medical trainees with brief exposure to the mental health system on their psychiatric clinical rotations. At our training institution there was no comprehensive tool for teaching this complex process. **Methods:** Reviewed literature on

emergency holds across the US. Consulted the National Alliance for Mental Illness guide for civil commitment in the authors’ state. Discussed possible outcomes to include with interprofessional inpatient experts in the commitment process. **Results:** The authors created a flowchart diagram for the various stages and possible outcomes of legal processes in their state’s commitment process. The flowchart includes the emergency hold process petitioning for commitment various types of commitments and additional court ordered treatments. The authors’ intent for this presentation is to receive feedback on the diagram as well as to share the resource. A QR code will be included on the poster to electronically distribute the resource as a template. **Discussion:** Each state and province has its own mental health commitment laws; therefore these pathways can be used as a basic outline and model. **Conclusions:** Clearer understanding of the commitment process will improve patient care and reduce unnecessary infringement of patient autonomy.

**Monday May 06**

### **The Creation of a Collaborative Project Management Dashboard to Track and Address Resident Concerns: A Resident-Led Pilot**

Yaakov Green MD MBA; Maxmoore Potkin MD; Deirdre Caffrey M.D.; Deborah Cabaniss MD

**Background:** Residents and program leaders undertake various initiatives as part of residency training quality improvement yet monitoring and communicating progress prove challenging especially given yearly resident turnover. In turn perceived lack of communication and action on resident concerns can strain trust and contribute to burnout amongst residents. In other organizational contexts project management practices – such as electronic dashboards that track ongoing initiatives – are often used to



overcome similar obstacles and foster efficiency accountability and communication. Despite this such tools are not commonly used within residency programs representing an area for intervention. Methods: An anonymous online survey was distributed to all residents in the program. It consisted of seven items assessing residents' attitudes surrounding how resident concerns are addressed. Questions used the Likert scale with "agree" and "strongly agree" representing affirmative responses. After the survey was completed a custom project management dashboard was created. Issues and initiatives were enumerated in rows and classified by organizational level priority timescale and progress status. Stakeholders timelines Gantt charts and updates were displayed for each item. The dashboard was made accessible to all residents and was displayed during residency council meetings. Residents voted on issues in meetings and continuously provided feedback using a built-in feedback survey. Results: Of 40 residents surveyed 36 (90%) responded: 69% (24/35) felt comfortable bringing up concerns in residency council meetings 44% (16/36) felt comfortable raising concerns to leadership and 72% (26/36) believed that leadership was receptive to concerns. Only 28% (10/36) were confident that action would be taken to address concerns and 50% (12/24) were confident that they would receive updates regarding these concerns. While 75% (27/36) felt connected to the program 47% (17/36) felt empowered to make change. The dashboard was subsequently launched tracking 28 total issues spanning patient safety resident benefits curriculum and supervision. Conclusions: The survey results showed that residents feel comfortable raising concerns in certain settings and feel that leadership is receptive though are not confident that they will receive updates nor that action will be taken. Further while they feel connected to the program they don't necessarily feel empowered to make change. These results demonstrate a specific need for communicating progress on issues with residents and making residents feel empowered. The dashboard was therefore developed using project management best practices to target these domains. Next steps

include iterating on the tool and collecting follow-up survey data. This pilot shows promise for the benefit of informational dashboards in residency programs as an additional tool for communication leadership and community-building.

**Monday May 06**

### **The effect of the motivation-based participation program for persons with Schizophrenia**

Ay-Woan Pan Ph.D.

**Objectives** The purpose of the study is to examine the effectiveness of three motivation-based participation programs for persons with schizophrenia. Lack of motivation is one of the factors impeding the participation of persons with Schizophrenia (1). The programs were developed based on remotivation strategies of the Model of Human Occupation (2-3). The remotivation strategies provide guidelines to facilitate the motivational status of persons with motivational deficits. **Methods** All participated were recruited from the units of a psychiatric institute in northern Taiwan by occupational therapists. These studies were approved by IRB before the programs started. The first study adapted pre and post study design(N=10) the 2nd study used randomized control design (10 vs. 10) and the 3rd study adapted qui-experimental design(15 vs. 15). There were 812 and 8 sessions for each program. The programs run from 2 or 3 times a week. Each session lasted for 45-60 minutes. These programs were carried out by occupational therapists. The subjects were tested pre and post of the programs by different therapists. The variables assessed included volitional status PANSS PROMIS-depression anxiety sleep disturbance WHOQOL-BREF etc. T-test and linear mixed effect model were used to analyzed the dataset using SPSS 22. **Results** The results showed that there was significant decrease of negative symptom post-program for the 1st study.

There was significant increase of volitional status for the 2nd program; and there were significant increase of anxiety and depression for persons in the control group for the 3rd study. There were no significant changes for the other variables across 3 studies. **Conclusions** The motivation-based participation programs demonstrated the effect to decrease negative symptoms enhance the volitional status and maintain symptoms of anxiety and depression significantly. The application in clinical practice is promising.

**Monday May 06**

### **The Use of Prescription Anti-Depressants and Stimulants Among U.S. Allopathic Medical Students**

Rebecca Whitmer MS4; Rachel Cramton

**Introduction** Existing literature reports clear elevations in depression and anxiety rates among U.S. Medical Students as well as alarmingly high suicide rates among U.S. medical trainees and physicians. While current data clearly shows increasing rates of ADD/ADHD depression and anxiety among medical students there exists a gap in data about how or if these diagnoses are being treated with prescription medication. This study aims to characterize whether students started medical school with an existing diagnosis or whether they received a new diagnosis while in medical school and whether a specific year of medical training is more prone to the development of these conditions than others. This kind of information will be incredibly valuable to institutions as they begin to recognize and create resources for students especially during at-risk times of training. **Methods** Students enrolled in a large Arizona medical school in 2022-2023 (n=150 38% MS4 31.33% MS3 15.33% MS2 and 15.33% MS1) completed a questionnaire detailing their diagnoses and pharmaceutical treatment of depression anxiety and Attention Deficit/Hyperactivity Disorder. **Results** Overall 31.3% medical students started medical school with a pre-existing diagnosis. Additionally

14.58% of those students reported receiving a second diagnosis in addition to the diagnosis they had at the start of medical school. Of the 64% of students who reported having no mental health diagnosis at the start of medical school 34.38% received a diagnosis at some point during medical school. Overall of the 150 students who completed the survey 54% either began medical school with a diagnosis or received a new diagnosis while in medical school suggesting that over half of medical students are depressed anxious or have ADD/ADHD and that nearly 35% of medical students develop these conditions during medical school. Of note 41% of students reported being prescribed a new medication for either depression anxiety or ADD/ADHD while in medical school. Additionally 17.33% of the students who began school with a pre-existing diagnosis reported being prescribed increasing doses of their medications during medical school. Overall 58.33% of students reported use of prescription medication to manage one or more of these conditions including several who reported having never received a formal diagnosis. **Conclusion** According to the SAMHSA's 2021 National Survey on Drug Use and Health 22.8% of Americans suffered from "Any Mental Illness" (AMI) and 18.8% of adults (18+) received either inpatient or outpatient mental health services prescription medication for a mental health issue or virtual (i.e. telehealth) services. As this data suggests when compared to the general population it appears medical students are twice as likely to suffer from conditions that affect their mental health and nearly three times more likely to be taking medications for these conditions.

**Monday May 06**

### **A mixed methods study identifying predictors of suicidal ideation and exploring mental health challenges among female medical students in the USA**

Lisa Augustine MBBCh Dip HIV Man MHRT/C; Erna Rogers ScD; Varsha Kulkarni PhD

Background Rates of medical student and physician mental ill-health are alarming. Mental health challenges impact students' medical education and may portend poor outcomes during internship residency and independent practice. Students are reluctant to seek help due to mental health stigma and fear negative evaluations by peers preceptors for graduation and licensure. The current study aimed to identify predictors of suicidal ideation in a nationally representative sample of medical students and to explore female students' experiences of depression suicidality and other mental health challenges and the impact of mental health stigma on help-seeking and functioning. Methods We conducted secondary analyses of medical student responses in the 2021/2022 Healthy Minds data set performing logistic regressions with depression anxiety loneliness belonging abuse race and gender measures. We then conducted a qualitative study with a rapid ethnographic component using a focused semi-structured interview to elicit 3rd and 4th year female student experiences of mental health challenges and suicidality. Results (Quantitative) The first model was significant ( $R^2 = 0.214$ ). Depression ( $OR=1.23$  95% CI 1.15-1.32  $p<.001$ ) loneliness ( $OR=1.25$  95% CI 1.06-1.49  $p<.009$ ) and gender ( $OR=5.34$ ; 95% CI 1.44 – 18.57  $p<.01$ ) were significant predictors of suicidal ideation. Transgender individuals showed higher suicidal ideation odds compared to male respondents. Anxiety inversely related to suicidal ideation ( $OR=0.93$  95% CI 0.86-0.99  $p<.04$ ). Controlling for depression loneliness emerged as the top predictor of suicidal ideation ( $OR 1.34$  95% CI 1.14 – 1.58  $p <0.001$ ). (Qualitative) Twenty female medical students in 3rd or 4th year displaying depressive symptoms were interviewed. Key themes emerged from this cohort: 1) Mental health conditions emerge for the first time or are exacerbated in medical school. 2) Mental health stigma discourages students from seeking help. 3) Being female in the medical culture exposes students to negative experiences that impact the quality of their clinical rotations and mental health. 4) Other minority identities

intersect with being female adding unique sets of stressors and posing additional barriers to help-seeking. 5) There is insufficient focus on mental well-being and wellness in medical education. 6) Peer relationships are a critical support in the clinical years. Conclusion It is necessary to broaden mental health assessments beyond depression to assess mental ill health and suicidality and to consider factors like intersectionality past experiences of abuse and loneliness. Non-binary individuals may face higher risks. Urgent focus on mental health in medical education addressing intersectionality reducing stigma and normalizing experiences of anxiety and depression could enhance student support. Prioritizing mental well-being might impact academic performance retention and the medical profession.

Monday May 06

## A Normalization and Validation of the Swedish version of the Chronotype Questionnaire 2

Cave Sinai MD PhD; Mikaela Alvarsson

Objective: Whether we are morning- or evening oriented or neither is due to different chronotypes and has been suggested to play a role in our wellbeing and health. The aim of this study was to normalize and validate the Swedish version of the translated Chronotype Questionnaire 2 comprised of two dimensions; morningness-eveningness (ME) and subjective amplitude (AM). Methods: The original version of the Chronotype Questionnaire 2 (ChQ2) was translated into Swedish (ChQ2SWE) and backtranslated into Polish. 848 participants (712 women and 136 men; mean age  $44.5 \pm 12.4$ ) completed a web-survey comprised of both the ChQ2SWE and the reduced Morningness-Eveningness Questionnaire (rMEQ) serving as a validation. Results: Sample total mean score for the ME scale was 17.3 ( $\pm 5.2$ ) and the AM scale 19.9 ( $\pm 3.8$ ). Age expressed a weak negative

relationship to the ME- scale ( $r_s = -0.180$   $p < 0.001$ ) and the AM scale ( $r_s = -0.133$   $p < 0.001$ ). The ME- and AM scale ( $r_s = -0.034$   $p = 0.318$ ) expressed no correlation. Corrected inter-item correlation for the 8 items in the ME- scale shows a mean of 0.575 [0.467- 0.713] and the 8 items AM scale a mean of 0.351 [0.146- 0.487]. Internal reliability (Cronbach's  $\alpha$ ) for the ME scale expressed a satisfactory reliability for the total sample: 0.840. The AM scale expressed a reliability of 0.646 and was not satisfactory. Exploratory factor analysis showed a three-factor structure with items loading between 0.810-0.423. Convergence validity was conducted using the questionnaire rMEQ whereas the ME scale indicated a strong negative correlation ( $r_s = -0.825$   $p < 0.01$ ) and the AM scale showed no correlation with the rMEQ ( $r_s = 0.077$   $p < 0.026$ ). Conclusions: Further analysis regarding psychometric properties of the AM scale is necessary. Gender correlations were compromised due to low number of male responses. Future studies should investigate properties for external validity of the AM scale.

**Monday May 06**

### **A systematic review of psychotherapy interventions for reducing suicidal thoughts and behaviors in Black Youth**

Tashalee Brown MD PhD

**Objectives** Despite advancements in evidence-based treatments for youth suicide their rates of suicide continue to increase with substantial disparities in suicide attempts noted among Black youth. Evidence-based interventions developed for and tested among Black youth are urgently needed to disrupt these disparities. This systematic review summarizes current evidence-based interventions for suicidal thoughts/behaviors among Black youth and to examine how interventions have integrated therapeutic skills for coping with race/ethnicity-related stressors. **Methods** We searched PubMed MEDLINE and PsychINFO for articles comparing psychotherapy treatment arm with control

conditions. Eligible articles were peer-reviewed RCT/pilot/quasi-experimental studies comparing the effectiveness of interventions for suicidal thoughts/behaviors study population with >30% African American/Black youth and participants up to the age of 25. Exclusion criteria include review articles case report and series. Reporting followed PRISMA guidelines. **Results** The systematic search generated 751 records that were screened; of those 11 studies published from 2004 to 2021 met eligibility criteria. The 11 studies featured seven different interventions: attachment-based family therapy multisystemic therapy adapted coping with stress intervention cognitive behavioral therapy motivational interviewing prolonged exposure therapy and mode deactivation therapy. Cultural adaptation/content of interventions were focused on discussion/training on racial/ethnic socialization. Limited language intervention characteristics and content and treatment outcomes were culturally relevant. **Conclusions** The lack of representation of Black youth in treatment studies and sparse literature focusing on culturally adapting treatments for Black youth continues to stall advancements to disrupt current suicide trends impacting Black youth. Only one psychotherapy intervention focused on suicide in Black youth and the remaining six psychotherapy manuals were not culturally adapted for Black youth. Cultural adaptation/content was predominantly absent or contained brief descriptions of racial/ethnic socialization. We identified opportunities for implementing cultural adaptations of suicide interventions among Black youth.

**Monday May 06**

### **Advancing risk-tier specific and personalized suicide prevention resources**

Monica Dimambro; Maxwell Levis PhD; Brian Shiner PhD

**Background:** In 2019 over 6000 Veterans died from suicide in the US a rate that is when adjusting for

age and sex 53% higher than civilian adults' suicide rate. While the US Department of Veterans Affairs (VA) has made important suicide prevention contributions these efforts have primarily targeted high-risk Veterans with documented suicide risk including suicidal ideation prior suicide attempts and other flagged concerns. Approximately 90% of VA patients that go to on die by suicide however do not meet these criteria and therefore do not fall into this high-risk tier nor receive targeted suicide prevention services. This study uses national VA data to improve identification tracking and treating patients that were not classified as high suicide risk aiding development of evidenced-based suicide prevention services for all Veterans.

**Methods:** We developed a cohort of all VA patients who died by suicide in 2017 or 2018 (n = 4810). Patient suicide risk was classified by using REACH-VET the VA's state-of-the-art suicide risk prediction metric. REACH-VET uses a network of structured EHR risk-variables ranging from health service usage to medication usage socio-demographics diagnoses and prior suicide prior attempts to predict suicide risk level. REACH-VET is used to identify high-risk patients (top 0.1% risk score) and alert their providers. We conservatively selected non-high-suicide risk patients based on having a REACH-VET score >1 (n = 4358) in the month before death by suicide. We then constructed a model that included demographics service-usage and diagnosis and social determinants of health variables and used Principal Component Analysis to identify patient sub-groups within the non-high-suicide risk sample. We derived two clusters "medium risk" and "low risk" groups. We then investigated variable differences along risk tiers using t-tests Chi-squared and odds ratios.

**Results:** We found significant differences across all risk tiers. Patients in higher risk tiers were more likely to be younger female White or Hispanic unmarried and have a service-connected disability. They also tended to have higher total mental and physical health diagnoses. Lower risk tiers were more likely to be older male married and Black. We also observed that lower risk tiers had substantially more missingness than higher risk tiers. For example low-risk patients had nearly 5x odds of

having no relationship status data when compared to high-risk patients. **Conclusions:** Study was limited by reliance on REACH-VET a tool that exclusively uses electronic health record structured data to classify suicide risk. That being said REACH-VET represents the state-of-the-art risk prediction metric. Study expands epidemiological understanding about non-high-risk suicide decedents a historically understudied and underserved group. Future research will evaluate risk tier care differences and risk-tier specific suicide prevention resources.

**Monday May 06**

### **Assessing the Effect of Outpatient Continuation Electroconvulsive Therapy (C-ECT) on the Readmission Risk and Total Direct Cost in Patients with Depre**

PHERN CHERN TOR MBBS MMed(Psy) FAMS

The effect of continuation/maintenance ECT (C-ECT) across mood and psychotic disorders on the readmission risk and cost is unclear. **Objective:** To assess the association of outpatient C-ECT on the readmission risk and the total direct healthcare cost after completion of inpatient acute ECT. **Methods:** A naturalistic retrospective cohort study of 540 patients who received inpatient acute ECT treatment from May 2017 to Mar 2021 in a large tertiary psychiatric institution was conducted. Brief Psychiatric Rating Scale (BPRS) Montgomery-Asberg Depression Rating Scale (MADRS) Montreal Cognitive Assessment (MoCA) Global Assessment of Functioning (GAF) EQ-5D-3L utility scale (EQ-5D) and the Clinical Global Impressions Scale-Improvement (CGIS-I) were used. After completion of inpatient acute ECT patients receiving and not receiving outpatient C-ECT were compared using survival analysis for readmission risk. Hospitalisation and ECT treatment cost were used to calculate total direct cost. **Results:** After the first 6 sessions of inpatient acute ECT both cohorts had significant



improvement in their BRPS MADRS GAF and EQ-5D scores. Patients who continued with outpatient C-ECT after acute ECT had a significantly lower risk of readmission [adjusted hazard ratio of 0.68 (95% CI: 0.49 – 0.95 p=0.022)]. Amongst patients with bipolar disorders and schizophrenia-spectrum disorders involuntary status at the index admission was associated with a lower risk of hospital readmission. Patients who received outpatient C-ECT had a significantly lower total direct cost compared to those who did not (SGD\$35259 vs SGD\$61337). Patients with mood disorders had a significantly lower inpatient ECT cost hospitalisation cost and total direct costs in the outpatient C-ECT group compared to those without outpatient C-ECT. Conclusion: ECT is a quick and effective acute treatment for mood and psychotic disorders. Outpatient C-ECT for the treatment of mood and psychotic disorders is associated with lower readmission risks and lower healthcare costs especially for patients with mood disorders

**Monday May 06**

### **Can Cognitive Behavioral Therapy for Insomnia Help Patients with Alcohol Use Disorder? A Systematic Review with Meta-Analysis**

Ariella Maghen M.D.; Joshua Cho MD PhD

Purpose: Research has highlighted the efficacy of Cognitive Behavioral Therapy for Insomnia (CBT-I) in improving sleep outcomes for patients with insomnia however there is still little known about the impact of insomnia behavioral therapies for patients with alcohol use disorder (AUD). Given that AUD patients with insomnia have higher rates of relapse and suicidal thoughts examining the impact of non-addictive non-pharmacological treatment methods such as CBT-I may help improve the mental health and delivery of care to this population. Methods: This systematic review explored whether CBT-I improved sleep and alcohol use in patients with AUD. We followed the Preferred Reporting Items for Systematic Reviews

and Meta-Analyses (PRISMA) guidelines to conduct a comprehensive search from PubMed Cochrane Library and Google Scholar and the references of the identified articles for randomized controlled trials. Data was extracted from the articles and meta-analyses were conducted to calculate standardized mean differences. Results: Based on an initial search result of 13 references five studies met the inclusion criteria and were included involving 306 participants. CBT-I had significant effects on sleep outcomes (SMD – 0.974; 95% confidence interval [CI] – 1.43 ?0.52; p = 0.035) but not on alcohol use (SMD – 0.006; ?0.27 0.28; p = 0.313) in patients with alcohol use disorder. Conclusion: We found that CBT-I improved sleep outcomes in patients with alcohol use disorder but not alcohol use itself. While our results may be limited by the small sample of studies included in our analysis these findings may help inform the development of educational tools to improve the sleep behavior patterns of patients with alcohol use disorder which may improve their overall mental health and quality of life. Future research should aim to explore the impact of CBT-I in patients with other substance use disorders such as cannabis use or hypnotic dependency.

**Monday May 06**

### **Catatonia Readmissions: A National United States Population Study**

Precious Eseaton M.B.B.S.; Adeyemi Alaga MD

Introduction Catatonia is a manifestation of different mental health disorders such as schizophrenia and depression. Although prior studies have looked at catatonia in hospitalized patients (123) national population data are scarce on readmission following hospitalization for catatonia in the United States (U.S). We aim to describe the rates characteristics and reasons for readmissions for adults hospitalized for catatonia in the U.S. Methods We analyzed the 2018 Nationwide Readmission Database (NRD). It

includes nested and weighted discharge data for about 60% of all U.S hospitalizations. The NRD is the largest all-payer inpatient readmission national U.S database. We included index hospitalizations for all adult patients (>18 years) with "principal" diagnosis of catatonia using ICD-10 codes "F061" & "F202". In the NRD the "Principal" diagnosis is the main reason for hospitalization hence these hospitalizations are principally due to a new diagnosis or recurrence of catatonia. We excluded elective readmissions. Chi square and logistic regression analysis were used respectively to compare categorical and continuous variables of baseline characteristics between 90-day readmissions and index admissions. We used a rank order command to obtain the most common principal" diagnoses or reasons for readmission within 30 90 180 and 330 days. STATA 16 was used for analysis. Results A total of 2940 2365 1460 and 263 index hospitalizations with a "principal" diagnosis of catatonia that were discharged alive were included in the 30- 90- 180- and 330-day readmission analysis. Among these 504 (17.1%) 679 (28.7%) 501 (34.3%) and 103 (39.3%) were readmitted within 30 90 180 and 330 days respectively. 90-day readmissions contributed about 11 million U.S dollars and 10014 hospital days in 2018. Catatonic schizophrenia and unspecified schizophrenia were the most common reasons for readmissions across all 4 timeframes. 90-day readmissions had more patients leave Against Medical Advice (AMA) (1.8% vs 0.3% p=0.001) compared to index admissions. Conclusion About 40% of patients admitted for catatonia are readmitted within 11 months. Readmissions constitute a significant economic burden to the U.S healthcare system. Catatonic schizophrenia & unspecified schizophrenia were the most common reasons for readmission. Readmissions had more patients leave AMA compared to index admissions. Interventions to reduce readmissions for these patients are needed."

Monday May 06

## Childhood Maltreatment and Nonsuicidal Self-Injury: The Mediating Role of Perceived Invalidation and Depression

Minkyung Yim; Hayoung Kim; Yeojin Choi

Background: Nonsuicidal self-injury (NSSI) is the deliberate act of harming one's own body tissues without suicidal intent. Childhood maltreatment (CM) is a significant distal risk factor for NSSI (Nock 2010). In particular CM may lead to mental health problems such as depression and subsequently escalate the likelihood of engaging in self-injurious behaviors (Brown et al. 2018). Emotional invalidation is another contextual factor that may interact with CM to increase the risk of NSSI which involves ignoring or punishing one's emotional experiences. Some recent studies on proximal risk factors in mental health problems have suggested that perceived emotional invalidation in adulthood predicts emotional distress (Schreiber & Veilleux 2022; Zielinski et al. 2023). In this study we sought to examine whether the effect of CM influences the perceived emotional invalidation in adulthood and how this emotional invalidation in turn increases the risk of engaging in NSSI behaviors. Methods: Of the 2364 individuals who participated in this study 718 reported at least one incident of NSSI in the past year. All participants completed an online survey that included measures of a) type and frequency of NSSI in the past year (Inventory of Statements About Self-injury) b) Perceived invalidation of emotion (Perceived Invalidation of Emotion Scale) c) CM (Adverse Childhood Experiences-International Questionnaire) and d) depression (Patient Health Questionnaire-9). Structural equation modeling was performed using Mplus 8.8 with goodness-of-fit indices including comparative fit index (CFI > .95) root mean square error of approximation (RMSEA < .07) and the standardized root means square (SRMR < .07). Results: The structural model showed acceptable model fit ( $\chi^2 = 1797.870$  (df = 242)  $P < 0.001$ ) CFI = 0.953 SRMR = 0.037 RMSEA = 0.052). The results indicated that the childhood maltreatment was associated with higher perceived invalidation in adulthood which in turn

was correlated with increased depressive symptoms (standardized indirect effect = .206) and a higher risk of NSSI (standardized indirect effect = .034). The pathway from CM to NSSI via perceived invalidation and depression was also significant (standardized indirect effect = .091). Conclusions: This study highlights the effect of CM on perceived emotional invalidation in adulthood leading to elevated depressive symptoms and an increased risk of NSSI. To our knowledge this is the first study to examine the relationship between emotional invalidation in adulthood and NSSI. These findings also underscore the importance of addressing perceived emotional invalidation in adulthood for effective interventions particularly for individuals with a history of CM. Our results may pave the way for personalized interventions focused on improving emotion regulation and mitigating the risk of NSSI. Funding Source: NRF grant funded by the Korean government (No. 2022R1A2C2011467).

**Monday May 06**

### **CONNEX-X: An Extension Trial Examining the Long-term Safety of Iclepertin in Patients With Schizophrenia Who Completed Phase III CONNEX Trials**

Corey Reuteman-Fowler; Zuzana Blahova; Stephen Marder; Satoru Ikezawa; Peter Falkai

**Background** Cognitive impairment associated with schizophrenia (CIAS) is a core feature of the disorder and a major determinant of poor functional outcome yet no effective pharmacological treatments are available. Iclepertin (BI 425809) a glycine transporter-1 inhibitor has been shown to improve cognition in schizophrenia in Phase II trials and Phase III trials are in progress. Here we report baseline data from the CONNEX-X extension study that aims to collect additional safety data relating to iclepertin treatment in patients with CIAS who completed Phase III trials. **Methods** CONNEX-X (NCT05211947) is an ongoing multicenter multinational open label single arm extension trial

in patients with CIAS who completed 26 weeks of treatment with iclepertin 10 mg or matching placebo in one of 3 Phase III CONNEX parent trials (NCT04846868 NCT04846881 NCT04860830). CONNEX-X aims to recruit ~1400 clinically stable outpatients who will be treated daily with iclepertin 10 mg for 1 year regardless of whether they previously received iclepertin or placebo. Patients are excluded if they exhibit any of the following during the parent trial and up to Visit 1 of CONNEX-X: suicidal behavior or ideation (type 5 on the Columbia-Suicide Severity Rating Scale) diagnosis with moderate/severe substance use disorder diagnosis other than schizophrenia (according to Diagnostic and Statistical Manual of Mental Disorders – 5th edition) development of any condition preventing participation a hemoglobin level decrease (>25% or <100 g/L from baseline in parent trial) or hemoglobinopathies. The primary endpoint is occurrence of treatment-emergent adverse events. The secondary endpoints are change from baseline (CfB) in Clinical Global Impressions-Severity (CGI-S) and CfB in hemoglobin. Further efficacy endpoints include CfB in MATRICS Consensus Cognitive Battery (MCCB) overall composite T-score CfB in Schizophrenia Cognition Rating Scale (SCoRS) total score and CfB in Virtual Reality Functional Capacity Assessment Tool (VRFCAT) total times. **Results** In total 460 patients have been enrolled and randomized from the parent trials to date with 0% screening failures (~80% rollover rate August 30 2023). At baseline the mean (standard deviation [SD]) assessment scores (analyzed August 09 2023 n=249) were MCCB (29.5 [12.7] overall composite T-score) SCoRS (37.7 [9.8] interviewer total score) and VRFCAT (32.9 [20.8] adjusted total time). **Conclusion** Patient enrollment rate from parent CONNEX trials to CONNEX-X has been stable to date. This extension study will allow the examination of long-term safety and descriptive analyses of cognitive and functional endpoints of iclepertin in the treatment of CIAS providing key evidence supporting its long-term use in chronic disorders such as schizophrenia. **Funding:** These studies are funded by Boehringer Ingelheim.

Monday May 06

### **Cost Savings Associated with Coordinated Specialty Care for Early Psychosis Among Kaiser Permanente Northern California Members**

Matthew Hirschtritt MD MPH; Stacy Sterling D.P.H. M.P.H. M.S.W.; Sujaya Parthasarathy PhD

Background: Coordinated specialty care (CSC) is an evidence-based multi-element model for patients with early psychosis (EP) and at clinical high risk (CHR) for psychosis which is associated with symptom reduction and improved life functioning. However the upfront costs of CSC are substantial given the intensity of these programs and their team-based approach. There is a paucity of data regarding potential cost savings associated with CSC. This study aimed to examine whether engagement in CSC was associated with cost savings compared with usual care among patients with EP and CHR in a large integrated health care system. Methods: This was a prospective cohort-based study of Kaiser Permanente Northern California members ages 12-24 years with EP or CHR referred to CSC from September 2020 – October 2023. Standardized scales of clinical severity (Clinical Global Impression Scale for Psychosis) and functional impairment (Global Assessment of Functioning; Global Functioning Scales) were collected up to 18 months. Primary care psychiatry (medication and non-medication) emergency department (ED) and inpatient use was extracted from the electronic health record. Associated costs were estimated based on location-specific mean costs from the 2022 Medicare Physician Fee Schedule. EP patients were matched ~2:1 to non-CSC-treated patients based on age ( $\pm 1$  year) sex and race/ethnicity to compare service-use rates and associated costs 12 months prior to and during up to 18 months of CSC participation. Results: Forty-seven patients (N=16 CHR N=31 EP) participated in CSC for a median of 77.1 weeks (interquartile range=39.0-105.0); 57% were male and 62% were White the mean (SD) age was 17.8

(3.0) years. Compared with CHR patients EP patients were older ( $18.5 \pm 2.9$  vs  $16.5 \pm 2.7$  years) more likely to be male (65% vs 44%) and less likely to be White (55% vs 75%). Twenty-six percent of EP patients were diagnosed with schizophrenia in the 12 months prior to CSC enrollment and rates of comorbid substance use disorders were 48% and 6% for EP and CHR patients respectively. Functional impairment and clinical severity for both CHR and EP patients remained relatively stable throughout CSC and indicated moderate-to-severe impairment. Between 6 months prior and 6 months following enrollment the mean ED-associated service costs for EP patients decreased from \$2613-\$523 representing an 80% relative decrease in costs; and non-medication psychiatry service use (individual and group therapy) costs decreased from an average of \$1516-\$535 – a 65% relative decrease in costs. Conclusion: Use of CSC among commercially insured patients with EP in a large integrated health care system was associated with reductions in ED-associated costs compared with similar patients who did not receive CSC. This study was supported by a contract from the California Mental Health Services Oversight and Accountability Commission (19MHSOAC064).

Monday May 06

### **Differences in Clinicians' Anger Experience and Expression Style Toward Suicidal Patients With and Without Trauma and Stress-Related Diagnoses**

Jonathan Kogan; Inna Goncarencu; Anna Beneria

Background: Suicidal patients have been shown to often elicit negative emotional responses from clinicians including anger which when present requires active management by the clinicians. Trauma and stress-related disorders have been associated with secondary traumatic stress in mental health professionals treating such patients which may contribute to clinicians' experiences of

anger and its expression. The present study aimed to determine whether clinicians' experiences and expressions of anger were impacted by the presence of a trauma or stress-related disorder diagnosis in their suicidal patients with the goal of improving clinicians' anger management skills. Methods: Participants were recruited from inpatient and outpatient settings at Mount Sinai hospitals in New York City between June 2015 and May 2018. A total of 84 clinicians completed the State-Trait Anger Expression Inventory-2. Patients' diagnoses (n = 286) were collected from EPIC. An independent samples t-test was conducted to determine mean differences in clinicians' anger experience and expression styles while treating suicidal patients with and without trauma and stress-related diagnoses. Results: Independent samples t-tests showed that clinicians treating patients with trauma or stress-related disorders reported significantly higher Anger Control In (t = 2.23 \*p = 0.03) and significantly lower Anger Expression In (t = -2.44 \*p = 0.02) and Anger Control Out (t = -3.02 \*\*\*p < 0.003) compared to clinicians treating patients without these diagnoses. Contrary to our expectations clinicians' State Anger and Anger Expression Out did not significantly differ between suicidal patients with trauma and stress-related diagnoses and those without them. Conclusion: This finding suggests that clinicians treating patients with trauma or stress-related disorders might be more attuned to the need to consciously manage their internal anger such that suppression or inward redirection of anger become unnecessary. Overall these findings suggest that the presence of trauma or stress-related diagnoses in suicidal patients can influence how clinicians experience and express anger emphasizing the necessity for clinicians training in emotional self-awareness and management of emotional responses when helping those at suicide risk.

Monday May 06

### **Economic Burden Associated with Pre-existing Substance Abuse in Patients with**

### **Negative Symptoms Schizophrenia: US Administrative Claims Data Analysis**

Mosadoluwa Afolabi; Gideon Aweh; Keshia Maughn

Background: Schizophrenia presents with positive and negative symptoms. Co-existing substance use disorders complicate clinical profiles worsening cognitive issues and negative symptoms. Despite antipsychotic effectiveness against positive symptoms there remains a treatment gap in managing negative symptoms schizophrenia (NSS). We examined how initial substance abuse influenced the economic burden among patients with NSS. Methods: This retrospective longitudinal observational study utilized de-identified administrative claims from STATinMED RWD Insights data (01/01/2016-09/30/2022). Included were patients with schizophrenia (International Classification of Diseases 10th Revision Clinical Modification [ICD-10-CM] code: F20.XX and NSS (ICD-10-CM: F20.5; index date=first NSS diagnosis date) during the identification period 01/01/2017-09/30/2021 aged ≥13 years at index 12-month continuous capture pre- (baseline) and post- (follow-up) index date and evidence of baseline antipsychotic use. All patients with NSS in the baseline period were excluded. Patients were categorized based on the presence (cases) or absence (controls) of baseline substance abuse (alcohol/drug abuse diagnosis). Outcomes examined for the follow-up period included all-cause mental health (MH)- and schizophrenia-related health care resource utilization (HCRU) and costs per patient per year. Patient demographics clinical characteristics and other psychiatric and neurodevelopmental comorbidities were assessed for the baseline period. Cohorts were matched using inverse probability treatment weighting (IPTW) and Generalized Linear Models (GLMs) were performed. Results: The final sample of 5691 NSS patients included 24.6% cases. Cases were significantly younger (mean age: 44 vs 52) had higher proportion of patients insured by Medicaid (87% vs 62%) higher comorbidities including Quan-Charlson comorbidity index score (mean: 1.7 vs 1.3) depression (53% vs 22%)



uncomplicated hypertension (48% vs 38%) mild liver disease (14% vs 5%) psychoses (96% vs 75%) anxiety (45% vs 21%) bipolar disorder (43% vs 17%) suicidal ideation/attempt/intentional self-harm (44% vs 8%) and trauma- and stressor-related disorders (21% vs 7%). Following IPTW cases had a significantly greater mean number inpatient admissions (8.7 vs 6.3) outpatient ER visits (5.7 vs 2.8) lower prescription counts (41.92 vs 55.04) and higher mean outpatient ER costs (\$2276 vs \$1439). GLM analysis also showed cases had higher mean number of inpatient admissions (10.5 vs 5.7) outpatient visits (22.7 vs 16.5) lower prescription counts (40.1 vs 55.6) and higher outpatient visit costs (\$12505 vs \$8722). These findings were generally consistent with MH- and schizophrenia-related HCRU and costs; however MH-related total costs were significantly higher (\$32195 vs \$25003; all  $p < 0.05$ ). Conclusion: Baseline substance abuse increases the economic burden associated with NSS.

**Monday May 06**

## **Efficacy of Daridorexant versus earlier sleep medicines**

Shah Ali; Aastha Singh; Hany El-Adle

Background: Insomnia disorder affects approximately 10% of the adult population in the United States (Morin 2022). As a chronic condition there is a 40% persistence rate over a 5-year period. Insomnia presents with difficulty initiating sleep maintaining sleep or early-morning awakening with an inability to return to sleep. For adults the American College of Physicians guidelines recommends CBT-I as the initial treatment for chronic insomnia (Qaseem 2016). Daridorexant is the latest medication approved by the FDA to treat insomnia. Daridorexant is one of three FDA-approved orexin receptor antagonists to treat insomnia. With the estimated number of visits in outpatient settings totaling over 5 million for insomnia in 2010 the burden of this disorder has only worsened (Ford 2014). This study aims to

identify daridorexant as compared to previous orexin receptor antagonists. Methods: Pubmed SCOPUS and Web of Science literature databases were screened and filtered by using search terms inclusion/exclusion criteria with articles/trials from 2020 to date. This gave us a result of about 43 citations from the databases. We further reviewed these citations and after careful review a total of 5 papers were reviewed for this abstract. Keywords: “daridorexant” “insomnia” “sleep disturbances” Inclusion criteria: clinical trial meta-analysis review and systematic reviews Exclusion criteria: Conference paper editorial and notes articles from 2000-2023 Pubmed: 26 results Web of Science: 58 results Scopus: 96 documents found Results: One 12-week study comparing daridorexant to placebo found that the medication was effective in increasing self-reported total sleep time by a least-squares mean of 20 minutes and decreased insomnia daytime symptoms (Kunz 2022). These improvements were most pronounced with 50mg doses of daridorexant. Moreover there were no significant withdrawal symptoms or next-morning sleepiness. A study comparing daridorexant to zolpidem found a reduction of waking after sleep onset and latency to persistent sleep with daridorexant (Dauvilliers 2020) by over 40 minutes in the 50mg dose (higher than results for zolpidem). These results were dose-dependent. Additionally this study once again found fewer residual effects of daridorexant due to its shorter half-life and no withdrawal symptoms. Daridorexant has a more favorable profile compared to earlier orexin receptor antagonists due to its shorter half-life (8 hours) and lack of active metabolites. Earlier orexin antagonists suvorexant and lemborexant have both shown potential for abuse (Schoedel 2016) (Scott 2020). Daridorexant has shown less drug-liking effects compared to supratherapeutic doses of zolpidem and suvorexant (Ufer 2022). Conclusion: There is an increased burden of insomnia and sleep disturbances in the US. Daridorexant the latest FDA-approved medication for the treatment of insomnia offers a newer treatment with a favorable side effect profile over previous medications.

**Monday May 06**

### **Examining the Relevance of Clinical High-Risk State Subcategories in First-Episode Psychosis: Longitudinal Outcomes in an Early Intervention Sample**

Olivier Renaud-Charest; Vincent Paquin; Jean-Gabriel Daneault; Ashok Malla; Jai Shah

**Background:** The construct of a Clinical High-Risk (CHR) state for psychosis has been utilized to facilitate prospective identification of individuals vulnerable to developing the syndrome of a psychotic disorder. Diagnostic criteria for CHR include the experience of attenuated psychotic symptoms (APS) the experience of brief intermittent psychotic symptoms (BIPS) and the presence of trait vulnerability and functional decline. However while there is now extensive research on the differential clinical outcomes associated with these subcategories no study to date has examined the prognostic value of CHR subcategories in the full sample of individuals with a first episode of psychosis (FEP). We therefore aimed to determine the prevalence of CHR subgroups defined by APS and BIPS among FEP patients and to examine associations between these subcategories and subsequent outcome trajectories. **Methods:** Participants with FEP were recruited from the Prevention and Early Intervention Program for Psychosis (PEPP-Montreal) a catchment-based early intervention service for psychosis. Symptoms preceding the onset of threshold-level psychotic symptoms were systematically assessed through the use of an interview-based instrument with participants (and their relatives) and reviews of health records. Over two years of treatment and follow-up repeated measures were collected for positive negative depressive and anxiety symptoms as well as social-occupational functioning. Participants with at least one subthreshold psychotic symptom prior to FEP (consistent with a pre-onset CHR state) were further divided into the BIPS

subgroup if they had experienced brief threshold-level hallucinations or delusions or the APS subgroup if they had experienced other psychotic symptoms. We then applied linear mixed models to examine associations between the retrospectively-defined CHR subcategories and outcome trajectories. **Results:** Of the 319 patients completing all assessments 75.24% had experienced subthreshold psychotic symptoms prior to their FEP. Among these 189 (78.75%) experienced symptoms indicative of the APS subcategory and 51 (21.25%) of the BIPS subcategory. These subgroups showed no difference in clinical or functional outcome trajectories even after adjusting for the duration of untreated psychosis baseline substance use disorder or baseline diagnosis of affective psychosis. **Conclusions:** Among a full sample of FEP patients the majority of whom had experienced subthreshold psychotic symptoms prior to psychosis retrospectively-defined CHR subcategories of APS and BIPS were not associated with distinct outcome trajectories during two years of early intervention service. Our findings suggest that the distinction between APS and BIPS subcategories becomes less relevant upon reaching FEP. Future research should endeavour to identify other pre-onset symptoms and characteristics that offer more robust prognostic value in FEP.

**Monday May 06**

### **Exploring the Impact of Repetitive Transcranial Magnetic Stimulation on Suicidal Ideation in Psychiatric Patients: A Systematic Review**

Olga Lopez M.D.; Simon Kung MD; Jonathan Bock; Grace Johnson; Alison Kor

**Background:** Repetitive Transcranial Magnetic Stimulation (rTMS) has been a recognized treatment for Major Depressive Disorder (MDD) since its FDA approval in 2008. While generally safe rTMS is associated with minor side effects like headaches and scalp pain at the stimulation

site and in rare cases seizures with an estimated incidence of less than 1%. Notably some reports suggest a potential increase in suicidality scores following rTMS treatments. However the extent to which rTMS may exacerbate suicidal ideation (SI) necessitating psychiatric hospitalization remains unclear. Our systematic review aims to investigate this risk. **Methods:** Following the PROSPERO (CRD42023469248) a comprehensive search using MEDLINE Embase Cochrane Central Register of Controlled Trials Cochrane Database of Systematic Reviews Web of Science Core Collection and Scopus databases was performed on August 24 2023. The main search terms focused on rTMS and SI. Seven reviewers worked independently in pairs to screen titles and abstracts using a standardized protocol review full texts and extract data. Studies of rTMS for non-psychiatric conditions were excluded. Study characteristics rTMS parameters and any outcome of worsened suicidal ideation resulting in psychiatric hospitalization were collected. **Results:** From 262 abstracts initially identified 75 were included in our analysis including open label studies (36%) randomized controlled trials (33.3%) case reports (25.3%) and case series (5.3%). The patient population predominantly (>80%) consisted of adults undergoing rTMS primarily for MDD (52%) in the outpatient setting (78.6%). Over half the studies (52%) involved patients with pre-existing SI. The majority of rTMS parameters used high frequency stimulation (53.3%) range of 1000-1999 pulses/treatment (29.33%) 120% of MT (24%) and a non-accelerated approach (70.67%) of <30 days (72%). The most common site of stimulation was the left dorsolateral prefrontal cortex (L-DLPFC) (64%). Of 3037 patients (2290 active 747 sham) a minimal percentage (n=29 0.95%) displayed an increase in SI and a smaller subset (n=14 0.46%) required psychiatric hospitalization. **Conclusions:** This review indicates a relatively low hospitalization rate for increased SI among psychiatric patients receiving rTMS. These findings offer reassurance regarding this specific risk for rTMS. It is important to note however that this review did not explore the potential aggravation of anxiety which could influence SI. The study's limitations include the potential underestimation of the hospitalization

rate as trials where SI was not reported or non-existent were excluded. This underscores the importance of comprehensive and transparent reporting in clinical trials to fully understand the impact of rTMS on patients with psychiatric conditions.

**Monday May 06**

### **Focused Ultrasound Amygdala Neuromodulation for Mechanistic Treatment of Affective Disorders: Preliminary Results from an Open-label Feasibility Study**

Bryan Barksdale M.D.;Ph.D.

Affective disorders are characterized by prolonged states of negative affect triggered by reactivity to emotionally provocative stimuli. Hyperactivity of the amygdala a subcortical limbic brain structure underlying the detection of salient environmental stimuli is thought to underlie this common exaggerated emotional reactivity phenotype. Current neuromodulatory therapies transcranial electrical (TES) and transcranial magnetic stimulation (TMS) are critically limited by the fact their focal depth is limited to superficial cortical regions. Transcranial repetitive low-intensity focused ultrasound pulsation (LIFUP) is a novel safe non-invasive neuromodulation technique that allows deep subcortical brain structures such as the amygdala to be directly modulated. Our preliminary data identified a LIFUP neuromodulation protocol that attenuated amygdala blood oxygenation level dependent (BOLD) signal during functional magnetic resonance imaging (fMRI). Here we test the hypothesis that repeated administrations will promote a therapeutic effect in mood and anxiety disorders. Subjects (N=12) with affective disorders including MDD GAD BAD and PTSD were enrolled in an open-label single-arm experimental intervention. Utilizing MRI-guided placement and neuronavigation inhibitory LIFUP was delivered to

the left amygdala once a day for 10 minutes 5 days a week over the course of 3 weeks (15 sessions total). Symptom measures were tracked at baseline and over the duration of the experimental treatment course. The preliminary results show significant decreases in measures of affective symptoms when comparing pre-treatment measures to post-treatment; these included the MASQ sub-scales of general distress anhedonic depression and the PHQ-9 and GAD-7. Adverse events were sparse and mild in severity. Findings suggest that daily inhibitory amygdala LIFUP is a feasible and potentially efficacious transdiagnostic neuromodulation treatment. The outcomes of this study may help develop focused ultrasound into a novel modality for enhanced neuropsychiatric treatment.

**Monday May 06**

### **Hidden Barriers: Exploring Self-Disgust and Disgust with Others in Individuals with Concealed vs. Disclosed Past-Month Suicidal Ideation**

Inna Goncarencu; Sarah Bloch-Elkouby Ph.D.

**Background:** Research shows that over one-third of adult patients conceal suicidal thoughts from their therapists hindering clinicians' ability to prevent suicidal behavior. Therefore there is an urgent need to explore potential factors associated with patients' concealment. Feelings of disgust driven by an innate urge for cleansing and detachment have been shown to disrupt trust-building processes potentially leading individuals to withdraw from interactions and avoid displaying vulnerability by not relying on others thus potentially impeding help-seeking behavior. Furthermore self-disgust has been associated with suicidal ideation and a range of mental health disorders linked to increased suicide risk such as depression borderline personality disorders and self-harm. However to the best of our knowledge the relationships

between self-disgust disgust with others and suicidal ideation concealment have not been investigated. Our study thus aimed to investigate whether individuals who acknowledge concealing suicidal ideation from their healthcare providers differ in their experience of disgust towards self and others. **Methods:** A sample of 521 community-based U.S. adults (86% cisgender women 86.9% White M age = 25.93 SD = 8.18) were recruited to complete an anonymous online survey. The severity of self-disgust and disgust with others were assessed as a part of the Acute Suicidal Affective Disturbance Inventory—Current. Participants were also asked whether they had ever denied or concealed their suicidal thoughts from healthcare providers. T-tests were conducted to identify differences in self-disgust and disgust with others between concealers and non-concealers. **Results:** Among individuals who experienced suicidal ideation within one month prior to completing the survey those who concealed it from their providers endorsed significantly higher levels of self-disgust (M = 6.36 SD = 3.20) compared to those who did not conceal it (M = 4.60 SD = 3.48) ( $t = -5.126$  df = 409  $p < 0.001$ ). However suicidal ideation concealers did not exhibit significantly different levels of disgust of others (M = 4.57 SD = 3.68) compared to non-concealers (M = 4.04 SD = 3.34) ( $t = -1.421$  df 408  $p = 0.156$ ). **Conclusions:** Self-disgust emerges as a critical factor associated with the disclosure of suicidal ideation to clinicians whereas the role of disgust with others may not be as prominent. These findings emphasize the importance of addressing self-disgust as a potential barrier to help-seeking for individuals struggling with suicidal thoughts. Integrating inquiries about self-disgust into suicide risk assessments may be warranted to assess for risk of possible suicidal ideation concealment.

**Monday May 06**

### **Impact of psychological factors and polysomnographic sleep parameters on paradoxical insomnia**

So Hyun Ahn; JIHEE LEE; youngsook kwon

**Objectives** Paradoxical insomnia characterized by a significant discrepancy between subjective and objective sleep duration remains understudied in its association with sleep and mental health. This study aims to evaluate the relationship between paradoxical insomnia and psychological factors and polysomnographic sleep parameters. **Methods** Data from 1238 individuals who visited the Sleep Center at Chungnam National University Hospital from January 2017 to December 2022 were collected. Collected information included self-reported psychological scales PSG findings and demographic characteristics. Among the initial 1238 individuals 753 individuals aged 18 years and older with ISI scores higher than 8 were included in the analyses. The study population was categorized into paradoxical and non-paradoxical insomnia groups. The following criteria were used to define paradoxical insomnia: significant discrepancy of  $\geq 60$  minutes between subjective and objective total sleep time. Chi-square test and independent t-test was conducted to compare demographic and clinical characteristics between paradoxical and non-paradoxical insomnia group. Univariate and multivariate linear regression were employed to assess the extent to which psychological factors and PSG sleep parameters impact the subjective-objective sleep discrepancy. **Results** A total of 753 individuals comprising of 283 with paradoxical insomnia and 470 with non-paradoxical insomnia were available for the statistical analyses. (mean age=52.9 38.9% female) Individuals with paradoxical insomnia exhibited higher ISI BDI and BAI scores along with significant differences in PSG sleep parameters (TST SE TIB stage N2 stage N3 REM AHI) compared to those with non-paradoxical insomnia. The univariate linear regression analysis showed that ISI scores ( $\beta=0.19$   $p<0.001$ ) BDI scores ( $\beta=0.08$   $p=0.034$ ) BAI scores ( $\beta=0.09$   $p=0.016$ ) TST ( $\beta=0.25$   $p<0.001$ ) SE ( $\beta=-0.03$   $p<0.001$ ) TIB ( $\beta=0.25$   $p<0.001$ ) stage N2 ( $\beta=0.21$   $p<0.001$ ) stage N3 ( $\beta=0.12$   $p=0.001$ ) REM ( $\beta=0.15$   $p<0.001$ ) were positively associated with the discrepancy between subjective and objective total sleep time.

The multiple linear regression analysis showed that gender ( $\beta=-0.078$   $p=0.039$ ) ISI scores ( $\beta=0.182$   $p<0.001$ ) TIB ( $\beta=0.777$   $p=0.037$ ) and SL ( $\beta=-0.596$   $p=0.049$ ) were predictors of the discrepancy between subjective and objective total sleep time. **Conclusion** This study suggests an association between paradoxical insomnia and self-reported psychiatric aspects as well as PSG findings. Individuals with higher ISI scores tend to manifest more severe paradoxical insomnia indicating the need for objective sleep assessments such as PSG.

**Monday May 06**

### **INFLAMMATION STRESS AND SYMPTOM IMPROVEMENT IN PATIENTS WITH SCHIZOPHRENIA UNDERGOING COGNITIVE BEHAVIOURAL THERAPY FOR PSYCHOSIS preliminary data.**

Felicia Iftene MD PhD FRCPC; Adriana Farcas

**Objectives.** The current guidelines give to the cognitive behavioral therapy for psychosis (CBTp) in association with medication an important role in the treatment of schizophrenia (SZ). Our pilot study empirically evaluate inflammatory factors that contribute to CBTp influenced recovery. This is a prospective randomized repeated-measures study design aimed to evaluate clinical and inflammatory changes in people with SZ undergoing 16 individual-basis weekly CBTp sessions preceded by 4 sessions of weekly befriending and followed by 2 CBTp booster session at the 2 follow-up visits. The chart reviews completed the demographics. **Methods.** Participants: 48 people with SZ - 24 included in the study group undergoing CBTp and 24 placed on waitlist (control group); 48 healthy individuals for lab standardization. From them 16 participants from each group (total 32) have completed the study. Aside from applying specific psycho-social instruments we have been screening for gene variants in 3 target genes: Interleukin-1 converting



enzyme (ICE) interleukin-1-beta (IL-1?) and interleukin-1-receptor (IL-1R) aiming to assess the influence of SNPs on the IL-1R gene upon serum IL-? levels (ongoing DNA sequencing). Diurnal salivary cortisol levels have also been determined. Results/Discussions. Individuals with SZ undergoing CBTp had statistically significant clinical improvement lower perceived stress increased quality of life and level of functioning compared to control group. As the CBTp intervention progressed the morning cortisol levels increased peaking at the end of the intervention ( $M = 0.48 \mu\text{g/dl}$ ) with statistically significant main effects between the pre- and post-intervention visits ( $F(1, 30) = 16.12, p = 0.001$ ). We also found a reversed pattern of cortisol levels at baseline by comparison with healthy individuals with lower levels of cortisol in the morning and higher levels in the evening (morning cortisol pre-CBTp  $M = 0.22 \mu\text{g/dl}$  and evening cortisol with  $M = 0.38 \mu\text{g/dl}$ ). Conclusions. Several baseline variables were identified as correlating significantly with the main outcome measures of the CBTp intervention: A higher cognitive flexibility score at baseline along with lower evening cortisol cholesterol and CRP levels lower BMI and unexpectedly education (lower than University level) associated with significant decrease in the PANSS Total scores at the end of the intervention. The BMI and education were also significantly correlated with the PANSS Positive and General scales. A lower number of hospitalizations lower evening cortisol cholesterol and CRP levels a higher cognitive flexibility score at baseline as well as having supportive friends correlated significantly with the decreased PANSS Negative scale and the NSA scores at the end of the intervention. Key words: Schizophrenia CBTp Cytokines Cortisol

Monday May 06

## Learning without reward: The mesolimbic system and loss of higher network features in schizophrenia

Elizabeth Martin M.D.

Introduction Schizophrenia (SCZ) is characterized by impairments in learning and reward processing. A recent circuit-based integrative model suggested that task proficiency in SCZ results from a loss of functional network synergy between cognition and reward circuits that can be observed even when learning without reward-related contingencies. To verify this we explored a potential loss of network features in SCZ patients and controls (HC) while engaging in associative learning without reward focusing on sub-circuits for learning (hippocampus and prefrontal cortex) and reward processing (ventral tegmental area and nucleus accumbens of the mesolimbic system). Methods 78 participants (45 SCZ Ages 18-50) learned associations between nine familiar objects and their locations in a two-dimensional grid while undergoing an fMRI scan. Encoding and Retrieval epochs (27s each 3s per associated pair) were separated by 27s rest periods. During Encoding objects were presented in their associated location for naming. During Retrieval participants were asked to recall the associated object by cuing each grid location in random order without feedback or reward. Time series were extracted from eight bilateral nodes across learning and reward sub-networks. For each epoch we estimated 2nd order undirected functional connectivity (uFC zero lag correlations) for each participant creating resultant 16x16 adjacency matrices. We then computed the statistical relationship between all possible pairs of 2nd order features in each of the patient and control groups resulting in 4th order (or higher order) cross-correlation matrices to represent intragroup correlations across all pairs of network pairs. Each higher-order matrix consisted of 7140  $\left[\frac{(120 \times 120) - 120}{2}\right]$  unique 4th-order correlations. The coefficients were transformed ( $r'$  Fisher 1915) and the inter-group differences in  $r'$  were normalized ( $z$ ) to investigate inter-group differences ( $q\text{FDR} < .05$ ). From the identified inter-group differences (SCZ ? HC) respective contributions of individual brain regions to the loss of higher order group network features was quantified. Results Connectomic rings were used to depict

inter-group differences in higher-order features between both groups. SCZ was characterized by a massive loss of higher-order features during Encoding and Retrieval. A brain map was used to depict the relative contribution of each network node to higher-order feature loss in SCZ which revealed that nodes of the mesolimbic system were over-represented in this loss. Conclusion In schizophrenia elements of the mesolimbic system are heavily implicated the loss of synergy between cognitions and reward subcircuits even when learning without reward. The findings motivate a renewed appraisal of the relationship between reward and cognition in schizophrenia and a potential ingrained pathological process that expresses itself both through impaired cognition and reduced salience for reward.

Monday May 06

### **Mood Disorders and Aggressive Traits Mediate Effects of Reported Childhood Adversity on Suicide Attempt Risk**

Jessica Rabbany M.D.

Background: Childhood adversity (CA) is linked to suicidal behavior as well as to mood disorders and aggressive traits. This raises the possibility that mood disorders and aggressive traits mediate the relationship between childhood adversity and suicide risk. Moreover it is not known if mood disorders and aggressive traits operate as independent or interactive mediators. This study evaluated if and how mood disorders and aggressive traits mediate the effects of CA on future suicidal behavior. Methods: 548 participants (258 female (47.1%)) with mean age of 20.3?years at baseline and last evaluated at age 26.1?±?8.2?years. The participants are the offspring of 294 parents with mood disorders. Participants were interviewed at baseline and at yearly follow-ups (6.5?±?3.5?years) with questionnaires assessing aggression mood disorders and suicidal behavior. Aggression was measured using the Brown Goodwin Lifetime History of Aggression (BGLHA) Scale. Mood

disorders were evaluated using Structured Clinical Interview for DSM Disorders (SCID) and Kiddie Schedule for Affective Disorders and Schizophrenia (K-SAD). CA was evaluated with the Child Experiences Questionnaire Child Trauma Questionnaire Childhood and Adolescence Review of Experiences (CARE) questionnaire and the Baseline Demographic and Developmental (BDEMO) History Form. The mediation analysis involved a three-step process testing the relationships between (1) CA and attempt; (2) CA and putative mediators; and (3) putative mediators and suicide attempt adjusting for CA. Results: Data analysis showed that both sexual ( $p = .001$ ; HR = 3.59; 95% CI [1.68 7.67]) and physical abuse ( $p = .024$ ; HR = 2.48; 95% CI [1.13 5.46]) predict future suicide attempt. The presence of either sexual ( $p = .0001$ ) or physical abuse ( $p < .0001$ ) was associated with an increase in aggression (BGz) of about six-tenths of a standard deviation (95% CI (sexual abuse) [0.28 0.83]; 95% CI (physical abuse) [0.33 0.81]). Results were significant for a correlation between childhood adversity aggressive trait severity and future suicide attempts. They were also significant for a correlation between childhood adversity mood disorder onset and future suicide attempts. Greater aggression severity also raised the hazard of the development of a mood disorder ( $p = 0.05$ ). However once either aggression or mood disorder is present adding the other risk factor does not increase suicide attempt risk. Conclusions: Amelioration of aggressive traits and treatment of mood disorders in CA-exposed offspring of a parent with a mood disorder may prevent future suicide attempts and may reduce the risk of developing a mood disorder. Depression and aggression mediate the relationship between CA and suicide attempts. When one mediator is present the presence of the other does not increase the hazard of a future suicide attempt. This work was supported by NIMH Grant # MH108032.

Monday May 06

## **New onset Psychosis in Adolescence in setting of Post Covid-19 : A Case Report**

Isaac Abraham; Aiza Zeerak; Avinash Puchalapalli; John Amoroso

**Introduction and Background** COVID-19 has proven to be a far-reaching illness with a profound impact on mental health. It is associated with a wide variety of neuropsychiatric symptoms including but not limited to changes in taste smell and focal neuropathies. It is well known that the COVID-19 pandemic caused significant stress many populations. In children and adolescents the effects manifested themselves with increased anxiety irritability insomnia and tightly held relationships due to fear of contracting infection social isolation and potential of losing loved ones to the virus. Despite the fact that the incidence of psychosis appears to increase in the general population following historical viral pandemics to date there is still relatively limited evidence linking psychosis and SARS-CoV-2. A review of the literature conducted by Brown et al. estimated that around 0.9–4% of individuals exposed to H1N1 influenza Ebola SARS MERS or COVID-19 developed psychosis or psychotic symptoms a significantly higher percentage than the median incidence of 0.015% observed among the general population. **Case Report** Mr. P 17-year old Indian male presented with new onset delusions and auditory and visual hallucinations. As per parents symptoms started after contracting COVID-19 at 16 years of age. Since then he demonstrated difficulty in school talking with self inappropriate laughter and paranoia. The late adolescent was placed on an IEP and given a religious text to read resulting in perceptual disturbances regarding Satan. In addition he stopped adequately attending to ADLs. PCP started Zoloft 50 mg; Mr. P took it for 2 days and then stopped with complaints of shaking and fear. A psychiatrist started Seroquel 50 mg; he took it for 3 days and stopped it with complaints of increased paranoia. Upon repeat visit psychiatrist started Zyprexa 2.5 mg which the patient quickly refused. There was no significant family history or substance use. During hospitalization patient was started on Zyprexa 2.5 mg titrated up to 7.5 mg with addition

of Zoloft 50 mg. Patient continued to show improvement and psychosis resolved. **Discussion** In this complex case the parents were adamant that Covid-19 was the main cause of the patient's symptoms. This line of thinking begets the questions - Has there been enough data/research to link Covid-19 with psychosis in adolescence? We aim to present this case adding to a pool of new onset post-COVID psychosis in adolescence. COVID-19-related CNS dysfunction may also result from systemic inflammation often known as systemic inflammatory response syndrome or "cytokine storm". We believe that this case could be linked with COVID-19 when taking into consideration factors like no relevant family history no substance use and symptoms starting right after the patient having Covid-19. Our hope is that this case will add further discussion about linkage of Covid-19 to new onset psychosis in adolescence.

**Monday May 06**

## **Obstructive Sleep Apnea and Medical Comorbidities: Evidence from a Nationwide Healthcare System Data in South Korea**

Minbi LEE; Seung-Chul Hong

**Introduction:** Obstructive sleep apnea (OSA) is a breathing disorder in which a patient repeatedly stops breathing during sleep due to partial or complete airway obstruction. There has been increasing number of studies to find that medical problems such as hypertension heart failure gastroesophageal reflux disease (GERD) and various autoimmune diseases are related to the pathophysiology of OSA. **Objective:** The aim of this study is to confirm the association between medical comorbidities and OSA using a large-scale epidemiological data based on nationwide healthcare system in South Korea. **Methods:** We conducted a nationwide population-based retrospective study using the National Health

Insurance (NHI) claims database in South Korea from 2010 to 2019. The patients in the OSA group were selected based on the diagnosis with OSA according to the International Classification of Diseases 10th revision (ICD-10). The patients in control group were those who underwent appendectomy from 2010 to 2019 but had never been diagnosed with OSA before. The crude hazard ratio (HR) the adjusted hazard ratio (adjusted HR) corrected by covariates and 95% confidence interval (CI) for the effects of OSA on the incidence of the medical problems were estimated by the Cox proportional hazard ratio model. Subgroup analysis was conducted by sex and age group. Results: In total 103785 patients (86200 men and 17585 women) with OSA and 714891 patients (593762 men and 112129 women) without OSA were included. The adjusted HR for the incidence of hypertension [1.757 (95% CI 1.745-1.770)] dyslipidemia [1.587 (95% CI 1.566-1.608)] and diabetes [1.561 (95% CI 1.546-1.575)] was higher in the OSA group compared with the control group. Among comorbid diseases the prevalence of the ischemic heart disease was highest after adjusted by hypertension dyslipidemia and diabetes [adjusted HR of 2.109 (95% CI 2.088-2.130)]. Conclusion: We found that patients with OSA are at higher risk of metabolic diseases such as hypertension dyslipidemia diabetes and ischemic heart disease. It is notable that ischemic heart disease showed the strongest association with OSA even after adjusted by metabolic components. The association with OSA and other comorbidities such as CKD and GERD was also notable. This result is remarkable as it is the first large-scale nationwide population-based study in Korea. Keywords: Obstructive sleep apnea Big data Comorbidities Metabolic disease Cardiovascular disease Chronic kidney disease Gastroesophageal reflux disease Sleep disorder

Monday May 06

## Prior Substance Use Disorder is Associated with Higher Short-Term Social

## Functioning Outcomes in First-Episode Psychosis

Shawna Chan MD; Joseph Ventura; Keith Nuechterlein

Background: Adults presenting with first-episode psychosis (FEP) have higher rates of co-occurring substance use disorders compared with the general population. In addition to known associations between substance use and the emergence of psychosis in genetically predisposed individuals studies have also found poorer long-term functional outcomes in those with a history of substance use. Short-term functional outcomes in this population are less well-characterized. This study evaluated the association of any prior substance disorder with premorbid social functioning and short-term social functioning in individuals with and without a prior substance use disorder in FEP. Methods: 104 adult patients with a diagnosis of schizophrenia schizoaffective disorder and schizophreniform disorder were enrolled in the UCLA Aftercare Research Program between January 2017 and October 2022. Patients were treated through a Coordinated Specialty Care program that included both pharmacologic and psychosocial interventions. Social functioning at 0 3 6 9 and 12 months of treatment was assessed by the North American Prodrome Longitudinal Study Global Functioning Scale: Social (NAPLS-GFS) and premorbid functioning was assessed by the Cannon-Spoor Premorbid Adjustment Scale (PAS). Associations between prior substance use disorder and social functioning as well as pre-morbid functioning were calculated using one-way ANOVAs. Results: This analysis included 41 (60.6%) patients with a prior substance use disorder (mean age=23.0 83% male) and 63 (39.4%) patients without a prior substance use disorder (mean age=24.3 57% male). Those with a history of substance use disorder demonstrated a trend toward higher GFS following treatment at month 3 ( $p<0.082$ ) and significantly higher GFS at months 6 ( $p<0.046$ ) and 9 ( $p<0.044$ ). Prior substance use disorder was also associated with better premorbid sociability ( $p<0.021$ ) and premorbid peer relationships ( $p<0.034$ ) in

adulthood though there were no differences in premorbid social functioning in childhood and adolescence. Conclusion: In adults with FEP a history of substance use disorder was associated with higher premorbid sociability and more peer relationships and higher short-term social functioning at 6 and 9 months of treatment. In the early course of illness the ability to access substances may reflect a degree of social connectedness thus selecting for individuals with higher premorbid social functioning. These individuals may initially have had lower biological risk for schizophrenia with a potential for a milder illness course until their psychosis was unmasked by substance use. While their higher level of social functioning may be sustained in the short-term compared with those who develop schizophrenia in the absence of substance use timely treatment of co-occurring substance use disorders should be considered to prevent deterioration of long-term functioning. This research is funded by NIMH grant R01MH110544.

**Monday May 06**

### **Relationship between Post-Ictal Generalized Electroencephalographic Suppression and Electroconvulsive Therapy Treatment Parameters**

Lucas Lebovitz M.D.; Ben Palanca; Nuri Farber

Background: Electroconvulsive therapy (ECT) is a highly effective treatment for treatment-resistant depressive symptoms but few biomarkers exist to guide treatment decisions. Post-ictal generalized electroencephalographic suppression (PGES) is a period of low amplitude electroencephalography (EEG) activity that often follows generalized seizure activity during ECT. PGES has been previously shown to predict decrease in depressive symptoms but rating has often been done visually by clinicians and qualitatively with Likert scales. Prior work has not shown an effect of ECT charge or laterality. Methods: This

investigation is a secondary analysis of data collected from CET-REM study (ClinicalTrials.gov NCT04451135). High-density 64-electrode EEG recordings were acquired in 95 ECT sessions from 15 patients with either treatment-resistant depression (TRD) or bipolar depression. A novel automated algorithm was deployed for detection and quantification of PGES. Median PGES durations (ms) were compared between ECT laterality and charge using Mann-Whitney U tests. Results: Recorded sessions included 62 right unilateral (RUL) 32 bilateral (BL) and one bifrontal (BF). PGES was detected in 39 (41%) of ECT sessions with nine (60%) patients showing PGES during at least one ECT session. PGES produced by sessions of BL ECT was greater than those of RUL ( $z=-2.67$   $p=0.01$ ). For RUL ECT PGES produced by sessions of 100% charge was greater when compared to 5% 30% and 60% charge measured collectively ( $z=2.55$   $p=0.01$ ). For BL ECT PGES produced by sessions of 100% charge was less when compared to 40% and 80% charge measured collectively ( $z=-2.12$   $p=0.03$ ). Four patients had large increases between sessions in PGES duration corresponding to an increase in ECT charge; one patient had a large increase between sessions when switched from RUL to BL ECT. Discussion: PGES is one of the few biomarkers known to predict response to ECT and is altered by ECT montage and charge a novel finding possible through automated quantification. Our finding that BL ECT and RUL 100% charge ECT produced more PGES is consistent with their improved efficacy suggesting a possible mediating role of PGES. Further studies with larger sample sizes may directly test how PGES mediates the relationship between ECT parameters and antidepressant effect.

**Monday May 06**

### **Relationship between psychopathological symptoms and psychosocial functioning in patients with schizophrenia: a network analysis**



Mounira Jabat

**ABSTRACT** Background: Schizophrenia is a severe often enduring and sometimes treatment-resistant mental disorder; those affected frequently struggle to cope with the challenges of daily life. Although the relationship between Schizophrenia and disability is well established the nuances of the relationship between the symptoms and functional domains remain unclear. Methods: The current study explored the relationship between the symptoms and disability in a sample of 1127 patients with Schizophrenia. We used the Positive and Negative Symptom Scale (PANSS) and mini-ICF-APP for the assessment. We conducted a network analysis. In network models the variables are presented as nodes that are connected via edges representing undirected regularized partial correlations. The network was constructed using an “extended Bayesian information criterion” (EBIC) and the “least absolute shrinkage and selection operator” (LASSO) a regularization method implemented within a single Gaussian random field network. This minimizes false-positive findings by shrinking small correlations toward zero. We calculated the network centrality indices. To identify the most influential nodes (i.e. items) we normalized the centrality indices and identified the index above the 95 percentile. Results: The mean PANSS score was 94.28 (27.20) and the mean mini-ICF-APP score was 25.25 (8.96) both indicative of a severe symptom load and impairment. We were able to show a strong relationship and overlap between symptoms and disability in patients with Schizophrenia. We could identify several symptoms leading to functional impairment. Deficits in judgment and abstract thinking lead to impairment through poor adherence (to routines and compliance with rules) coupled with difficulties in planning and organizing. We were able to show the crucial role of adhering to rules and routines for those affected and its role as a target of intervention and different treatment approaches. We further showed that the interplay between symptoms and functional domains in schizophrenia patients is complex and variable and mediated mainly by cognitive and thought processes. Conclusion:

We consider interventions that target those symptoms (i.e. abstract thinking and judgment) and functional domains (i.e. adherence and planning) capable of reducing the symptoms and the burden of Schizophrenia.

**Monday May 06**

### **Sleep apnea status in patients on chronic opioid medication for pain: Base rates and impact of discontinuation of medication**

Majd Al-Soleiti; BHANO KOLLA; Meghna Mansukhani; Wesley Gilliam

Introduction: Opioids are commonly prescribed for chronic pain despite the paucity of controlled studies demonstrating efficacy and associated risks including addiction overdose and death. Opioids have been shown to cause or worsen central and/or obstructive sleep apnea as well as sleep-related hypoxemia and hypoventilation. Discontinuing opioids could result in resolution and/or improvement in sleep apnea and hypoxemia. However studies demonstrating resolution and the relevant time frame for improvement are lacking. This study aimed at examining base rates types and severity of sleep apnea and oxygenation status during sleep in patients admitted to a Pain Rehabilitation Center (PRC) on opioid medication(s) and the impact of discontinuing the medication(s) on these parameters. Methods: Patients 18 years or older on opioid medication(s) were recruited at the start of their treatment at the PRC. Those with a diagnosis of heart failure with ejection fraction  $\leq 45\%$  and those using positive airway pressure or other sleep apnea treatment modalities were excluded. Demographic characteristics were obtained from the medical record. A home sleep apnea test (HSAT) utilizing the Embletta™ device was performed at admission opioid dose. In patients found to have sleep apnea i.e. a Respiratory Event Index (REI) of  $\geq 5$  events per hour a repeat HSAT was performed within 3-5 days after completion of the opioid taper. Results: The sample consisted of 13 patients (54% female 46%

male) with a mean age of 54.6 years. The mean body mass index (BMI) was 27.1 kg/m<sup>2</sup>. Six patients were on concurrent benzodiazepines. The mean morphine equivalent dose at admission was 87 mg (3 patients were on >100 mg) mean REI 2.95/hour mean oxyhemoglobin saturation (SpO<sub>2</sub>) 93.45% and mean SpO<sub>2</sub> nadir 75%. One patient met criteria for mild obstructive sleep apnea and 2 met criteria for mild central sleep apnea. Four patients had a repeat study after discontinuation of opioids which showed an increased REI in 3 and stable REI in 1 patient (mean REI: 3.97 pre 5.85 post). The mean SpO<sub>2</sub> increased in 3 and decreased in 1 patient. The mean SpO<sub>2</sub> nadir increased in 1 decreased in 2 and remained the same for 1 patient. Conclusion: To our knowledge this is the first attempt to systematically examine sleep apnea and oxygenation status in patients taking prescription opioids for pain and change in these parameters after medication taper and discontinuation. Our study showed that 23% of the sample had mild obstructive or central disordered breathing at baseline and this was largely unchanged after opioid discontinuation. A larger sample and a longer follow up interval are needed to further explore the impact of opioid medication discontinuation on sleep-related breathing parameters.

**Monday May 06**

## **Social Isolation Trajectories and Adult Suicidality: Longitudinal Associations from Add Health**

Victoria Ogunniyi; Elizabeth Tung

Background: Social isolation is a growing health crisis that may amplify suicide risk. However few studies analyze longitudinal data limiting our understanding of the relationship between suicidality and social isolation across the lifespan. The current study aimed to examine the longitudinal association between adolescent-to-

adult social isolation trajectories and adult suicidality risk. Methods: Our data were drawn from Waves I (adolescence) and V (mid-adulthood) of the National Longitudinal Study of Adolescent to Adult Health (Add Health). Outcomes of interest included adult suicidal ideation and suicide attempts. Adolescent and adult social isolation were measured using adapted versions of the Berkman-Syme Social Network Index (0=no isolation 4=severe isolation). Respondents were then assigned to one of four trajectory groups: never isolated adolescent-only adult-only and persistent adolescent-adult isolation. Adult suicidal ideation and suicide attempts were modeled as independent functions of social isolation trajectory group controlling for sociodemographic characteristics. Results: Overall 10182 respondents participated in both Waves I (adolescence) and V (mid-adulthood) of Add Health. In Wave V the mean age was 37.1 years old and 57% identified as female. Racial/ethnic composition included 59.2% identifying as non-Hispanic White 20.3% as non-Hispanic Black 12.8% as Hispanic/Latino 6.4% as Asian-American/Pacific Islander and 0.6% as American Indian/American Native or Other/Multiracial. In adjusted analyses adult-only social isolation (AOR 2.12; 95% CI 1.56-2.90) and persistent adolescent-adult social isolation (AOR 2.17; 95% CI 1.54-3.06) were associated with higher odds of adult suicidal ideation compared to the never isolated group. Group membership in the adolescent-only social isolation group was not significantly associated with adult suicidal ideation compared to the never isolated group. Associations between social isolation trajectories and suicide attempts were not significant although trended in a similar direction. Conclusions: In this nationally-representative cohort of U.S. adolescents transitioning to adulthood we found that adult-only and persistent adolescent-adult social isolation were associated with adult suicidal ideation. Notably adolescent-only social isolation was not associated with adult suicidal ideation underscoring the dynamic and malleable nature of social isolation over time. These findings suggest that adolescent social isolation may be an intervenable condition with the potential to reduce social isolation and

improve mental health outcomes between youth and adulthood. This study was supported by the University of Chicago Pritzker School of Medicine.

**Monday May 06**

### **Suicide Ideation in Hospital Staff of a Large Urban Health System**

Cara Faherty; Nimra Rahman BA; Chi Chan; Lauren Peccoralo; Jonathan Ripp

**Background:** The prevalence of suicide ideation (SI) and subsequent risk of suicide has been shown to be greater in certain occupational groups such as health care professionals (HCPs) when compared with the general population. HCPs are at an increased risk for SI and suicide due to a highly stressful working environment stigma associated with the use of mental health services and greater access to means for completion of suicide such as medications. While several SI studies have focused on physicians there are far fewer that investigate non-physician healthcare system staff. The purpose of this study is to examine the prevalence and contributing occupational factors of suicide ideation amongst a broad group of non-physician healthcare staff. **Methods:** Participants were recruited using an anonymous cross-sectional survey of non-physician healthcare staff at a large urban healthcare system between September and November 2022. A random sample of 10% of institutional staff email addresses were obtained from system leadership. We elected to use a random sample to reduce the survey burden on the workforce. The survey was distributed through email and upon completion participants were eligible for a raffle for a chance to win an Apple Watch AirPods or iPad. Non-physician healthcare workers such as nurses administrative staff research staff scientists food service staff security and others were included in the analysis. Multivariable binary logistic regression was conducted to determine the demographic mental health and workplace factors associated with SI.

**Results:** Of the 4998 hospital system staff who were sent the survey 1398 (28.0%) responded. Of the 1084 hospital system staff with complete data included in the analysis 93 (8.6%) endorsed having passive or active SI over the past two weeks. Results of the regression indicated that screening positive for depression [odds ratio (OR) = 4.7; 95% confidence interval (CI) = 2.62-8.33  $p < .001$ ] and screening positive for anxiety [OR = 1.88; 95% CI = 1.06-3.32  $p = .03$ ] were associated with a higher odds of SI whereas greater leadership support was associated with a lower odds of SI [OR [95%CI] = .95 [.92-.98]  $p = .003$ ]. Nagelkerke R<sup>2</sup> for the model was 0.23. Relative importance analysis indicated that depression explained 36.2% anxiety explained 20.4% and leadership support explained 16.4% of the variance in SI outcome accounted for by this model. **Conclusion:** Based on our analysis those who screened positive for depression and anxiety were more likely to report experiencing SI. However those who indicated they had strong leadership support were less likely to report SI. Limitations to this study include a moderate response rate and the inclusion of only one question to evaluate SI. This analysis suggests that enhancing leadership support and improving access to mental health care could be targets for interventions to help decrease the risk for SI in the healthcare workforce.

**Monday May 06**

### **Sulforaphane For The Treatment Of Negative Symptoms In Schizophrenia**

Robert Smith MD PHD; Jing Huang MD; Hua Jin MD; John Davis MD; Renrong Wu MD PhD

**Background:** Negative symptoms persist in many patients with schizophrenia after positive symptoms are reduced by antipsychotic medication and are associated with persistent problems in social functioning and other functional outcomes in schizophrenia. There are few established treatments for negative symptoms in schizophrenia. Oxidative stress

inflammation and epigenetic modifications involving HDAC have been implicated in the pathophysiology of schizophrenia. Sulforaphane has antioxidant properties and is an HDAC inhibitor. The object of the current study was to determine the efficacy of sulforaphane in treatment negative symptoms in patients with schizophrenia who were stabilized on antipsychotics and had predominant negative symptoms. Methods: This was a randomized double-blind placebo controlled study of patients (male and female) with schizophrenia who were stabilized on antipsychotic medication and had predominant negative symptoms (PANSS negative symptoms higher than positive symptoms) in Hunan China. Patients received daily doses of either 2 (1700 mg) tablets daily of Extra Strength Avmacol (Nutramax sulforaphane tablets glucoraphanin content 30 mg/tablet) or placebo tablets for 24 weeks. All other medication was stable throughout the trial. Psychiatric symptoms were measured with PANSS scale and CGI. Side effects were assessed with TESS scale. Analysis used intent to treat mixed model analysis for symptom scores and Mann Whitney U Test for each side effect item scores. Results: 53 patients treated with sulforaphane and 24 patients treated with placebo who had a least one post intervention outcome evaluations were analyzed. Sulforaphane treated patients showed a significantly greater decrease in PANSS negative symptom total score ( $P=.01$ ) and PANSS Negative factor score ( $P=.02$ ) than placebo treated patients with the most prominent difference occurring at 24 weeks ( $P?.001$ ) with large effect size at this time point ( $d=0.8$ ). Sulforaphane's effect on decreasing negative symptoms was not mediated by change in scores of depression or cognitive factors on the PANSS. There were no significant differences between sulforaphane and placebo on change in the CGI scale. Sulforaphane was well tolerated and there were few differences between sulforaphane and placebo on items in the TESS side effect scale. Conclusions: The results of this study suggest that add-on high dose sulforaphane may significantly reduce negative symptoms in stabilized schizophrenic patients on antipsychotic medications who have predominant negative symptoms. The pronounced effect may

only be seen after several months of treatment. The clinical meaningfulness of this reduction in negative symptoms needs further evaluation.

**Monday May 06**

### **The Association Between Suicide and Temperature in the USA May Be Even More Concerning Than Previously Thought**

Pranav Jayaraman M.P.H.; Joshua Wortzel MD  
MPhil MS(Ed)

Objectives: Climate change poses the biggest public health threat of the 21st century. Prior work has demonstrated the higher ambient temperatures are associated with increased suicide frequency across various countries. The suggested relationship in the general US population is that there is a 0.68% increase in the suicide rate (95% CI: 0.53 0.83) per 1°C increase in monthly average temperatures. However there is concern that these models have failed to properly model the rare and non-linear nature of suicide incidence and have not adequately accounted for relevant social variables. As such this ecological study in the US hoped to 1) build a more statistically appropriate model for suicide's relationship with temperature and 2) critically assess if sociodemographic variables confound the relationship between temperature and suicide. Methods: Monthly sex and age-adjusted suicide rates by county were calculated from the CDC's NCHS mortality data and the US Census from 1968 to 2004 for the 48 contiguous states. OSU's PRISM Gridded Climate Data was used to obtain monthly temperatures and precipitation. Given that 67% of county-month observations had no suicides in this time period we confirmed that the use of linear regression on this was not appropriate. To account for this level of "zero inflation" a hurdle model was used to model the data in two sequential parts: a multifactorial logistic regression was used to model whether temperature impacted the likelihood of there

being any suicides in a county and a multifactorial exponential regression was used to model whether temperature impacted the likelihood of the number of suicides in a county. This analysis at the county level accounts for precipitation population size rural status median income (adjusted for inflation) and CDC's social vulnerability index metrics including % minority % single-parent households and % high school education. At the state level this analysis accounted for A/c access and gun prevalence. Results: Logistic regression revealed that there was a 0.265% (95% CI: 0.104 0.427 p=.001) increase in the risk of suicide for every 1°C increase in average monthly temperature. The exponential regression revealed there was a 2.44% (95% CI: 1.94 2.94 p<0.001) increase in the number of suicides for every 1°C increase in average monthly temperature. The association between temperature and suicide was true even after adjusting for all sociodemographic variables (R<sup>2</sup>= 0.4856 p<0.001). Conclusion: This updated statistical methodology more accurately models the relationship between temperature and suicide in the US. The magnitude of the results in our improved model indicates that prior assessments significantly underestimated the association between ambient temperature and suicide. These data highlight the urgent need to build climate resilience in communities and identify who is most vulnerable to the impact of heat on mental health.

**Monday May 06**

### **The Clinical Value of Nocturnal Sleep-Onset REM Period in the Diagnosis of Narcolepsy**

Seung-Chul Hong; Young-Chan Kim; Seung-Chul Hong

Objective Currently narcolepsy diagnosis relies on the Multiple Sleep Latency Test (MSLT) with concerns about its accuracy and sustainability. In

the third edition of the International Classification of Sleep Disorders Sleep-Onset Rapid Eye Movement Period (SOREMP) in Polysomnography (PSG) counts as a single SOREMP in MSLT. And there is growing recognition of the diagnostic significance of PSG SOREMP. This study compares clinical characteristics and MSLT-based diagnosis sustainability between patients with and without PSG SOREMP. Methods This study involved 110 patients with excessive daytime sleepiness who underwent two or more MSLTs at St. Vincent's Hospital until April 2023. Patients were categorized into PSG SOREMP (n=40) and non-PSG SOREMP (n=70) groups. And Sleep parameters were compared between these two groups. We also compared the MSLT-based diagnosis between the two groups and assessed the diagnosis's sustainability by analyzing the results of the second MSLT. Results The group with PSG SOREMP had a significantly shorter PSG REM latency (2.63 minutes ±2.48) compared to the group without SOREMP (108.93 minutes ±65.34). Age and sex showed no significant differences between the two groups. Additionally there were no differences in body mass index apnea-hypopnea index total sleep time sleep efficiency and REM sleep percentage. However in MSLT the PSG SOREMP group had significantly shorter mean sleep latency (1.99 minutes ±2.19) shorter REM latency (2.53 minutes ±2.17) and a significantly higher number of SOREMPs (3.50±0.85). When diagnosing narcolepsy based on the criterion of two or more MSLT SOREMPs 92.5% of PSG SOREMP group patients were diagnosed in the first MSLT compared to 62.8% in the non-PSG SOREMP group. In the second MSLT 95% and 54.3% of PSG SOREMP and non-PSG SOREMP group patients received narcolepsy diagnoses. The rate of consistent diagnosis between the two MSLTs was 90% in the PSG SOREMP group and 50% in the non-PSG SOREMP group. Conclusions These results show that patients with PSG SOREMP consistently exhibited shorter mean sleep latency and a higher number of SOREMPs in MSLT resulting in over 90% receiving a narcolepsy diagnosis. This diagnosis also remained consistent in 90% of follow-up MSLTs. This suggests that PSG SOREMP may have



greater diagnostic value than being considered equivalent to a single MSLT SOREMP.

**Monday May 06**

### **The effect of dexamethasone on testosterone levels in combat veterans with or without a history of suicide attempt**

Leo Sher M.D.; Linda Bierer M.D.; Iouri Makotkine; Rachel Yehuda Ph.D.

**Background** Combat exposure has been linked to increased risk of suicidal ideation, suicide attempts, and death by suicide. The uniqueness of the combat experience as a contributor to suicidal behavior warrants specific studies of both psychological and biological factors that may be associated with suicidality in combat veterans. Combat exposure is associated with multiple psychological and environmental factors affecting testosterone function. Suicidality has been linked with altered testosterone levels. In this study, we examined morning baseline free and total testosterone levels and the effect of dexamethasone administration on testosterone levels in male combat veterans with or without a history of suicide attempt. **Methods** Demographic and clinical parameters of the study participants were assessed and recorded. Study participants were interviewed using the Mini-International Neuropsychiatric Interview (MINI) to determine diagnoses, the Montgomery-Åsberg Depression Rating Scale (MADRS) to assess severity of depression, the Brown-Goodwin Aggression Scale (BGAS) to examine aggression, and the Scale for Suicidal Ideation (SSI) to examine suicidal ideation. Blood samples were collected between 8:00 and 8:30 am on the day prior to and following dexamethasone (0.5mg) ingestion. Free and total testosterone levels were measured using ELISA kits. **Results** Suicide attempters had higher SSI scores in comparison to non-attempters. Baseline free and total testosterone levels were lower in suicide attempters compared to non-attempters. In the whole sample, both baseline free and total

testosterone levels were negatively correlated with SSI scores. Free testosterone levels decreased after dexamethasone administration among non-attempters but not among attempters. Free testosterone post-dexamethasone levels were positively correlated with BGAS scores among non-attempters but not among suicide attempters. **Conclusion** Our findings indicate that there are substantial differences in the testosterone regulation between combat veterans with or without a history of suicide attempt. Studies of the relation between the testosterone function and suicidal behavior among combat veterans may lead to improvement in detection of suicidality and finding new pharmacological targets for prevention of suicide among veterans. Future studies will determine whether therapeutic targeting of testosterone dysregulation attenuates the severity of suicidal ideation and thereby reduces suicide risk.

**Monday May 06**

### **The Relationship Between Employment Status and Suicide Risk During the COVID-19 Pandemic**

Rawad El Hayek M.D.; Martina Sobrero MD

**Introduction:** Given the toll that the COVID-19 pandemic has taken on the global economy and its ultimate effect on individuals' employment status, it is critical to identify the effect of job setting and security on mental health outcomes, especially suicidality. The effects of COVID-related isolation, disconnection, entrapment, and hopelessness may be related to Suicide Crisis Syndrome (SCS), an acute suicidal cognitive-mediated state. This study investigates the differences in employment status and severity of SCS as measured by the Suicide Crisis Inventory-2 (SCI-2) in a community sample during the COVID-19 pandemic. **Methods:** A sample of 1978 adults in the United States completed an anonymous online survey that includes

employment status and Suicide Crisis Inventory-2 (SCI-2) measure between June 2020 and February 2021. Results: A one-way ANCOVA showed a statistically significant difference in SCI-2 means among different categories of employment status (Essential worker/commuting to work vs. Working from home vs. Taking a leave vs. Discharged/laid off)  $F(4, 1969) = 5.741, p < 0.001$ . The SCI-2 total score mean was highest among individuals reporting taking a leave of absence or furloughed (Mfurloughed = 124.540 SE = 7.383) and lowest mean in essential workers and commuting to work (Messential worker = 98.371 SE = 1.893). Post-hoc pairwise comparison analysis indicated that the mean of the SCI-2 score among essential workers is significantly lower than that of individuals taking a leave of absence or furloughed (MD = 26.169 SE = 7.624) as well as that of individuals discharged from work or laid off (MD = 17.871 SE = 5.111). Conclusion: Different employment statuses demonstrate differences in suicide risk during the pandemic in mental health care during the COVID-19 pandemic as indicated by different levels of SCS symptoms. This suggests that continuity in working conditions was protective during times of intense stress such as the pandemic.

Monday May 06

### **The Relationship between Irritability and Suicide Ideation: Mediating Role of Interpretive Bias and Rumination**

Yong Chon Park; Joonho Choi

Background: Despite the growing body of literature indicating an association between irritability and the risk of suicide ideation the underlying mechanism linking irritability to suicide ideation remains unidentified. The aim of this study was to investigate the mediating effects of interpretive bias and rumination on the relationship between irritability and suicide ideation. Methods: Participants (mean age=29.90

80.4% male) were 102 psychiatric inpatients and outpatients who completed the questionnaires assessing irritability (Brief Irritability Test) interpretive bias (Ambiguous/Unambiguous Situations Diary) rumination (Ruminative Response Scale) and suicide ideation (Ultra-Short Suicidal Ideation Scale). The data were analyzed using regression analysis and the bootstrap sampling method. Results: Firstly irritability significantly expected suicidal ideation ( $p < 0.001$ ). Moreover rumination and not interpretive bias significantly mediated the relationship between irritability and suicide ideation (irritability?interpretive bias?suicide ideation indirect effect=0.061 Boot SE=0.050 95% CI [-0.0343 0.1636]); irritability?rumination?suicide ideation indirect effect=0.142 Boot SE=0.062 95% CI [0.0297 0.2742]). Finally interpretive bias and rumination sequentially mediated the path from irritability to suicide ideation (irritability?interpretive bias?rumination?suicide ideation indirect effect=0.400 Boot SE=0.021 95% CI [0.0070 0.0880]). Conclusion: The results suggest that interventions aimed at preventing suicidal ideation among individuals with high irritability should address ruminative thinking. The authors received no funding for this study.

Monday May 06

### **Trends in Positive Cannabis Screen Among Patients with Schizophrenia Spectrum Disorder at an Urban Safety Net Hospital between 2015-2022**

Hannah Brown M.D.; Amy Yule M.D.; Amelia Blanton; Amy Yule M.D.; Brittany Gouse M.D.; M.P.H.

Introduction: Cannabis use is associated with both the development and progression of schizophrenia spectrum disorders (SSDs). The longitudinal impact of legalization of medical and recreational cannabis use and sales on rates of cannabis use among individuals with a history of psychotic illness is not well understood. In this work we examined trends in positive delta-9-

tetrahydrocannabinol (THC) screens among patients with a lifetime history of psychotic illness presenting to an emergency department (ED) at an urban safety net hospital in Massachusetts. In Massachusetts cannabis was decriminalized in 2008 legalized for medical use in 2012 and legalized for recreational use in 2016. **Methods:** We leveraged an electronic medical record-derived dataset (ACCESS) of 8438 adult patients (> 18 years of age) with at least one outpatient or inpatient visit with a schizophrenia spectrum diagnosis billing code (defined as International Classification of Disease Code 10th edition of F20-F29) between between 2015-2022 at a large urban safety net hospital. The final analytic sample included 3378 individuals and was restricted to ED visits with at least one screen for urinary THC during the encounter. In this subset of ED visits we examined the annual trend in the rate of ED visits with positive THC screening results. Further we estimated adjusted prevalence rates (PRs) of individuals who showed at least one positive THC screening result in each year by subgroups including age sex assigned at birth and race/ethnicity. **Results:** Among the 9084 ED visits included we observed a consistently increasing proportion of ED visits showing positive THC screening results between 2015 and 2022 (from 30.0% to 40.5%). In particular a sharp increase in the positive THC screening result was observed between 2016 and 2017 (from 30.1% to 35.4%). Between 2015-2022 we observed increases in adjusted PRs for patients who showed at least one positive THC screening among those aged >45 (PR 24.6% [95% CI 17.7-31.5] vs. PR 42.2% [95% CI 37.4-46.8]) males (PR 34.7% [95% CI 27.6-41.7] vs. PR 54.0% [95% CI 49.1-58.7]) non-Hispanic/Latino Black individuals (PR 36.1% [95% CI 29.3-43.3] vs. PR 53.3% [48.8-57.9]) non-Hispanic/Latino white individuals (PR 14.3% [95% CI 3.3 to 27.3] vs 35.1% [95% CI 28.2 to 42.9]). Most strata showed increases in the PRs between 2016 and 2017. **Conclusions:** The greatest year-to-year increase in rates of THC positive result visits and patients between 2016 to 2017 suggests that recreational legalization impacted cannabis use among individuals with SSDs. The steady increase in positive THC screens in this patient population is a major public health problem given

the adverse impact of cannabis on severity of positive psychotic symptoms likelihood of relapse and long-term functional outcomes in SSDs.

**Monday May 06**

### **Using natural language processing to monitor VA patients' suicide risk fluctuation**

Maxwell Levis PhD; Monica Dimambro; Gidon Kaminer; Brian Shiner PhD

**Background:** Suicide risk prediction remains imprecise frequently failing to adequately gauge risk and how it fluctuates over time. Leveraging unstructured electronic health record (EHR) data may improve risk detection and ability to monitor changes over time. To help gain understanding about suicide risk fluctuations we deployed dynamic topic modeling (DTM) a machine learning method that evaluates latent topic changes over time on a corpus of suicide risk stratified US Veterans Affairs (VA) patient electronic health record mental health notes. We developed DTM models for high-risk (HR) and medium-risk (MR) suicide decedents along with risk-matched patients that did not die and evaluated longitudinal similarities and differences between patient sub-groups. **Methods:** We developed a sample of all US Department of Veterans Affairs (VA) patients that died by suicide in 2017 and 2018 (cases). Using the VA's leading suicide risk prediction algorithm we then identified HR and MR case sub-groups and identified 5 risk-matched patients that did not die (controls) per case. We selected all sample EHR notes and abstracted them using natural language processing (NLP) methods. We examined case notes from diagnosis until death. We examined control notes from diagnosis until matched case's death date. We restricted the sample to patients who received mental health care for at 9+ months in year before relevant end date. We used a Python DTM algorithm and Rank Biased Overlap to assess

comparative topic differences. Results: HR (cases = 218 controls = 943) topics showed high centrality of psychopharmacotherapy topic over time. HR cases and controls topics illustrated care divergences cases showing increased levels of pathology-focused care and controls showing increased levels of personalized and supportive care. HR case topics changed more over time relative to HR controls. LR (cases = 433 controls = 2232) case and control topics showed high centrality of psychopharmacotherapy and psychotherapy topics over time. LR cases and controls topics also illustrated care divergences cases showing increased levels of social services and controls showing increased levels of therapeutic engagement and symptom-focused care. LR control topics changed more over time relative to LR cases. Conclusions: Our DTM models allow improved understanding about risk fluctuation among risk-stratified VA patients that died by suicide. We found unique topic dimensions and rates of change for sub-groups. Our approach is highly implementable only requiring access to text data and open-source software. Implications include leveraging derived topics and fluctuation rates within risk-modeling.

Monday May 06

## Youth Suicide Risk Assessment by Artificial Intelligence vs. Psychiatrists: A Comparative Analysis of ChatGPT-3 ChatGPT-4.5 Bard and Claude

Lily Nguyen B.S.; Viet Tran; Jessica Tran BS; Vivek Mathesh

Background: Suicide is the second leading cause of death among 10–14-year-olds and the third leading cause of death among 15–24-year-olds in the United States. Despite research efforts to improve the quality of suicide risk assessments there are currently no instruments with sufficient diagnostic accuracy. While linguistic artificial-intelligence (AI) models like ChatGPT Bard and

Claude have attracted much interest in the medical field their ability to serve as a clinical aid in suicide risk stratification remains unclear. Objective: To perform a comparative analysis of AI Large Language Models (LLMs) on their efficacy of assessing suicide risk in adolescents and recommending appropriate treatment setting. Methods: In Dec 2023-Jan 2024 ChatGPT-3.5 ChatGPT-4 Bard Claude and psychiatrists were asked to assess 4 hypothetical vignettes of an adolescent patient with concomitant cannabis usage with differing degrees of perceived burdensomeness and thwarted belongingness. The vignettes were presented to LLMs 10 times each. The same vignettes were distributed to psychiatrists and psychiatric residents via email in a digital survey. After each vignette LLMs and psychiatrists were asked to rate the patient's risk of attempting suicide risk of suicidal ideation psychache and resilience on a 7-point Likert scale as well as recommend treatment setting (school counselor licensed therapist primary care physician psychiatrist or psychiatric inpatient hospitalization). Independent sample t-tests and Mann-Whitney U tests were performed to evaluate if there was a difference between assessments of suicidal risk and treatment stratification made by LLMs compared to psychiatrists. Results: ChatGPT-3.5 and ChatGPT-4 rated likelihood of suicide attempt higher than psychiatrists ( $n = 11$ ) in almost all conditions ( $p = 0.001$ ). Similarly ChatGPT-4 also overrated likelihood of suicidal ideation in most conditions ( $p < 0.01$ ). The recommended treatment setting made by LLMs and psychiatrists differed in conditions with high perceived burdensomeness or high thwarted belongingness ( $p = 0.001$ ). ChatGPT-3.5 assessed resilience lower than psychiatrists in high perceived burdensomeness conditions ( $p < 0.05$ ). Bard and Claude assessed likelihood of suicide attempts suicidal ideation psychache and resilience similarly to psychiatrists. Conclusions: The findings suggest that Bard and Claude estimate suicide risk similarly to psychiatrists while both versions of ChatGPT overestimate suicide risk. LLMs tended to recommend a different treatment setting than psychiatrists particularly in severe cases which could pose a danger to critical patients seeking appropriate

care. LLMs could serve as a decision-making support tool for clinicians in combination with mental healthcare practitioners. Despite clinical potential intensive follow-up studies are needed to evaluate the use of LLMs in practice.

**Monday May 06**

### **20 year follow-up of the TIPS study – preliminary findings**

Melissa Weibell MBBS PhD Ass. Professor

Background: Severe psychotic disorders are associated with substantially increased risk of poor symptom functional and somatic outcomes. Early detection and intervention can improve chances of better outcomes. TIPS (The early Detection and Intervention in Psychosis) has collected data on an epidemiological catchment area based sample of individuals with first episode psychosis at 12 510 and now 20 years after inclusion applying a quasi-experimental design. Rogaland the experimental sector applied extensive information campaigns to increase early intervention and sectors in Denmark and Oslo Norway served as control sectors. At ten-year follow-up rates of full functional recovery were 31% vs 15% in an early compared to a usual detection health care region. The TIPS long-term follow-up study presents the one of few opportunities to assess long-term outcome in a large representative cohort. Aim: To investigate the differences in symptoms recovery and somatic health in first episode psychosis patients after 20 years between regional health care sectors with and without a comprehensive program for the early detection of psychosis. Method: The authors assessed 281 patients 18 to 65 years old with a first episode of non-affective psychosis at baseline included between 1997 and 2001. Of these 45 patients in the early-detection area (ED) and 20 patients in the usual-detection area (no-ED) were followed up at 20 years with regards to symptoms function and somatic health. Results: There was substantial selective attrition; the early detection kept more

participants with high symptom levels in the study. 20% in the ED group had been continuously psychotic since inclusion vs 0% in the non-ED group. Results showed that 60% and 70% were still using antipsychotics in the no-ED and ED groups respectively. 40% were in competitive employment in both groups. 32.5% of patients in the ED group had cardiovascular disease 25% had respiratory disease and 27.5% had metabolic disease whereas numbers were significantly lower in the non-ED group. Stable remission was achieved in 62% in the ED group rising from 52.5% at 10-year follow-up whereas in the non-ED group it decreased from 48% to 30%. Discussion: Early detection of first-episode psychosis appears to confer less deficits and improved functioning and remission across long time spans. At 10 years there was selective attrition in that more severely ill patients were retrieved in the ED sector compared to the non-ED sector. Findings over 20 years nevertheless indicate that improvements are sustained across decades.

**Monday May 06**

### **A Case of Psychosis Associated with Mixed Oxybate Salts (Xywav) in Idiopathic Hypersomnia**

Jared Ontko; Mitchell McDaniel; Huailin Zhang; Garima Garg

Background: Idiopathic Hypersomnia (IH) is a rare sleep disorder marked by an irrepressible need to sleep and persistent tiredness despite prolonged sleep. Treatments for IH were limited to off-label use of psychostimulants until Xywav a mixed-salt formulation of oxybate also known as gamma-hydroxybutyrate (GHB) was approved for IH in 2021. Its mechanism of action is unknown but is thought to improve nighttime sleep quality via GABA modulation improving daytime sleepiness. Here we report a case of psychosis associated with Xywav. Case Presentation: The patient is a 30-year-old female with history of IH fibromyalgia



unspecified depression and anxiety. Her home medications include duloxetine for depression anxiety and fibromyalgia; methylphenidate mixed amphetamines and clarithromycin for IH. The patient was started on Xywav five months prior to admission once nightly with notable improvement in daytime sleepiness. Three weeks prior to admission Xywav was increased to twice nightly per standard dose titration. She reported elevated mood and feeling the most rested in her life shortly after the increase. The patient started sending bizarre messages to her family and coworkers the week prior to admission and eventually police were called for a welfare check and found the patient confused despondent and surrounded by boxes. On admission the patient had rapid disorganized and pressured speech and perseverated on delusions involving FBI surveillance telecommunications anomalies and conspiracies surrounding the hospital system. The patient's Xywav and stimulants were held and she was started on risperidone with improvement in psychotic symptoms. However she experienced worsening daytime sleepiness and stimulants were reintroduced cautiously with minor improvement. Upon consultation with the patient's sleep medicine physician a lower dose of Xywav was restarted twice nightly which improved her IH symptoms. Her psychotic symptoms did not re-emerge and she was discharged on risperidone and lower doses of stimulants and Xywav. Discussion: Sodium oxybate a component in Xywav and an FDA-approved treatment for narcolepsy has been reported to induce psychotic symptoms in patients. Here a patient without history of psychosis or bipolar disorder presented with acute psychosis three weeks following an increase in Xywav that resolved after discontinuation of Xywav and initiation of low dose risperidone. Psychotic symptoms caused by oxybate may be mediated by its effect on dopamine via the GABA-B receptor however more research is needed. Conclusion: Clinicians should carefully monitor patients who are started on Xywav for IH for neuropsychiatric side effects.

**Monday May 06**

## **A Review of Antipsychotic-Induced Edema after Recent COVID-19 Infection**

Robert Snyder D.O.; Laura Marrone M.D.

Risperidone and antipsychotic-induced edema is a rare but possible side effect of treatment however standard workup and treatment recommendations have not yet been established outside of severe case reports and case series. Here we present a literature review inspired by a case of a patient who developed edema in the context of treatment with oral Risperidone. He was admitted to inpatient psychiatry after discrete repeated episodes of disorganization and hallucinations and he was diagnosed with schizophrenia. During the hospitalization he contracted a mild case of COVID-19. Previously antipsychotic naive he was started on risperidone and was uptitrated to from 1mg to 8mg across three weeks and was decreased to 6mg on discharge due to tachycardia and hypotension. Following his discharge he was noted to have bilateral lower extremity pitting edema to the shin and multiple subsequent Emergency Department evaluations for dyspnea and chest pain with tachycardia and hypotension. He was subsequently transitioned to aripiprazole and risperidone was immediately discontinued. Shortly after the transition he had reduction in edema across 2 weeks as well as decreased frequency and intensity of chest pain and dyspnea. Echocardiogram ambulatory EEG and serial medical evaluation all were performed without acute findings. A Naranjo score of 5 indicated a probable reaction to the medication. A literature search was performed to review cases of antipsychotic induced edema and investigate a possible relationship between his symptoms side effects and recent COVID-19 infection. Methods included keyword searches of "Risperidone + Edema" "Antipsychotic + Edema" and "Cardiomyopathy COVID induced differentiation." Of these there was no comparison document and thus here we summarize synthesize and present the results of the review which were notable for

differences in features concerning antipsychotic mediated edema or heart failure and COVID induced edema or heart failure and accompanying treatments and we describe the course of action taken in this case based on our query. Further investigation is needed to determine the relationship between COVID-19 and the side effects and tolerability of antipsychotic treatment and the potential underlying mechanism of antipsychotic-induced edema.

**Monday May 06**

### **Clinical benefit and utility of Aripiprazole once Monthly in routine Practice for Korean schizophrenia patients (CAMP)**

Jiwan Moon; HYE RYUN YANG; Sang Won Jeon; Kang Seob Oh; Hwa-Young Lee

Background: Antipsychotic polypharmacy is prevalent in clinical settings with an increasing adoption of long-acting injectables to alleviate side effects. Aripiprazole once monthly (AOM) offers enhanced compliance functional recovery and symptom relief yet evidence is lacking within polypharmacy. The objectives of this observational study are to investigate the clinical benefits and effectiveness of AOM within a general clinical environment. This investigation entails assessing shifts in clinical functionality alterations in psychotic symptoms and modifications in medication dosages and quantities. Methods: Participants were recruited from six sites and clinical as well as demographic data were extracted from electronic medical records (EMR) during the screening baseline 1-month 3-month 6-month 9-month and 12-month intervals with the initiation of AOM treatment serving as the baseline point. Changes of various measures including in GAF (Global Assessment of Functioning) CGI-S (Clinical Global Impression-Severity) CGI-I (Clinical Global Impression-Improvement) PANSS-6 (The Positive and Negative Syndrome Scale-6) scores as well as alterations in medication dosage and quantity over the 12-month period were

analyzed. Results: Data of 85 patients were available and notable improvements were observed in key measures. The GAF score increased by 17.2% the CGI-S score decreased by 17.5% the CGI-I score decreased by 25% and the PANSS-6 total score decreased by 22% at 12 months. Particularly noteworthy was the decrease of PANSS-6 score observed as early as month 1 compared to the baseline with other scales exhibited significant improvement from month 3. At the 12-month juncture a statistically significant reduction was evident in several medication-related aspects including the total pill count antipsychotic pill count cumulative chlorpromazine-equivalent dosage of antipsychotics benzodiazepine pill count and cumulative lorazepam-equivalent dosage of benzodiazepines. Notably the initial month saw a significant drop in both overall pill count and antipsychotic pill count and dosage. Furthermore a pronounced reduction in anticholinergic drug and beta-blocker pill counts was observed at the 12-month point compared to baseline further suggesting AOM's contribution to reducing side effects. Although 31 subjects reported adverse events no instances of serious adverse events were documented. Conclusion: The findings of this study strongly suggest that efficacy becomes apparent early on when transitioning to AOM in patients undergoing antipsychotic polypharmacy within the routine clinical practice for schizophrenia patients in Korea. The observed improvements encompass not only enhanced functionality and amelioration of clinical symptoms but also a significant reduction in medication quantity and dosage. This study was supported by Korea Otsuka Pharmaceutical Co. Ltd.

**Monday May 06**

### **Clozapine prescribing and demographic and geographic disparities in its use among North Carolina Medicaid adults with schizophrenia from 2016 to 2020**

Connor Belson M.D.; Xiaoming Zeng MD; Liana Bruce; John Gilmore MD

**Objective** Clozapine is an atypical antipsychotic medication with demonstrated superiority for treatment-resistant schizophrenia. However it remains underutilized nationally and its use is associated with racial ethnic and gender disparities. Prior studies of national Medicaid claims data most recently in 2011-2012 showed that clozapine prescribing in North Carolina fell below the national average. This study examined updated clozapine prescribing patterns and demographic and geographic variability in its use within North Carolina at county-level detail.

**Methods** This cross-sectional study utilized North Carolina Medicaid Claims for adults aged 18-64 years from January 2016 to December 2020. Beneficiaries with at least one adequate antipsychotic claim were divided into those prescribed clozapine and those prescribed non-clozapine antipsychotic medications. Descriptive statistics summarized patient demographics county rurality and total number of antipsychotic prescriptions for each group. Chi-square and t-tests were utilized to compare categorical and normally-distributed continuous variables respectively between clozapine and non-clozapine groups. Outcomes of interest included state- and county-level claim rates for clozapine and all non-clozapine antipsychotics and demographic characteristics of beneficiaries receiving these medications.

**Results** Between January 2016 and December 2020 1170 North Carolina Medicaid beneficiaries with schizophrenia filled at least one prescription for clozapine. Median age was 36 years (interquartile range of 29 to 47). Racial demographics showed predominantly white (55.9%) and black (39.8%) ancestry with 91.6% of non-Hispanic or Latino ethnicity and showed 79.9% of beneficiaries living in an urban-designated county. Statewide clozapine prescriptions increased during the study period comprising 6.01% of all antipsychotic claims (8810/146500) in 2016 and 6.48% (10705/165193) in 2020. Medicaid beneficiaries who filled prescriptions for clozapine were more likely to be younger (median age of 36 compared to 40 years) male gender (59.2% to

51.2%) white racial ancestry (54.6% to 43.1%) and Hispanic or Latino ethnicity (3.3% to 2.7%). Clozapine recipients were more likely to live in urban counties (79.3% to 73.0%) and on average filled prescriptions for a greater number of unique antipsychotic medications (3.4 to 2.2). Individual counties varied substantially in frequency of clozapine prescribing from <1% of beneficiaries in several counties to 8.1% in the highest prescribing county (Orange). **Conclusions** Despite an increase in clozapine use over the past decade demographic and geographic differences between individuals prescribed clozapine and non-clozapine antipsychotics persist in North Carolina. To address ongoing barriers and increase clozapine access across the state a coordinated consultation and educational program for local mental health care providers and health care systems has been developed.

**Monday May 06**

### **Correlation of Serum Cortisol Fibromyalgia Obesity and psychiatric co-morbidity**

Miloni Shah BS; Evan Sitar B.A.; Edwin Meresh

**Background:** Patients with Fibromyalgia (FM) have a disrupted hypothalamic pituitary adrenal axis (HPA) axis in which hyposecretion of cortisol may be present<sup>1</sup>. FM patients have comorbid depression anxiety and obesity<sup>2</sup>. The HPA axis for depression is hypercortisolemia which is linked to worsened quality of life<sup>3</sup>. The stress axis in FM may be exacerbated by the presence of depression anxiety sleep problems endocrine disturbances and pain but the relationship of these factors and the cortisol link is unclear.

**Aim:** The aim of the retrospective chart review is to analyze the neuroendocrinology of patients with FM obesity and psychiatric conditions and understand the range of cortisol serum level in patients with FM and obesity comorbid with psychiatric conditions including depression and anxiety and those without identified psychiatric co-morbidity

**Methods:** A chart review was

conducted to identify fibromyalgia patients with prior serum cortisol testing within the last ten years. Patients without serum cortisol were excluded. The reference value for cortisol serum is 2.9-19.4 Ug/DL. Data on psychiatric comorbidities as identified in the chart were gathered. Cortisol level was compared dividing the patients into 6 groups. 1: FM without identified psychiatric conditions; 2 FM with psychiatric diagnosis of adjustment disorders and insomnia; 3 FM with psychiatric diagnosis of depressive disorders; 4 FM with psychiatric diagnosis of bipolar disorders; 5 FM with psychiatric diagnosis of mixed anxiety and depression; 6 FM with psychiatric diagnosis of anxiety disorders. Results: Demographics; FM n= 64 Female: 58 Male: 5 Mean age: 63 average BMI: 38.8. The averages for serum cortisol alone for groups 1-6 respectively are 9.06 5.49 13.00 14.17 12.25 and 16.03 ug/dl. These results indicate a relatively upward cortisol serum value by addition of several psychiatric conditions most notable being anxiety for patients with FM. Discussion: It is likely that FM patients inherently have low cortisol to start with and because of chronic pain and fatigue develop depression which elevated the cortisol level. Patients with no psychiatric conditions or depression displayed a lower cortisol level compared to patients with depression. Of all listed conditions anxiety comorbid with FM overtakes the HPA axis raising cortisol<sup>4</sup>. Conclusion: FM patients have a wide range of inflammatory cortisol serum values based on psychiatric conditions such as depression bipolar disease and anxiety. Based on these conditions anxiety has the largest impact on chronically elevated cortisol in FM. This has implications for future study on treatments which may focus on the HPA axis.

Monday May 06

### **Development of a Machine Learning Model for Predicting Adolescent Suicide Attempts Using the Korean Youth Risk Behavior Web-based Survey**

Jiyeon Kim; Hyojeong Kim; Jaeuk Hwang

Development of a Machine Learning Model for Predicting Adolescent Suicide Attempts Using the Korean Youth Risk Behavior Web-based Survey Abstract Objective: The assessment of youth suicide risks within educational and clinical settings holds significant importance. This study aims to address this concern by developing a robust machine learning model for predicting suicide attempts among adolescents utilizing data from the Korean Youth Risk Behavior Web-based Survey (KYRBWS). Method: The KYRBWS is an annual survey focusing on health-related behaviors among Korean middle and high school students. The 2021 KYRBWS dataset comprising 54848 participants with 1206 reporting suicide attempts was divided into training (N=43878) and test (N=10970) subsets. From the survey questionnaire 39 pertinent features were selected. Model selection was based on balanced accuracy with independent validations performed using the 2021 KYRBWS test dataset (N=10970) and an external dataset from the 2020 KYRBWS (N=54948). Clinical implications of the model were evaluated through sensitivity specificity true prediction rate (TPR) and false prediction rate (FPR). Results: Among various models evaluated the balanced bag of histogram gradient boosting model demonstrated superior performance achieving a balanced accuracy of 0.802. This model exhibited a sensitivity of 76.24% specificity of 84.08% TPR of 10.02% and FPR of 99.20%. For the external dataset the model showed a sensitivity of 76.25% specificity of 85.32% TPR of 9.30% and FPR of 99.35%. Conclusion: The findings of this study underscore the potential of a dedicated machine learning model in accurately predicting suicide attempts among adolescents. The adoption of such a model could significantly contribute to early intervention and support strategies for at-risk individuals. The authors have no financial conflicts of interest.

Monday May 06

## **Distinct Characteristics of Late-Onset First Episode Psychosis in Patients with Schizophrenia – A Literature Review**

Ryan Harrington M.D.

**Introduction** Early onset of first episode psychosis (FEP) is associated with a poor prognosis in patients with schizophrenia while late-onset FEP can be predictive of a more favorable outcome. Identifying specific differences in prodromal symptoms between these two groups could allow mental health professionals to screen patients at risk for psychosis more effectively. We conducted a literature review to see what characteristics of late-onset FEP are distinct from early-onset FEP with the purpose of more confidently predicting prognosis. **Methods** The search was conducted on PubMed and Google Scholar using combinations of the search terms “late-/early-onset psychosis/schizophrenia.” **Discussion** Patients who experienced their FEP between ages 15 to 19 had nearly twice the incidence of FEP compared to those between ages 30-59 (86 vs 46/100000).<sup>1</sup> Previous studies have found that patients with late-onset FEP had better outcomes than those with earlier-onset FEP however more recent studies have challenged this.<sup>2</sup> Other studies have shown that patients with FEP during adulthood achieve earlier remission of positive symptoms compared to those with FEP during adolescence.<sup>3</sup> Later onset of schizophrenia specifically between ages 40 and 60 years when compared to early-onset has different features such as being more common in females with less severe positive symptoms and lower average effective dose for antipsychotic medications.<sup>4</sup> Younger age at onset of FEP is associated with lower scores on cognitive assessments including in global cognition executive functioning and sustained attention.<sup>5</sup> Another study found that late-onset FEP is associated with a higher rate of trauma exposure.<sup>6</sup> Approximately 60% of older adults who experience FEP have a secondary psychosis which is usually caused by the “six d’s of late-life psychosis” (delirium disease drugs dementia depression delusions).<sup>7</sup> Thus it is important that the studies mentioned above did

not include patient over 60 years old as this could have biased the prognosis of late-onset FEP by comparing schizophrenia-spectrum conditions to medical or other psychiatric conditions. Based on many of these distinctions it may be appropriate to categorize late-onset psychosis as a distinct subtype of schizophrenia. Newer studies are using neuroimaging and molecular tests to search for underlying pathophysiological differences between early- and late-onset of schizophrenia.<sup>4</sup> More research is needed on comparing early- and late-onset psychosis as this distinction can improve the way mental health professionals screen for psychotic disorders identifying more patients in early prodromal periods and ultimately improving the prognosis of their condition.

**Monday May 06**

## **Does Ketamine as an adjunct anesthetic agent for ECT help with depression? A systematic review of MEDLINE**

Katherine Kopatsis; Ayyub Imtiaz M.D.; Jake Adelman; Benedicto Borja

**Background:** Low-dose ketamine originally used as an anesthetic agent is being used as an off-label therapeutic for treatment-resistant depression nowadays. Electroconvulsive therapy (ECT) has also been used in the past for depression which prompted clinicians to explore the benefit of ketamine as the preceding anesthesia for ECT conducted for depression. Studies have found little benefit with ketamine as monotherapy before ECT but these have been done with high-dose ketamine that is required to achieve an anesthetic effect. There have not been many studies examining low-dose ketamine with the traditional ECT anesthetic agents in treating depression. In this systematic review we investigate whether the combination of ketamine with propofol before ECT is as effective as propofol alone in treating depression.

**Methods:** A systematic search strategy using



keywords was created to explore MEDLINE. A total of 61 articles were screened with 7 final articles included in study. We only wanted randomized control trials (RCTs) in English that had a direct comparison between propofol and ketamine + propofol before ECT for depression. Only articles with direct reporting of depression scores were chosen but studies in animals were excluded. Three independent reviewers examined the abstracts and selected full articles to resolve any discrepancies in selection. Results: The majority of the 7 articles showed no difference in response or remission rate of depression after ECT between the propofol only versus ketamine plus propofol groups based on depression psychometric testing scores. However one study favored propofol only and 2 studies favored ketamine adjunct to propofol before ECT for depression. Two of the studies showed better cognitive side effects profile in the ketamine plus propofol group as a secondary outcome. Based on the Grading of Recommendations Assessment Development and Evaluation (GRADE) approach the quality of evidence was deemed moderate to high as all the included studies were RCTs. The small sample sizes limited age ranges of patients significant variability in propofol dosages and ketamine dosages the number and frequency of ECT treatments and under-reporting of ECT settings in the final studies make generalizability of the conclusions difficult for all patients receiving ECT for depression. Conclusion: Ketamine adjunct with propofol has been examined in propagating ECT efficacy in treating depression. Based on these studies it was concluded there was no significant difference between ketamine with propofol versus propofol alone before ECT in depression score ratings. In the future more studies should examine the relationship between ketamine plus propofol versus propofol preceding ECT in treating depression while accounting for the variability in dosage and number of ECT treatments.

Monday May 06

## Effectiveness of a case-managed multicomponent program for patients with severe schizophrenia compared to standard treatment. A ten-year follow-up.

Juan Fernandez-Miranda; Sylvia Díaz

**Background** Case management is a community intervention model for people with severe mental illness. The aim of this study is to explore the treatment adherence and outcomes of patients with severe schizophrenia undergoing treatment in a community-based case-managed program (CMP) with an integrated pharmacological and psychosocial approach compared to the standard treatment in Mental Health Units (MHU). **Methods** An observational longitudinal study was conducted with a ten-year follow-up of patients with severe schizophrenia (Clinical Global Impression-Severity-CGI-S ? 5) treated in MHUs or in a CMP (N = 688). All the causes of the end of treatment including deaths by suicide were recorded together with the antipsychotic medication prescribed and kind of regimes (oral-OAP vs. long-acting injectable-LAI) psychiatric hospitalizations and suicide attempts over ten years. Illness severity was measured with the CGI-S. **Results** 43.6% of the patients had discontinued treatment in MHUs and 12.1% on the CMP ( $p < 0.0001$ ). Treatment discontinuation was closely linked to OAPs treatment in both cases ( $p < 0.001$ ). In the MHUs 46.5% of the patients had at least one hospitalization with an average of 3.2 (3.4); with 9.9% being non-voluntary at an average of 0.5 (0.3). On the CMP 17.4% of the patients were hospitalized with an average of 0.9 (0.3); with 1.4% being non-voluntary at an average of 0.01 (0.2) ( $p < 0.0001$ ). Hospital admissions were linked to treatment with OAPs both in MHUs ( $p < 0.001$ ) and especially in the CMP ( $p < 0.0001$ ). Likewise taking OAPs made admission more likely to be involuntary ( $p < 0.0001$ ). Suicide attempts were significantly fewer in the CMP than in MHUs (0.07 (0.02) vs. 0.3 (0.1);  $p < 0.0001$ ). There was a significant relationship between suicide attempts and OAP treatment (vs. LAI) both in MHUs ( $p < 0.01$ ) and particularly in the CMP ( $p < 0.0001$ ). Although CGI-S scores were higher in MHUs than in CMP at the beginning of

treatment ( $p < 0.05$ ) there was a significantly sharper decrease in CMP patients at the end of the follow-up compared to those in MHUs ( $p < 0.005$ ). Gender was not related to treatment adherence hospital admissions suicide attempts or type of antipsychotic treatment. Conclusions The significant differences between standard treatment and a case-managed program with a comprehensive integrated pharmacological and psychosocial approach regarding treatment adherence clinical severity hospital admissions and suicidal behavior allow us to consider the CMP more effective than the standard treatment provided in MHUs. Moreover treating with LAI antipsychotics clearly contributes to the achievement of these results so they should be considered much more often in these programs.

**Monday May 06**

### **Electroconvulsive Therapy in patients with catatonia complicated by venous thrombi treated with anticoagulation: A case series.**

Jonathan Silva M.D.;M.S.; Joseph Cooper M.D.

Person A a 45-year-old with no past psychiatric history and medical history of end-stage renal disease on hemodialysis presented to the psychiatric consult service with altered mental status and bizarre behaviors consistent with catatonia in the setting of bacteremia and covid pneumonia. Hospital stay was complicated by development of right arm superficial venous thrombus (SVT) with incidental chronic left internal jugular (IJ) thrombus found.

Anticoagulation (AC) with apixaban was started. Treatment response to lorazepam was partial and ultimately electroconvulsive therapy (ECT) was indicated for severe catatonia. Risk of thrombi propagation and dislodgement in the setting of ECT was a concern. Hematology was consulted to weigh in on risk of dislodgement which was determined to be small given chronicity of IJ thrombus and that SVTs aren't treated with AC.

Patient underwent a total of 9 ECT treatments with improvement in catatonia. ECT was discontinued after patient become hemodynamically unstable following 9th ECT session requiring observation in the ICU for 24 hours prior to step down. Bleeding events and pulmonary embolism were ruled out. Patient slowly improved and lorazepam was tapered off successfully. Patient recovered well with no further complications related to thromboemboli or bleeding during hospitalization. They were discharged to acute rehabilitation. Person B a 66-year-old with psychiatric history of schizophrenia and catatonia admitted for psychosis and catatonia in the setting of medication nonadherence. They refused all treatment and petition for court ordered medication and ECT was filed and granted several weeks later. In the interim they developed acute deep venous thrombosis (DVT) of the right lower extremity despite prophylactic enoxaparin in the setting of catatonic immobility. Therapeutic AC with apixaban was started. Given deterioration emergent ECT for treatment of severe catatonia was considered however DVT dislodgement in the setting of ECT was a concern. Interventional radiology was consulted to assess indication for IVC filter placement but determined this was unnecessary given initiation of therapeutic AC. Patient required 6 days of emergent daily ECT with remission of catatonia and maintained with weekly court-ordered ECT. Psychosis resolved with quetiapine. They did not develop complications related to DVT nor experience bleeding events. Patient remained well at outpatient follow up 2 months after discharge. The above cases demonstrate successful use of ECT in individuals with both chronic and acute venous thrombi without complications related to bleeding or dislodgement. Larger systematic studies evaluating the safety and risk of ECT in this patient population must be conducted to fully determine safety. Until then careful risk assessment combining acuity and severity of psychiatric presentation likelihood of ECT-responsivity and risks of medical comorbidities must be determined on a case-by-case basis.

Monday May 06

## **Electroconvulsive Therapy Utilization and COVID-19 Pandemic Restrictions: A Medicare Data Analysis**

Greg Sullivan M.D.; Kyle Homsey M.D.

**Title:** Electroconvulsive Therapy Utilization and COVID-19 Pandemic Restrictions: A Medicare Data Analysis" **Background:** Electroconvulsive therapy (ECT) remains a vital treatment modality for individuals with refractory depression catatonia schizophrenia and bipolar disorder. The emergence of the COVID-19 pandemic posed unique challenges to healthcare systems potentially influencing the utilization of ECT services. **Objective:** This study aimed to assess the impact of COVID-19 mortality rates on the utilization of ECT in the United States. **Methods:** We conducted an analysis using data retrieved from the Centers for Medicare and Medicaid Services database to examine ECT utilization in the years preceding and following the onset of the COVID-19 pandemic. The number of ECT-treated patients was documented for each state and COVID-19 mortality data were obtained from the Centers for Disease Control and Prevention (CDC). **Results:** Between 2013 and 2019 the annual number of patients receiving ECT ranged from 20000 to 22000. However in 2020 amid the pandemic this number decreased to approximately 15500 reflecting an average change of 23.7% across states. Our analysis showed a positive correlation between ECT utilization and COVID-19 mortality rates on a state-by-state basis with a Pearson coefficient (R value) of 0.266 (p value 0.065). **Discussion:** Contrary to our initial hypothesis our findings revealed a positive association between ECT utilization and COVID-19 mortality rates. This surprising result suggests the presence of an underlying common variable possibly related to factors such as population density robustness of healthcare infrastructure and the enforcement of COVID-19 restrictions. The implications of these findings are significant for healthcare professionals policymakers and patients when formulating future public health

policies as they will need to strike a delicate balance between safeguarding against two distinct health threats. **Limitations:** This study's reliance on Medicare data as a marker for ECT utilization may not accurately represent rates in the general population. Studies have shown that Medicare beneficiaries were more likely to undergo ECT than Medicaid or private insurance beneficiaries. Therefore the findings should be interpreted in the context of this limitation and future research should strive to encompass a broader spectrum of the population. "

Monday May 06

## **Experiences of adult patients living with depression-related insomnia: a qualitative systematic review**

Merete Bjerrum

**BACKGROUND:** 80-90% of patients with depression are affected by insomnia. Insomnia is often treated with benzodiazepines but long-term use of benzodiazepines is not recommended due to e.g. dependency. Therefore non-pharmacological supplements or alternatives to medication are needed. Evidence of patients' experiences expectations and preferences for treatment and their perspectives regarding insomnia and its impact on daily living is important knowledge to synthesize as optimal care and treatment rely on patients' experiences and may impact treatment adherence. **OBJECTIVE:** Therefore the objective of this review was to identify and synthesize the evidence on how adult patients experience living with depression-related insomnia and experience pharmacological and non-pharmacological interventions to improve sleep. **METHODS:** In June 2023 systematic searches were conducted in MEDLINE Embase CINAHL PsycINFO Cochrane Library SveMed+ Scopus and WOS using these keywords: Depressive disorder Depression Psychi\* Mental Disorders Sleep initiation and maintenance Disorders Insomnia sleep problem\* Sleep Qualitative research "qualitative study"

“qualitative research” Interview focus groups Belief\* Attitude to health Experience Perspective\*. Studies published in English Danish German Norwegian & Swedish were considered and screened against inclusion criteria and critically appraised independently by two reviewers for methodological quality. Findings were pooled using meta-aggregation. RESULTS: In total ten qualitative studies were included. The studies were conducted in six countries. Sample sizes ranged from 4 to 37 participants. The total aggregate sample size for this review was 166. From these studies a total of 118 findings were extracted and aggregated into 11 categorized findings and three synthesized findings were generated: 1) The disruption of sleep poses a challenge to coping with everyday life by depleting both physical and mental resources; 2) Sleep is both an escape and a protective factor from suicide; 3) Patients value choices support and personalized experiences from a range of non-pharmacological approaches aimed to address insomnia in depression. CONCLUSIONS: This review underlines the relationship between depression-related insomnia its profound impact on individuals' lives and the value of non-pharmacological sleep interventions in addressing these issues. It reveals the physical and emotional consequences of insomnia while emphasizing how wakefulness during night hours can exacerbate feelings of loneliness and vulnerability to negative thoughts and suicide. Moreover it provides an overview of patients' experiences and preferences of non-pharmacological approaches to address depression-related insomnia and highlights their diverse treatment experiences and preferences. Innovation Fund Denmark Protac A/S and Aarhus University Department of Public Health supported the study.

Monday May 06

**Exploring depression in people with schizophrenia spectrum disorders: a cross-**

## **sectional analysis of the clinical relationship with PANSS dimensions**

Marta Castiglioni

Objectives. It has been estimated that around a third of the people suffering from schizophrenia might suffer from comorbid depression thus experiencing depressive symptoms during their lifetime. Nonetheless current evidence on the relationship of depression with key clinical dimensions of schizophrenia remains limited. This cross-sectional study aimed at exploring the association of depression with general psychopathology positive and negative symptoms in people affected by schizophrenia spectrum disorders. Methods. We sampled adults affected by schizophrenia spectrum disorders consecutively admitted to two inpatient mental health services in the North Milan area from May 2020 to March 2023. Study participants with Calgary Depression Scale for Schizophrenia (CDSS) scores higher than 6 were classified as depressed. The symptom severity was measured using the Positive and Negative Syndrome Scale (PANSS). Multiple logistic regression analyses were carried out to analyse the association of depression with PANSS overall score as well as with General Psychopathology Positive and Negative sub-scores. Anonymised data were included in a standardised extraction template and double-checked to ensure precision. Results. We included 231 individuals admitted for inpatient care because of relapse. Around one third of the sample (N=78; 33.8%) reported depression. Multiple logistic regression models showed that depression was associated with higher overall ( $p<0.001$ ) and General Psychopathology ( $p<0.001$ ) PANSS scores regardless of age gender and other key clinical variables including antidepressant treatment history of suicide attempts and alcohol use disorder. An inverse relationship between depression and positive symptoms was found ( $p=0.002$ ) whereas no association between depression and negative symptoms was estimated ( $p=0.210$ ). Conclusion. Despite some limitations such as the cross-sectional design and the inpatient setting our study shows

that people with schizophrenia and comorbid depression have more overall and general psychopathology symptoms though lower levels of positive symptoms. Additional studies are needed to explore the generalizability of our findings and to better delineate treatment strategies for depression experienced by people with schizophrenia.

**Monday May 06**

### **From Cell to Clinic: A Case of Unveiling Conversion Disorder Misdiagnosis in a Patient from Rikers Island**

Dana Abossi; Saranyan Senthelal; Dhruv Gupta  
MD MS

Background: Conversion disorder also known as Functional Neurologic Syndrome categorized within the somatic symptom and related disorders in the DSM-5-TR involves the manifestation of neurologic symptoms without a plausible organic basis. Such symptoms are presumed to be an unconscious expression of underlying psychological distress which can cause significant functional impairment. However due to an absence of an underlying physiological mechanism that can account for the clinical presentation of conversion disorder it may be challenging to discriminate between conversion disorder and malingering especially in a carceral setting. While there is extensive literature on the prevalence of varied psychiatric disorders in the carceral population limited to no literature exists on the incidence assessment and treatment of conversion disorder in this setting. Case summary: We report the case of a 29-year-old Caucasian woman with a history of polysubstance use disorder major depressive disorder generalized anxiety disorder post-traumatic stress disorder and obsessive compulsive disorder. She was brought in from Rikers Island to Elmhurst Hospital a public safety-net hospital in New York following a one-day history of worsening

numbness weakness blurry vision and tingling in her bilateral lower extremities. A stroke code was activated after she had experienced a left facial droop; however neurology deemed the presentation to be non-neurological. Initial work-up including physical exam and imaging was unremarkable. Psychiatry was consulted to rule out conversion disorder vs. malingering. She was initially given a diagnosis of malingering; however her physical symptoms continued to persist. On further evaluation she shared an extensive history of childhood and adult trauma including witnessing her father's death two months prior to her symptom onset. With continued psychiatric evaluation and treatment including daily CBT her physical symptoms began to subside and a diagnosis of conversion disorder was made. Conclusion: This case sheds light on an ethical dilemma in which individuals in carceral settings are disproportionately presumed to be malingering; however in this case this woman's presentation was due to conversion disorder. She experienced a prolonged episode of distress secondary to a misdiagnosis of malingering as timely psychiatric care and treatment were needed. It is essential to remember that malingering is a diagnosis of exclusion; as such this should be considered when working with individuals in carceral settings. They are entitled to a proper standard of care and should be evaluated through a much more comprehensive approach; involving a team of physicians across multiple disciplines who collaborate on the best treatment and management for these patients.

**Monday May 06**

### **From Pillow to Podium: The Bidirectional Interplay of Sleep and Exercise**

Jeffrey Kim M.D.; Tejasvi Kainth; Khai Tran

Introduction: The bidirectional relationship between the effects of sleep and exercise is often underappreciated. We aim to explore the bidirectional relationship of sleep and exercise. We further discuss the prominence of poor sleep



in both the athletic and general population and understand the underlying mechanisms of interdependencies between the two. The goal is to illuminate practical implications to improve both areas and optimize physical and mental health. Methods: We conducted a systemic literature review from Pubmed Scopus and PsychINFO using the search terms: “(exercise) and (sleep)” “(exercise performance) and (sleep)” “(sleep quality) and (exercise).” We included original studies in English conducted on age groups 18 years and older. Results: Data from 31 studies shows that a significant number of athletes experience poor sleep quality and daytime sleepiness. 68.5% of Qatar Stars League soccer players and 61% of collegiate athletes in NCAA institutions report daytime fatigue several times a week. Most common causes include overtraining hectic travel schedules and sleeping in unfamiliar settings. Studies confirm athletes often sleep less before intense training or competitions. Light swimmers slept an average of 5.4 hours before training days versus 7.1 hours on rest days. Sleep deficiency may lead to reduced muscular strength and endurance mood changes increased perceived effort impaired cognitive processing and diminished motor skills. Athletes averaging less than 8 hours of sleep nightly were 1.7 times more prone to injuries. Physiologically sleep loss alters ventilation plasma lactate concentration hormone secretion and inflammatory responses hinders muscle glycogen restoration. Extended sleep restriction decreases testosterone levels which influence muscle mass energy bone strength and more. On the contrary exercise may counter adverse metabolic impacts of sleep deprivation. High-intensity interval exercise (HIIE) has shown to nullify negative metabolic effects of sleep deprivation suggesting exercise's protective potential. Conclusion: Sleep and exercise are fundamental to maintaining physical mental emotional and spiritual health. The bidirectional interdependent relationship can be best utilized by the providers to optimize overall well being. The critical impact of adequate sleep particularly among athletes is frequently underestimated. Poor sleep can detrimentally affect performance amplify injury risks and disrupt physiological functions yet contemporary lifestyles often

downplay its significance. It is important for healthcare professionals to emphasize a balanced approach to optimize these vital aspects. Continued research can offer strategies that benefit athletes and the broader populace aiming to uplift daily life functionality.

**Monday May 06**

### **Implications of Sleep Medication Prescriptions in Insomnia Treatment: A Cautionary Analysis of Substance Abuse Patients**

Christine Whitehead D.O.; Mildred Barnett M.D.; Greg Sullivan M.D.; Sarah Salvatori

Insomnia is a prevalent sleep disorder that poses significant challenges to mental health and overall well-being. Psychiatrists often play a pivotal role in its management frequently prescribing sleep medications to alleviate symptoms. However a considerable proportion of individuals seeking treatment for insomnia also grapple with substance abuse issues introducing complexities in therapeutic decision-making. Many times insomnia is brought to medical attention when patients seek treatment for their substance use – in outpatient clinics or in residential treatment facilities. Frequently patients have treatment refractory insomnia secondary to their substance use and related withdrawal symptoms with many patients being put on increasingly stronger sleep aids. One notable concern in this context is the potential challenges posed by obstructive sleep apnea (OSA) a disorder characterized by disrupted breathing during sleep. Sleep aids can inadvertently lead to hypoxia in individuals with OSA heightening health risks. Within the substance use disorder (SUD) population the number of appropriate medications may be limited; providers may be inclined to prescribe atypical antipsychotics with putative lower risk of dependence when compared to alternative medications. This raises the concern that

providers may prescribe atypical antipsychotics without screening for OSA potentially placing the patient at risk for worsening apneic episodes and even death. Atypical antipsychotics are known to cause weight gain which is a known risk factor for OSA. Quetiapine specifically antagonizes 5-HT<sub>2A</sub> receptors which down-regulates central respiratory drive and induces relaxation of pharyngeal muscles. Patients are also less likely to rouse themselves due to the tranquilizing effects of these medications. OSA can lead to daytime sleepiness morning headaches neurocognitive slowing pulmonary hypertension heart failure and death. It is essential that providers screen for possible OSA when prescribing atypical antipsychotics as to avoid complications that contribute to poor quality of life or death. This poster will utilize three separate case presentations of substance use disorder patients seen in the outpatient clinic of the SUDS outpatient clinic at the James A. Haley Veterans Hospital. Through the presentation of their substance use the results of their sleep studies and their medication profiles it will be demonstrated how deleterious and over-prescribed it is to use atypical antipsychotics to manage insomnia. This poster presentation emphasizes the significance of comprehensive patient evaluations tailored treatment plans and cautious medication choices to ensure the well-being of patients grappling with these multifaceted challenges. By shedding light on the potential harm caused by sleep medication prescriptions this study encourages a more informed and patient-centered approach to managing insomnia in individuals with substance abuse concerns.

**Monday May 06**

### **Increased Suicide Risk After Diagnosis of Major Neurocognitive Disorder in Older Adult Inpatients: Safely Transitioning to Outpatient Care**

Hannah Lynch; Helen Kyomen M.D.

**Background** The psychological impact on a patient after being diagnosed with dementia/major neurocognitive disorder (MNCD) is varied but studies report that patients may have feelings of anxiety and depression<sup>1-2</sup> and increased suicide risk.<sup>3-6</sup> Long term hospital stays increased during the COVID-19 pandemic.<sup>7</sup> On geropsychiatric units this allowed older adult patients to stabilize from acute psychiatric conditions so they could be evaluated for MNCD. The transition of care from inpatient to outpatient settings poses a risk for such patients newly diagnosed with MNCD since continuity of care can be lost during this process.<sup>8</sup> This project aims to provide clinical recommendations for these transitions to mitigate the increased risk of suicide in older adult inpatients who have been newly diagnosed with MNCD. **Methods** A literature search through PubMed was performed with a filter for articles from the past 5 years. Key search words included “dementia” “suicide risk” “major neurocognitive disorder” and “management.” Clinical protocols were reviewed. **Results** Due to the increased risk of suicide patients newly diagnosed with MNCD need to be monitored for suicidality between their discharge and first outpatient appointment as well as on an ongoing basis. Patients discharging from a psychiatric inpatient unit typically receive an aftercare plan often developed with a multidisciplinary team approach. Wellness checks can be part of suicide prevention interventions in the aftercare plans for older adults newly diagnosed with MNCD. Modelled after the 988 Suicide and Crisis Lifeline’s follow-up procedures a wellness check could be a phone call to the patient 24-72 hours after discharge to evaluate their suicide risk. Wellness checks can also include in-person visits by a supportive public safety agent through the local police or fire department. Suicide safety screenings with currently available suicide assessment tools that are applicable to the geriatric population and can be modified for patients with MNCD such as the Columbia Suicide Severity Rating Scale (C-SSRS) and SAD PERSONS scale can be done during the wellness checks. Both screens can be given in person or via

telemedicine. The aftercare plan should have the 988 number and a recommendation to the outpatient team to evaluate for suicidality over time. Educating the patient their caregivers and inpatient and outpatient treatment teams on the increased risk of suicide and need for suicide prevention practices after a new diagnosis of MNCD should be a priority. Conclusion Developing clinical guidelines for suicide prevention for older adult psychiatric inpatients who have been newly diagnosed with MNCD and who are transitioning to outpatient care may help reduce suicide risk in this population. Future steps include evaluating the effect of such interventions on suicidality and wellbeing in this group.

**Monday May 06**

### **Literature Review of Somatic Symptoms in Pregnant Patients Screened with the Edinburgh Postnatal Depression Scale**

Charis Benjamin M.P.H.; Marc Kalin

Background: Pregnancy is a time of drastic physical change which can lead to acute or chronic somatic symptoms. It is important to distinguish normative physiologic changes in pregnancy from somatic symptoms associated with perinatal depression or anxiety through screening and clinical evaluation. The Edinburgh Postnatal Depression Scale (EPDS) is widely used and validated and screens for depressive symptoms but not somatic symptoms. There is no universally endorsed screening for somatic symptoms in current obstetric or psychiatric practice during the peripartum period. There is some evidence suggesting minority women report more somatic symptoms in depression but such evidence is not clearly defined during the perinatal period. Methods: This study focused on peer-reviewed English-written or translated publications of adult women who were pregnant and screened using the Edinburgh Postnatal Depression Scale. Articles were included with the following MeSH terms using the PubMed database

assessed in September 2023: “EPDS” “depression” “somatic symptoms” and “pregnant.” Results: Eighteen articles met inclusion criteria. Article publication dates ranged from 1992 to 2022 and results were restricted to articles published after 1990. Results suggest somatic symptoms are not well captured when using the EPDS as a screening tool. This could lead to underreported symptoms of depression and anxiety. Authors identified various somatic symptoms ranging from fatigue sleep changes and appetite changes to emesis chronic pain and restlessness. Many articles called for more screening for perinatal anxiety an equally debilitating diagnosis as depression and can also present with somatic symptoms. Three articles suggested that for patients who report increased somatic symptoms during pregnancy the PHQ-9 may better capture somatic symptoms in the peripartum period and help direct early intervention with therapy. One study suggested that reporting of somatic symptoms is heavily influenced by cultural background and can lead to underreported somatic symptoms without culturally sensitive wording in follow up evaluation among minority populations. Conclusion: There was a clear pattern that the EPDS insufficiently screened for somatic symptoms alone when compared to other screening surveys. Articles concluded it is important to conduct further diagnostic evaluation for somatic symptoms in pregnancy such as using the PHQ-9 to distinguish between somatic symptoms associated with a mood disorder or normative pregnancy symptoms.

**Monday May 06**

### **Narcolepsy and Medical Comorbidities: Evidence from a Nationwide Healthcare System Data in South Korea**

Chaeyoung Song; Seung-Chul Hong

Narcolepsy and Medical Comorbidities: Evidence from a Nationwide Healthcare System Data in South Korea Subtitle: Narcolepsy and the risk of medical comorbidities Authors: Chaeyoung Song MD<sup>1</sup> Seung-Chul Hong MD PhD<sup>2</sup>  
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Corresponding author: Seung Chul Hong MD PhD Department of Psychiatry St. Vincent's Hospital College of Medicine The Catholic University of Korea 93 Joongbudaero Suwon 16247 Korea Tel +82-31-249-7114 Fax +82-31-248-6758 E-mail hscjohn@hotmail.com Abstract Study  
Objective: To investigate the association between narcolepsy and medical comorbidities in South Korea using the Nationwide Health Insurance Service (NHIS) claims database. Methods: The South Korean Nationwide Health Insurance Service (NHIS) claims database from 2010 to 2019 was used. International Statistical Classification of Diseases and Related Health Problems 10th revision (ICD-10) was used to extract data on narcolepsy and medical comorbidities. We estimated the odds ratio of narcolepsy and associated medical comorbidities in South Korea. Odds ratio was calculated for narcolepsy patients in comparison with the general population in the risk of metabolic diseases. Multivariate analysis was performed again with sex age type of medical insurance. All analyses were performed using the SAS software 9.4. Results: In total 8710 patients with narcolepsy (59.8% men and 40.2% women) and 2384863 controls were included. The adjusted odds ratio of hypertension was 1.193 (95% CI 1.151 – 1.236) for narcolepsy patients in comparison with the controls. The adjusted odds ratio of dyslipidemia was 1.232 (95% CI 1.192 – 1.274) for narcolepsy patients in comparison with the controls. On the other hand the adjusted odds ratio of type 1 diabetes was 0.585 (95% CI 0.509 - 0.671) for narcolepsy patients in comparison with the controls. Conclusion: Our results show that narcolepsy patients are at higher risk of hypertension and dyslipidemia while risk of type 1 diabetes is lower than controls. Keywords: Narcolepsy Comorbidities Metabolic disease

Sleep disorder Conflicts of interest: The authors have no potential conflicts of interest to disclose.

Monday May 06

## Pediatric Schizophrenia Hospitalizations: A United States Population-Based Study

Precious Eseaton M.B.B.S.; Adeyemi Alaga MD

Background Although prior studies have examined hospitalizations of adult patients with schizophrenia and its economic burden (123) a scarcity of large national United States (U.S) population-based studies remains on hospitalizations of pediatric patients with schizophrenia. We aim to determine the most common reasons for hospitalizations and baseline characteristics of hospitalized pediatric patients with schizophrenia in the U.S. Methods We obtained data from the Kids' Inpatient Database the largest inpatient all-payer public pediatric database in the U.S. The 2016 Kids' Inpatient Database contains about 7 million weighted hospitalizations. We abstracted data for patients younger than 21 years of age with any diagnosis of schizophrenia using the ICD-10 code "F20". Analyses were performed using STATA16. We used a "rank" order command in STATA to arrange the most common reasons for hospitalization in descending order of frequency. We then highlighted the baseline characteristics of these hospitalizations. Results A total of 11512 hospitalizations had a diagnosis of schizophrenia. These patients had a mean age of 18 years were mainly males (68.4%) blacks (37.9%) and whites (36%) Medicaid insured (63.1%) and come from households with median income for zip code less than the 26th percentile (38.7%). These hospitalizations had mean hospital length of stay (LOS) of 10 days mean total hospital charges of 37031 U.S dollars and total hospital charges of about 423 million U.S dollars. The 5 most common reasons for hospitalizations in descending order of frequency were unspecified schizophrenia (27.1%) paranoid schizophrenia

(19.4%) schizophreniform disorder (4.7%) unspecified psychosis (3.6%) and other schizophrenia (2.3%). Conclusion Pediatric schizophrenia hospitalizations have long LOS and significant healthcare costs. These patients were most likely to come from low-income households. They were most likely to be hospitalized due to schizophrenia and other related psychiatric conditions. Optimal outpatient management via a multidisciplinary approach involving social workers is important in reducing hospitalizations of these patients.

Monday May 06

### **Psychosis and Catatonia with Recent COVID-19 Infection: A Case Report**

Caroline Nguyen; Devon Jacob

The connection between COVID-19 infection and psychosis is an evolving topic of discussion. Physicians are still trying to understand how COVID-19 can lead to influence and impact a diagnosis of psychosis—an inherently complicated diagnosis with various etiologies. This case report describes the clinical course of a 25-year-old male who presented to the emergency department with an acute onset of paranoia visual hallucinations and delusions of unknown durations after testing positive for COVID-19 2 weeks prior to admission. He was admitted to the neurology critical care unit neurological causes of his psychosis were ruled out and psychiatry was consulted. Initial risperidone administration resulted in symptoms of hyperactive catatonia which was then treated with a lorazepam challenge showing moderate improvement of irregular motor activity but continued agitation and hallucinations. Despite the diagnosis of catatonia delirium precautions were still taken such as maintaining day/night cycles frequent reorientation minimizing restraints and verbal redirection. First haloperidol then switched to chlorpromazine improved his disposition and communication but hallucinations and delusions persisted throughout the duration of his stay. Of

note a nucleic acid amplification test was positive for active COVID-19 infection on hospital day 5 and negative on subsequent testing. Psychiatry's final impression was "schizophreniform including possible contributing residual delirium from COVID-19 or other causes" due to symptoms persisting for more than a month positive hallucinations and delusions a catatonic state and negative symptoms. This case report captures the difficulty of determining the etiology of psychosis when complicated by concurrent COVID-19 infection. It is unclear how COVID-19 impacted the diagnosis and disease course. Delirium has not been shown to be a common feature of COVID-19 infection but acute stressors have been shown to lead to the onset of schizophrenic psychosis in genetically susceptible individuals. Further research is needed to further understand the relationship between COVID-19 delirium and schizophrenia and any case of altered mental status especially when complicated by COVID-19 merits a comprehensive history and workup to fully appreciate the interaction between various disease states.

Monday May 06

### **Psychosocial and pharmacological approaches for improving adherence and preventing relapses and suicide attempts in people with severe schizophrenia.**

Sylvia Díaz; Juan Fernandez-Miranda

Background Studies about treatment adherence of people with severe schizophrenia in real-world settings avoiding small samples and short times of follow-up are scarce. Research is yet needed to confirm whether the case management (CM) approach and long-acting antipsychotics (LAI-APs) confer advantages over standard treatment and oral APs in terms of improved adherence and lower risk of hospitalizations and suicide. The objective of this study is to know the psychosocial



and pharmacological approaches linked to higher treatment adherence and outcomes (psychiatric hospitalizations clinical severity and suicide attempts) among patients with schizophrenia on standard treatment in mental health units (MHUs) or in a community-based case-managed program for people with severe mental illness (CMP). **Methods** An observational prospective study (ten-year follow-up) of patients with severe (Clinical Global Impression-Severity scale  $\geq 5$ ) schizophrenia (N = 688) was conducted to explore the treatment adherence and effectiveness (hospital admissions suicide attempts severity of illness) administered in MHUs or in a CMP. The recording was made of all the reasons for treatment discontinuation antipsychotic drugs used (oral vs. LAI) hospital admissions and documented suicide attempts over ten years on a CMP or in MHU treatment. Illness severity was measured with the CGI-S. **Results** The treatment adherence of patients on the CMP was higher than those in MHUs (12.2% vs. 84.3% abandoning treatment;  $p < 0.0001$ ). Hospital admissions and suicide attempts were significantly lower among those treated on the CMP than on the standard one ( $p < 0.001$ ). The scores on the clinical severity scale decreased significantly more on the CMP than in the MHU ( $p < 0.005$ ). Long-acting injectable antipsychotic (LAI-AP) medication was closely linked to higher treatment retention ( $p < 0.001$ ) and fewer hospital admissions and suicide attempts than oral APs in both treatments especially on the CMP ( $p < 0.001$ ). **Conclusions** We highlight how patients with severe schizophrenia treated on a CMP with integrated treatment recorded higher compliance fewer hospital admissions and suicide attempts and less clinical severity compared to those on standard treatment in MHUs. Furthermore treatment with LAI-APs was clearly related to these outcomes. A combination of intensive case-managed integrated treatment and LAI-AP medication facilitated the achievement of clinical goals in patients with schizophrenia with severe symptoms compared to standard care and oral AP treatment.

**Monday May 06**

### **PTSD and Suicide Risk Among South Korean Firefighters: Role of Alcohol Use Disorder and Negative Perception Toward Mental Illness.**

Jihye Lee Clinical psychologist; Jeong Hyun Kim; Sohee Oh; Sun Young Moon; Hyeon Park

**Background :** A negative perception of mental illness can deter individuals from seeking professional treatment. This often leads them to manage stress through alcohol escalating the risk of Alcohol Use Disorder(AUD). Notably AUD has a significant correlation with suicide risk surpassed only by mood disorders. Given the high prevalence of PTSD among firefighters this study aimed to examine how AUD mediates the relationship between PTSD and suicide risk and to verify the moderating effect of negative perception toward mental illness on this mediation. **Methods :** In April 2023 a nationwide online survey was conducted across all firefighter institutions in South Korea. Out of 64232 firefighters 52802 responded. The anonymous voluntary survey included the Post-Traumatic Stress Disorder Checklist-5(PCL-5) the Suicide Behaviors Questionnaire-Revised(SBQ-R) the Alcohol Use Disorder Identification Test-Korean(AUDIT-K) and a mental illness awareness questionnaire from the National Mental Health Knowledge and Attitude Survey by the Korean Ministry of Health and Welfare. This study applied Bootstrap verification with the SPSS PROCESS Macro. **Results :** Among 52802 respondents 2312 firefighters were tentatively diagnosed with PTSD using the DSM-5 diagnostic algorithm. Gender and age were controlled for in the analysis. The main results were as follows: First the findings of the correlation analysis indicated that PTSD suicide risk AUD and negative perceptions toward mental illness were all positively correlated. Second AUD played an indirect role in partially mediating the relationship between PTSD and suicide risk( $B = .011$  CI=.006~.016). Lastly as a result of verifying the mediated moderating effect it was found that negative perceptions toward mental illness

significantly regulated not only the pathway from PTSD to suicide risk but also the pathway from PTSD to suicide risk through alcohol use disorder ( $B = .001$  CI = .0003~.0015). Conclusion : The research findings confirmed that AUD mediates the relationship between PTSD and suicide risk. As the severity of PTSD increases AUD also increases leading to an elevated suicide risk. Moreover it is noteworthy that negative perception toward mental illness not only enhance the impact of PTSD on suicide risk but also exacerbate its effect on AUD consequently heightening the overall suicide risk. In conclusion it can be considered crucial to improve negative perception toward mental illness in order to manage the suicide risk among individuals with PTSD. Keywords : PTSD Negative Perception Toward Mental Illness Alcohol Use Disorder Suicide

**Monday May 06**

### **Sleep Disturbance and its Relationship to Psychiatric Symptoms and Psychological Health and Well-being in an Outpatient Psychiatry Clinic**

Aatman Makadia M.D.; Meghan Oswald M.D.; Mayur Patel M.D.; Naomi Dhawan

Introduction: Our analysis was part of a larger interventional study with psychiatric outpatients to identify and treat through CBT-Insomnia sleep disturbances in the patient sample. We wanted to better understand the relationship between sleep quality and psychological symptomatology as well as more globally the patients' psychological health and well-being (quality of life). Methods: 97 patients being treated at a large suburban medical center's outpatient psychiatry clinic were asked to complete the Pittsburg Sleep Quality Index (PSQI; Buysse et al. 1989) as well as the Symptom Checklist-90-Revised (SCL-90-R; Derogatis & Spitz 2000) and the Schwartz Outcome Scale-10 (SOS-10; Blais et al. 1999). Sixty-one percent of participants were male 52% were Caucasian 26.5% were African American 11.2% were

Hispanic/Latino 8.2% were Asian 2% were other. Only 13.3% reported taking part in a sleep study and 65.3% reported being on a sleep medication. Results: We found that worse sleep quality scores were negatively correlated with psychological health and well-being ( $r = -.30$   $p < .01$ ). Poorer sleep quality was also positively correlated with all the SCL-90-R symptom scales with the strongest correlations with somatization ( $r = .48$   $p < .01$ ) and global symptom index (GSI;  $r = .43$   $p < .01$ ). All correlations ranging with the Global PSQI and the SCL-90-R scales between correlation sizes of .48 to .21. Discussion: Our analysis further supported the use of the PSQI with outpatient psychiatry patients. The relationship between the global sleep quality index and psychological health and well-being as well as self-reported psychological symptoms underlines the importance of addressing sleep problems with patients seeking mental health treatment.

**Monday May 06**

### **Sleep State Misperception Following A Traumatic Brain Injury**

Amandeep Singh M.D.; Hunter McLendon

Sleep state misperception (SSM) also known as paradoxical insomnia is an uncommonly diagnosed partially recognized subtype of insomnia characterized by a discrepancy between subjective and objective assessments of sleep typically mislabeling their sleep as wakefulness. The subtype is not well known among physicians and there has been a general paucity of research on the subject until recently. Just in the last several years studies have been published attempting to better characterize the condition. Recent studies have shown potential differences in structural and functional brain data as well as differences in polysomnography. While there is no consensus on treatment some positive results have been shown with cognitive behavioral therapy second generation antipsychotics and even one case responding to electroconvulsive

therapy. Neural correlates have so far been described in two cases one of developing SSM following neurotoxoplasmosis infection and one case following development of frontotemporal dementia. Adding to the available literature of neuropsychiatric conditions being implicated in the development of SSM presented here is the first case describing sleep state misperception following a traumatic brain injury. Mr. S a 36-year-old male with no past psychiatric history was involved in a motor vehicle collision in which he was ejected from his vehicle and found on the road with multiple injuries including a traumatic brain injury with loss of consciousness. Neuroimaging at the time showed a subdural hematoma and multiple areas of ischemia. Following rehabilitation he has since been living with his parents as he is unable to perform most instrumental activities of daily living. His referral to psychiatry was initially due to emotional and behavioral changes including irritability and aggression. While these symptoms resolved with olanzapine the patient's chief complaint remained that he had not slept in weeks. Despite suspicions that the patient was in fact getting sleep he underwent polysomnography which confirmed adequate sleep with some disturbance from apneic-hypopneic episodes. He was diagnosed with obstructive sleep apnea and treated with CPAP. However the sleep state misperception persisted. His parents consistently denied any sleep concerns reporting that the patient was getting around eight hours of sleep every night and without any disturbance. This information was corroborated by the CPAP data which showed full compliance with the machine consistent duration of use per night and good control of apenic-hypopneic episodes. Despite education on this he would voice SSM complaints perseveratively to caregivers causing considerable caregiver fatigue and in turn increased frequency of appointments with psychiatry. After multiple medication trials the patient did have a partial response to amitriptyline 150mg nightly allowing for improved caregiver wellbeing and less frequent appointments.

Monday May 06

## **Social Determinants of Health and Deaths by Suicide: An umbrella review of meta-analyses**

Jaewon Lee M.D.;M.P.H.; Ha Rim Kwak M.D.; Peter Na; Dilip Jeste M.D.

Background: More than 700000 people die by suicide every year globally according to the World Health Organization estimates in 2021. An increasing body of literature has investigated the association between social determinants of health (SDoHs) and suicidal mortality. We aimed to synthesize these extensive efforts through this umbrella review. Methods: We included meta-analyses that examined the link between specific SDoHs and deaths by suicide including suicide mortality or deaths by suicide through comprehensive searches on Embase PubMed Web of Science and PsycINFO up to June 2023. The SDoHs included are migration/refugees rurality marital status religion psychosocial job stressors air pollution ambient temperature various family and parental characteristics exposure to suicidal behaviors occupations natural disasters media reports on celebrity suicides exposure to parental suicide release from incarceration workplace violence interpersonal violence state care in childhood and the accessibility of firearms. 20 papers published between 2012 and 2023 were included. Results: Various social determinants of health were associated with increased suicide mortality when compared to non-exposure groups to those specific SDoHs. Notably exposure to suicidal behaviors including attempts and deaths by suicide (Odds Ratio [OR] 3.83; 95% CI 2.38-6.17) firearm accessibility (OR 3.24; 95% CI 2.41-4.40) financial stress (Risk Ratio [RR] 1.74; 95% CI 1.34-2.27) and unemployment (RR 1.87; 95% CI 1.50-2.34) teenage motherhood (OR 1.80; 95% CI 1.52-2.14) and single-mother households (OR 1.57; 95% CI 1.31-1.89) The lowest (RR = 1.76; 95% CI 1.42-2.17) and second lowest skilled occupations (RR = 1.32; 95% CI 1.19-1.47) compared with general working-age population an increase in

ambient temperature by 7.1 °C (RR 1.09; 95% CI 1.06-1.13) were significantly associated with a heightened risk of deaths by suicide. A history of being in state care in childhood (RR 3.35; 95% CI 2.41-4.68) and experiencing the death of a parent by suicide compared to offspring with two living parents (RR 2.97; 95% CI 2.50-3.53) increased the risk of deaths by suicide as an adult. Rurality increased the risk of suicide deaths by 41% (RR 1.41; 95% CI 1.21-1.64) but only in males. Among marital statuses the OR for divorcees was 2.99 (95% CI 1.97-4.55) whereas being single was 2.44 (95% CI 2.16-2.31) and widowed was 2.16 (95% CI 1.10-4.22) compared to the married group. Immigrant status had a significant association with lower suicide mortality compared to the native group (OR 0.91; 95% CI 0.90-0.93); having a religion was significantly associated with fewer deaths by suicide (OR 0.31; 95% CI 0.14-0.72). Conclusion: Various SDoHs have been identified as significant risk factors for suicide mortality. It is crucial to identify high-risk individuals and modifiable SDoHs affecting deaths by suicide to streamline public health interventions for suicide prevention.

**Monday May 06**

### **Suicidal risk factors in Latinoamerican patients with Major Depression**

Jose Alfonso Ontiveros M.D. M.Ed. M.Sc.; Ricardo Ruiz; Antonio Perez-Maya; Guillermo Sánchez Torres; Luis De La Garza Garcia Medical Undergraduate

Background: Although Major Depressive Disorder (MDD) has a high prevalence and suicidal risk is 20 times higher in the general population studies in Latin America on factors associated with suicidal risk are scarce. Methods: We conducted a retrospective study with outpatients with MDD (DSM-IV) from our Department of Psychiatry. Patients were required to have a complete psychiatric history MINI interview and HAMD MADRS and CGI scores. We compared sociodemographic factors and the severity of

depression between patients with and without SR. Results: 602 patients were included 47.8+SD 17.37 years old (18 to 91) 388 women (64.6%) HAMD (26.4+SD5.08) MADRS (30.9+SD5.44) and CGI (4.8+SD0.78). According to the MINI 168 (27.9%) had SR 102 females (60.7%) 46.9+SD16 years old. We found no differences in age sex distribution education and severity of depression between groups of patients with and without SR. A higher risk for suicide (MINI total score) was found associated with the severity of depression (HAMD  $p=.000$  CGI-S  $p=.042$ ) and suicidal ideation on MADRS ( $p=.000$ ) and HAMD ( $p=.000$ ) scales. Furthermore patients with moderate and high scores for SR had higher severity of depression (CGI  $p=.000$ ) and on scale suicide items (MADRS  $p=.000$  HAMD  $p=.000$ ). Conclusions: We observed a similar incidence to that reported for SD (27.9%) in MD but no differences in sociodemographic and severity of depression related to SR. However in patients with SR the severity of depression (HAMD CGI) was found associated with higher SR. Our findings in Latin American patients with MDD and SR need to be replicated in further studies. Keywords: Depression suicide risk factors scales.

**Monday May 06**

### **The association between social determinants of health and suicidal ideation: An umbrella review**

Jeonghyun Shin; Jaewon Lee M.D.;M.P.H.; Dylan Jester; Peter Na

Background: In 2019 over one in every 100 deaths (1.3%) was due to suicide. Suicidal ideation (SI) is one of the strongest risk factors of future suicide attempts and deaths. To our knowledge no study has conducted an umbrella review on the current literature on social determinants of health (SDoH) in relation to SI. Identifying SDoHs with strong associations with SI is critical for interventions to mitigate risk for suicide. Methods: We conducted

an umbrella review of meta-analyses that examined SDoHs and SI. The list of SDoHs included 87 search terms from 22 domains (social networks marital status adverse childhood experiences bullying racism incarceration migration rurality education employment food insecurity homelessness healthcare access poverty neighborhood and environment religion exposure to violence and war exposure to firearms air pollution sexual and gender minority status and COVID-19 restrictions). Four data bases were searched (PubMed PsycINFO Embase and Web of Science) for articles published up to 06/11/2023. Twenty-six studies were included in the review. Results: Being a sexual and gender minority (Lesbian Gay Bisexual Transgender Intersex and Queer) exposure to sexual assault and exposure to interpersonal violence demonstrated odds ratios (ORs) of 3.76 (95% Confidence Interval [CI] 3.02-4.69) 3.26 (Standard Error: 1.06) and 3.14 (95% CI 2.70-3.66) respectively. In children and adolescents school bullying for victims (OR 2.02; 95% CI 1.57-2.43) and bullies (OR 2.53; 95% CI 1.66-3.86) being left behind by migrant parents (Risk Ratio [RR] 1.70; 95% CI 1.28-2.26) and peer victimization (OR 1.69; 95% CI 1.36-2.10) were associated with an increased risk of SI. In those between ages 5 and 24 experiencing sexual physical and emotional abuse before 18 (OR 2.46; 95% CI 2.08-2.90 OR 1.95; 95% CI 1.67-2.27 and OR 1.82; 95% CI 1.47-2.25) were linked to an increased risk of SI. Parental divorce before 18 was associated with an increased risk of SI in adults (OR 1.48; 95% CI 1.43-1.54). In those above 50 discordant social relationships (OR 1.57; 95% CI 1.48-1.76) were linked to an increased risk of SI. An association between combat exposure and a combined suicide-related outcome (SI suicide attempts and deaths by suicide) was observed ( $r=0.08$ ; 95% CI 0.04-0.13) while exposure to military sexual harassment/assault was associated with higher risk of SI ( $r=0.14$ ; 95% CI 0.12-0.16). Conversely higher school connectedness having a religion and greater ethnic density (i.e. living with a greater proportion of marginalized groups) were associated with lower SI (OR 0.59; 95% CI 0.49-0.70 OR 0.83; 95% CI 0.78-0.88 and OR 0.88; 95% CI 0.79-0.98). Conclusion: In this study various SDoHs were

identified as risk and protective factors of SI. Future clinical and public health interventions should be designed towards addressing the needs of high-risk populations and reducing the impact of SDoHs on SI.

Monday May 06

### **The mediating role of anxiety/depression between auditory hallucination and the degree of insight in patients with schizophrenia**

Seong Hoon Jeong M.D. Ph.D.; Sangwon Park M.D. Ph.D.; In Won Chung; Yong Sik Kim

Auditory hallucination is one of the prominent symptoms of schizophrenia causing profound distress. In one way the ego-dystonic nature of this phenomenon may help them to realize the abnormality of their experiences thus to gain insight. On the other hand the indistinguishability from reality and compelling nature of hallucinations may make patients to lose the remaining insight they may have. As such the impact of auditory hallucinations on insight seems to have a dualistic nature contingent upon other accompanying symptoms. The present study aimed to investigate the possible mediators between auditory hallucination and the degree of insight. A total of 100 patients diagnosed with schizophrenia based upon DSM-5 participated in the study. Both self-reported and clinician-rated scales were used to evaluate the hallucinatory experience and the degree of insight. The accompanying symptoms were assessed by Positive and Negative Syndrome Scale (PANSS). The complex relationships among multiple variables were envisioned as a directed acyclic graph (DAG). The skeleton of the DAG was constructed using a Gaussian Graphical Model (GGM) with the help of graphical lasso approach. Afterward we examined the validity of the obtained DAG through classical path analysis. We conducted separate analyses for both self-



reported and clinician-rated scales followed by a comparison between them. The obtained DAG revealed that the PANSS anxiety-depression factor was an important mediator linking the emotional/physical aspects of auditory hallucination and the level of insight. This mediating effect was consistent across both self-reported and clinician-rated scales. The path model based upon the DAG also demonstrated a good agreement with the gathered data. Notably the PANSS negative symptom had an opposing effect on the PANSS anxiety-depression factor and insight rendering it difficult to define its modifying effect on the connection between the two constructs. The findings of this study provide one possible route of the insight paradox. In this context the mediating role anxiety-depression modified by negative symptoms emerged as a valuable concept in clarifying the intricate relationship between auditory hallucinations and the degree of insight.

**Monday May 06**

### **Transcranial Magnetic Stimulation for Tobacco Cessation: A Clinically Oriented Review**

Patrick Bidkhanian D.O.; Joffre Wong M.D.

**Introduction** Since obtaining FDA Clearance in 2022 Transcranial Magnetic Stimulation (TMS) has been used successfully for smoking cessation. We prepared this clinical review for the opening of our community hospital's TMS clinic. **Methods** The following search terms were used in both PubMed and Web of Science on 08/24/23: 1. TMS AND Smoking (transcranial magnetic stimulation) AND Smoking 2. (transcranial magnetic stimulation) AND tobacco 3. TMS AND tobacco. Mesh terms search in Pubmed on 08/24/23: (Transcranial Magnetic Stimulation"[Mesh]) AND (("Smoking Reduction"[Mesh]) OR ("Tobacco Smoking"[Mesh]) OR ("Tobacco Use"[Mesh]) OR ("Vaping"[Mesh]) OR ("Tobacco Use Disorder"[Mesh]) OR ("Smoking Cessation"[Mesh]) OR ("Tobacco Use

Cessation"[Mesh])). We extracted searches to Excel and combined them to 425 DOIs. We removed duplicates by highlighting the DOI column in Excel and using the "Remove Duplicates" button in the "Data" section removing 192 duplicates. Abstract level screening of 236 unique DOIs was completed. Published articles in English reporting an outcome after a TMS intervention for smoking cessation were included at the abstract level. This process was repeated by two authors independently. Results After abstract level screening 41 articles remained. Excluded abstracts were reviews irrelevant or had no TMS use. Five other review articles were excluded at the full article level leaving 36 articles. **Discussion** In TMS for smoking cessation high treatment duration and intensity produced better outcomes. Successful trials had 10-56 days of treatment. Studies with 6 or fewer TMS sessions showed no significant benefit per 6 studies. At 1-month post-treatment 44% of patients sustained abstinence 33% by 6 months. Theta burst protocol did not produce smoking cessation faster than traditional TMS across 4 studies. The common target area was the dorsolateral prefrontal cortex (DLPFC). Two studies used added cognitive task to TMS with mixed results. One study added nicotine replacement therapy to TMS with positive results. The most common proposed mechanism of action was decreased insula activity across 3 studies. Three studies showed TMS can produce smoking cessation in patients with Schizophrenia. One study showed younger age shorter smoking history higher education level and Caucasian race were associated with a higher rate of smoking cessation post-TMS. Adverse effects reported were limited to headache and scalp irritation at site of stimulation. **Conclusion** TMS treatment to the DLPFC over weeks to months has produced smoking cessation. Follow-up in 1 to 6 months to assess need for further treatment is indicated. **Maintenance** TMS treatment for smoking cessation needs further study. This review adds to existing literature with the inclusion of 8 recent articles not included in prior reviews on this subject. We aim to support the clinical use of TMS for smoking cessation. "

Monday May 06

### **Transcranial Magnetic Stimulation with Concurrent Cognitive Behavioral Therapy Results in Improved Remission Rates: A Retrospective Chart Review**

Emerson Thomas BS; Joelle Hoeferkamp BS; Shawn Janarthanan; Sarah Javaid; Rohini Mehta M.D.

Background: Treatment resistant major depressive disorder (MDD) is characterized by failure of improvement in depressive symptoms following at least 2 adequate trials of pharmacologic therapy. Transcranial magnetic stimulation (TMS) is an FDA approved intervention for patients with treatment resistant MDD. However the literature suggests remission rates with TMS remain below 30%. This retrospective chart review will examine if remission rates are improved for patients with treatment resistant major depressive disorder (MDD) when transcranial magnetic stimulation (TMS) is delivered concurrently with cognitive behavioral therapy (CBT) for MDD. Methods: Patients were selected from an outpatient private practice in San Antonio TX specializing in the treatment of mood and anxiety disorders. PHQ-9 results were assessed at baseline (prior to any treatment) and then at the beginning of each subsequent treatment session following. Treatment sessions were defined by TMS session with concurrent CBT delivery and each appointment was 1 hour in duration. Treatment response was defined by at 50% or more reduction in the PHQ-9 score. Remission was defined by a PHQ-9 score of 5. Treatment non-response was defined as a PHQ-9 score <50% of the baseline PHQ-9. Results: This analysis included 159 patients who met clinical criteria for treatment resistant MDD and received a course of TMS with concurrent CBT for MDD beginning in 2012 and continuing through 2023 (mean age=47 64.8% female). The mean number of TMS treatments with CBT per treatment course was 45 with a mean PHQ-9 baseline score of 17 and a mean PHQ-9 final score of 8. Treatment non-

response was observed in 31.4% of patients (n=50). 23.3% of patients met criteria for a response to treatment (n=37). Patients who demonstrated remission comprised 45.3% of the total patients from this sample (n=72). Conclusion: Remission rates with TMS delivered concurrently with CBT appear to be higher in this sample than previously reported remission rates with TMS therapy suggesting that combining these treatment modalities during delivery may be more effective at treating treatment resistant depression. More studies are needed to replicate these findings.

Monday May 06

### **Trends in suicide mortality rates in the Republic of Cyprus between 2004-2020: Age gender and suicide method changes.**

Andreas Chatzittofis; Nicos Middleton; Maria Karanikola

Background: Republic of Cyprus (RC) has the highest increase in suicide mortality in Eastern Mediterranean countries with an average annual increase of 5.1% in 2000-2019. The aim of this study was to investigate trends in suicide mortality rates between 2004-2020 in the RC with focus on age gender and suicide methods. Methods: Suicide deaths (following ICD-10 taxonomy including the code “undetermined”) were obtained from the Mortality Registry and Population Denominators of the Statistical Service of the RC. Directly standardized (European Standard) mortality rates were calculated for four gender/age groups. Annual change was estimated in Poisson regression models with interaction terms to assess differential trends over time periods. Results: There were 560 suicide deaths 4-times more frequent in men; approximately 80% were classified as ‘violent’ in both genders. The male suicide rate doubled from 4-5 to 9-10 per 100000 with most of the increase prior to 2012

representing a 9% annual change (Rate Ratio 1.09 95% CI 1.03 1.15;  $p=0.002$ ). From 2013 the trend reversed (effect modification  $p$ -value  $< 0.001$ ) with 4% annual decrease (95% CI -9% 1%). Rates presented a declining trajectory from 4-5 per 100000 to 2-3 over the study period in females. Overall male-to-female suicide rate ratio was estimated at 5.33 (95%CI 3.46 8.19) in 2017-2020 compared to 2.73(1.88 3.95) in 2004-2008. Conclusion: While relatively lower compared to other European countries the gender differential in suicide mortality has widened in the RC. Further analysis of trends in relation to unemployment and other socio-economic indicators is warranted.

**Monday May 06**

### **Variable doses plasma levels and response relationship of one-month aripiprazole and three-month paliperidone in patients with severe schizophrenia.**

Juan Fernandez-Miranda

**Introduction** There is a need for optimizing antipsychotic treatment to know the plasmatic levels (PL) achieved with the different doses and their relationship with effectiveness and toxicity especially in patients with poor clinical evolution. **Aims** The objective is to know the relationship between the different doses administered in routine clinical practice (including high doses) and the PL reached of aripiprazole one-month (AOM) and paliperidone three-month (PP3M) in patients with severe schizophrenia; to find out which doses are needed to achieve therapeutic levels; and to know which PL are associated with greater effectiveness and if they imply lower tolerability safety or therapeutic adherence. **Methods** An observational prospective (52-week) study was conducted to follow up people with severe schizophrenia (CGI-S  $\geq 5$ ) receiving treatment with PP3M or AOM for at least one year (stabilized dose) (N=68). They were included in two groups: standard-dose (PP3M 525 mg/3-month or AOM 400 mg/month) and high doses (above).

The PL were determined as well as their relationship with the doses administered. Adherence effectiveness and toxicity relationship with doses and PL was evaluated. To assess effectiveness the CGI-S scale scores and the hospital admissions records were used also comparing both with the previous year. To assess toxicity adverse effects reported weight variation blood count general biochemistry and prolactin were recorded. **Results** The correlation between dose and PL is not strictly linear. In more than half of the subjects with standard doses high PL are reached. That is the majority of patients studied have PLs above the therapeutic range and not only those with high doses. All subjects continue in treatment regardless of the type of AP dose or PL. Clinical severity decreases more frequently in patients with high doses. Hospital admissions decrease almost exclusively in those subjects with high PL. More than 25% of the patients report some adverse effect but none is serious or involves a change in treatment. They are not higher with high doses or levels except for parkinsonism with PP3M. Laboratory test alterations occur in almost 2/3 of the patients although without severity or need to change treatment. They are not related to AP used or dose but some of them are linked to high PL. **Conclusion** There is no clear linear relationship between doses of AOM or PP3M and PLs in people with severe schizophrenia. Clinical improvements are related in many cases to PLs above the standard range. Taking into account that there is no linear relationship between doses and PL the effectiveness in people with severe schizophrenia of AOM and PP3M depends on reaching high PL achieved with high doses but also with standard doses in some cases. And without thereby worse treatment tolerability safety or adherence.

**Monday May 06**

### **What Chemsex does to the brain - Neural correlates (ERP) regarding decision making and impulsivity**

Johanna Schwarz

**Background:** Chemsex describes the use of specific substances (methamphetamine GHB/GBL mephedrone and ketamine) to initiate or enhance sexual experiences and is mainly prevalent among men who have sex with men (MSM). Many Chemsex users experience somatic complications (for example sexually transmitted diseases) and sometimes adverse sociological psychological and neurological effects (such as depression impulse control disorders or hypersexuality). Changes in impulsivity and deficits in executive functions can occur in patients with addictive and impulse disorders and are associated with frontal brain dysfunction and behavioural control deficits. This study aimed to investigate the effects of Chemsex on executive functions inhibition and their neurophysiological correlates in an EEG paradigm (N2 P3). **Methods:** 15 Chemsex users and 14 matched control subjects (all MSM) between 18 and 60 years of age participated in an auditory Go/NoGo/Voluntary Selection EEG paradigm. In addition clinical data (BDI MADRS) demographic information and measures of well-being and sexual behaviour (Hypersexual Behavior Inventory) were collected. **Results:** Chemsex users exhibited higher clinical symptomatology hypersexuality and sexual risk behaviour. EEG results showed decreased electrophysiological responses in fronto-central brain regions during decision-making indicating compromised executive function and inhibitory control. **Conclusion:** The observed impairments may contribute to increased risk behaviour regarding drug abuse and hypersexuality. Understanding the neurobiological mechanisms can inform targeted interventions to mitigate the negative consequences of practicing Chemsex and improve well-being.

Monday May 06

## A Comparative Analysis and Qualitative Study of Women's Experiences with Psychiatric Providers

Kristin Gill M.D.

**Abstract** **Background:** Gender bias in healthcare especially in psychiatry is increasingly recognized. Women often face both over- and under-diagnosis of mental health conditions. This study analyzes perceptions of gender bias in mental health care among females sharing their experiences and perspectives. **Methods:** Participants from two distinct groups completed surveys on provider preferences and experiences of gender bias. Group 1 included 262 female clients from a psychiatry practice across eight states. Group 2 comprised 194 female attendees at a women's health conference. Surveys gathered demographic data including education and age to compare results between groups. Statistical analysis was completed using the chi-squared test for categorical variables. The study also employed qualitative research to address: (1) Women's experiences of gender bias in mental health. (2) The impact on access to treatment provider preference and understanding of psychiatric symptoms related to hormonal changes. **Results:** In Group 1 59.4% preferred female psychiatric providers; 42.2% felt misunderstood by male providers; and 47.4% felt dismissed or patronized by male providers. 51% believed medical professionals (both male and female) lacked expertise in female-specific mental health. Group 2 showed higher percentages: 64.9% preferred female providers; 61.8% felt misunderstood; 82.7% felt dismissed or patronized; and 69% cited a lack of expertise. Statistical analysis showed no significant difference in preference for female providers ( $p = 0.273$ ). However significant differences existed in feeling misunderstood ( $p = 0.0000525$ ) being dismissed ( $p = 0.000000303$ ) and perceiving a lack of expertise ( $p = 0.000168$ ) with higher percentages in Group 2. Both groups showed over 50% preference for female providers and perceived a lack of expertise in treating female-specific mental health issues. Qualitative findings highlighted: (1) Dismissive attitudes linking

femininity to emotionality; (2) Overlooking mental health issues as hormonal; (3) Insensitive gendered treatment suggestions; (4) Neglect of the interplay between women's health and mental health. Conclusion: The study highlights significant gender bias in mental health care emphasizing the need for provider education on female health issues. Addressing gender bias and improving understanding of the mental-physical health nexus in women are crucial for better psychiatric care.

**Monday May 06**

### **A Computerized Suicide Prevention Simulated Training for Mental Health Providers**

Lindsay Bornheimer PhD; Nicholas Brdar BS; Juliann Li Verdugo MSW

Background: Mental health clinicians are well-positioned to engage in suicide prevention efforts yet effective implementation of evidence-based prevention strategies depend on skill acquisition and many clinicians report feeling underprepared. Innovative computer-delivered and simulation-based clinical training is emerging in the mental health field with potential to improve the feasibility and standardization of clinical training. This study explored the acceptability feasibility and preliminary effectiveness of three suicide prevention-focused simulations with virtual clients among clinical trainees. Methods: Student trainees (n=22) were recruited from a Master of Social Work program and completed pre- and post- surveys about their practice knowledge of comfort in working with clients who are at risk for suicide. All trainees engaged with three simulated trainings between the pre- and post- surveys: 1) suicide risk assessment 2) safety planning and 3) motivating a client to treatment. The simulated training experiences involved a brief didactic component engagement with a simulated virtual client and evaluation of skills by a computer algorithm in relation to each simulated training topic. Quantitative data were analyzed in SPSS28

and qualitative data in Dedoose using open coding and grounded theory. Results: Participants reported simulations to be acceptable and feasible with a strong desire and need for greater suicide prevention training as part of their clinical training. Perceptions of preparedness for using skills with clients significantly improved from pre- and post-test with effect sizes calculated to be large for suicide assessment (1.11) large for safety planning (1.13) and medium for motivating to treatment (0.64) per Cohen's d with Hedges' correction. In addition simulation performance scores significantly improved from the first to third session with effect sizes calculated to be large for suicide assessment (1.27) safety planning (1.14) and motivating to treatment (1.46). Qualitative findings reinforced and expanded upon quantitative results with emerging themes of the simulated experience being realistic a good training opportunity a challenging practice experience and including helpful feedback. Conclusion: Preliminary findings suggest simulated training for clinical student trainees with virtual clients is promising and suggest the three suicide prevention simulations may be useful scalable and effective in training programs and in mental health practice fields. Our future work will aim to investigate the effectiveness of simulations on a larger scale including comparative investigations of the virtual simulation training versus a comparable in-person training with a goal of establishing an approach to scaling and disseminating clinical trainings for other institutions and fields. This study was funded by the National Institute of Mental Health (NIMH) within the National Institutes of Health (NIH).

**Monday May 06**

### **A Mixed Methods Study Exploring Business Leaders' Perspectives on Mental Health and Related Services in the Workplace in a Developing Country**



Mitz Serofia

**Background:** There is a growing recognition of the impact of mental health issues on business outcomes. This improved awareness however has not been accompanied by a proportional increase in investment and implementation of mental health programs. This study aimed to explore the context and perspectives of business leaders on mental health and related services in the workplace from private industries in Iloilo City Philippines. **Methods:** The study utilized a convergent mixed methods design. Fifty-three business owners chosen through convenience sampling answered an online three-part questionnaire. For the qualitative strand seven participants took part in the key informant interviews. The researcher interpreted to what extent and in what ways the quantitative and qualitative datasets converged or diverged from each other. **Results:** Majority of the businesses has been operational for 2-5 years (43%) classified as micro (40%) and small (43%) enterprises and came from the food and beverage (28%) and commerce (23%) industry. Participants showed a positive perspective in their awareness on and attitude towards mental health in the workplace. Findings were neutral as to mental health being identified as a concern at work in general and during the pandemic. Business leaders viewed employee assistance program as acceptable appropriate and feasible regardless of their business profile. However they agreed that mental health services were costly and difficult to access. Although 77 percent agreed that workplace mental health is a priority the investment dilemma surrounding mental health resources created conflicting sentiments among firms. Despite the majority (77%) not having implemented any workplace mental health service or program in the past participants in the qualitative study used internal organizational practices to promote well-being. Despite their intentional efforts it is debatable whether their intrinsic motivation for doing so truly aligns with a mental health perspective or driven primarily by productivity concerns. Qualitative findings emphasized the importance of contextual factors such as organizational priority leadership style employee

characteristics and company culture in implementing workplace mental health interventions. **Conclusion:** Business leaders demonstrated positive awareness around mental health at work and were open to looking for ways to support their employees although this came with certain logistical and financial reservations. The context where and when practices or services for workplace mental health occur played a crucial and dynamic role. The results may inform businesses and relevant agencies in contextualizing the role of mental health in the workplace and understanding the factors that affect program design and implementation. The researcher has no funding to disclose.

**Monday May 06**

### **A Preliminary Examination of Contemplative Design of Aquarium Exhibits on Adult Biopsychological Wellness**

Tiffany Ho; Kia Yi Ng; Nisha Kesavan

**Background** The value of nature has received increasing attention as the evidence base for its therapeutic effects continues to grow. The Contemplative Landscape Model (CLM) measures the quality of urban green spaces to inform landscape designs in a way that improves mental health and wellbeing of people passively exposed to them. Studies have applied CLM for visual quality assessments of urban scenes like parks gardens and residential areas yet there are currently no studies that assess the contemplativeness of urban blue spaces such as public aquariums. The present study aims to examine how elements of CLM can be applied to the public aquarium context and the relationship between contemplative elements in the aquarium and adult biopsychological wellness. **Methods** This study is part of a larger ongoing study that investigates how aquarium exhibits positively impact the emotional physical and social

wellbeing of adults children and elderly. 22 adult subjects (M=21.6 years) were exposed to an empty calibration tank then 4 selected exhibits with unique contemplative designs for 10 minutes each at an aquarium in Singapore (Open Ocean Habitat Hard Corals Shark Tank and Sea Jellies). Sensory profiles of exhibits were derived from subjects' ratings on components of the CLM. Biopsychological wellness was measured with physical biomarkers of calmness and stress heart rate (HR) and pulse shape variation (PSV) respectively while emotional wellness was measured with self-report mood and arousal. Results After 10-minute exposure at aquarium exhibits it was found that the significant increase in self-reported mood observed was significantly positively correlated with the diversity of species in the aquarium exhibit (N=81  $r=.301$   $p<0.01$ ). Self-reported arousal after 10-minute exposure significantly positively correlated with visibility of layers of the aquarium exhibit ( $r=.232$   $p<.05$ ) diversity of species in the exhibit ( $r=.311$   $p=0.005$ ) level of change and motion in the exhibit ( $r=.225$   $p<.05$ ) whether light and colour of exhibit looked natural and alive ( $r=.225$   $p<.05$ ) and presence of archetypal elements ( $r=.262$   $p<.05$ ). On physical biomarkers of stress the significant decrease in subject's PSV a surrogate indicator of stress was significantly positively correlated with whether light and colours of the aquarium exhibit looked natural and alive ( $r=-.281$   $p<.05$ ). Multiple linear regression analysis revealed that light and colour of exhibit ( $t=-3.363$   $p=.001$ ) compatibility of the exhibit space ( $t=2.131$   $p<.05$ ) and the degree of peace and silence at the exhibit space ( $t=2.562$   $p<.05$ ) are significant predictors of change in PSV after 5-minute exposure. Conclusion Emerging findings from this study provide preliminary understanding of elements in a public aquarium that may contribute to decreased stress and calming effects from visitors exposed to its exhibits. This study was supported by S.E.A. Aquarium.

## Antenatal Psychiatric Hospitalization : Factors Associated with Newborns' Custody Under Child Protective Services (CPS)

Tyler Torrico M.D.

Background Antenatal psychiatric illness is associated with adverse obstetric outcomes but investigations for its impact on parenting capacity are limited. Child Protective Services (CPS) contact disproportionately impacts families marginalized by poverty mental health disorders and substance use disorders. Recently there have been investigations into the significance of psychiatric illness and non-mental health-related factors that predict CPS custody arrangements. Methods This is a retrospective cohort study of electronic medical records over a 10-year period (2012-2021) for patients who were pregnant and psychiatrically hospitalized. This includes 81 patients (ages 18 to 43 years) who delivered within the hospital. The study endpoint was whether the newborn was placed under CPS custody. For the purposes of this study psychiatric illness was categorized by the presence or absence of psychotic symptoms. Logistic regression was utilized to investigate the associations of these demographic and clinical factors with the study outcome of CPS custody. Results For the entire study population 64.2% of newborns had CPS custody arrangements. In multivariate analysis after adjusting for potential confounders patients with psychotic symptoms were at increased odds of having CPS custody arrangements (odds ratio [OR]= 8.43; 95% confidence interval [95% CI] 2.16-32.85) compared with patients without psychotic symptoms. Furthermore multivariate analyses revealed that patients with a history of homelessness also had a higher risk (OR = 6.59; 95% CI: 1.24-35.13) of CPS custody arrangements for their newborns than those without a history of homelessness. Discussion The results of this study suggest that among pregnant and psychiatrically hospitalized patients those with psychotic symptoms are significantly more likely to have CPS custody arrangements compared to those without psychotic symptoms. However it is important to note that psychotic symptoms were

not definitive for the inability to parent appropriately. In fact nearly 25% of the study population who had psychotic symptoms were able to successfully transition home with their newborns as mothers. This emphasizes the importance of optimizing the management of psychotic symptoms particularly among those who have children or plan to have children. The findings of this study also highlight the chronic impacts that those who have struggled with homelessness may experience including parenting capacity after homelessness resolves.

**Monday May 06**

### **Association between domestic violence and psychiatric hospitalization during pregnancy**

Lucas Primo de Carvalho Alves PhD; Barbara Althoff M.D.; Juliana Scherer PhD

**Introduction:** Although women are at increased risk of violence by an intimate partner during pregnancy there are no studies that evaluated the association between domestic violence and psychiatric hospitalization during pregnancy. **Objectives:** To evaluate the association between domestic violence and psychiatric hospitalization during pregnancy. **Methods:** This is a case-control study with primary data composed of three groups of adult female patients (18 – 50 years of age): (1) one case group of pregnant inpatients; (2) one control group of women in the immediate postpartum period with no psychiatric hospitalization during pregnancy; (3) a second control group of non-pregnant inpatients. The study was conducted at Hospital Materno Infantil Presidente Vargas (HMIPV) a mother and child hospital located at the south of Brazil. We collected data regarding sociodemographic characteristics psychiatric diagnoses through Structured Clinical Interview Diagnosis (SCID-5-CV) and history of domestic violence through the standardized instrument Abuse Assessment

Screen (AAS). We used chi-squared tests to compare categorical variables between groups and the Mann-Whitney-U test for continuous variables. The Ethics Committee of HMIPV approved the study. **Results:** We included 39 pregnant inpatients 73 non-pregnant inpatients and 32 women in the immediate postpartum period. Median ages were 27 (interquartile range [IQR]= 22.5 – 34) 28 (IQR= 22.75 – 39) and 28 (IQR= 22.5 – 32) years (P= 0.26) respectively. Among pregnant inpatients 17 (50%) reported to have suffered domestic violence versus 29 (44.6%) in non-pregnant inpatients and 9 (28.1%) in postpartum women (P=0.16). In the last year the proportion of emotional or physical violence was 8 (23.5%) in the pregnant group versus 7 (11.1%) in the non-pregnant group and 0 (0%) in the postpartum group (P=0.01). Among pregnant inpatients 3 (9.7%) reported to have suffered physical violence during pregnancy while no puerperal women reported it (P=0.07). Physical or emotional violence in the last year was associated with post-traumatic stress disorder (PTSD) among pregnant inpatients ( $\chi^2=6.55$ ; P=0.01) but we did not observe this association among non-pregnant inpatients ( $\chi^2=2.2$ ; P=0.14). Domestic violence was not associated with hospital admission due to bipolar disorder depressive disorders schizophrenia spectrum disorders and substance use disorders in any of the groups. **Conclusion:** This is the first study to evaluate the association between domestic violence and psychiatric hospitalization during pregnancy. We found a very high frequency of domestic violence among women inpatients especially among the pregnant. Emotional and physical violence in the last year may be a risk factor for psychiatric hospitalization during pregnancy and may be associated with PTSD in this population. Larger and longitudinal studies should be conducted to confirm these hypotheses.

**Monday May 06**

## Benefits of Adverse Childhood Experience (ACE) Training for Underserved-Minority Communities

Shana Ofori; Jason Caplan M.D.; Esai Ponce; jibril ibrahim

Childhood adversity can profoundly impact health across the lifespan. This study aims to evaluate the efficacy of adverse childhood experiences (ACEs) and resilience training in improving understanding of trauma and coping strategies among disadvantaged patients and future healthcare providers. Participants were medical students (n=240) and patients at a charitable medical clinic (target n=100). The Arizona Consortium for ACES 2-hour interactive training on the science of ACEs and resilience skills was delivered. Students received training as part of their academic curriculum; patients were recruited through promotional materials on-site highlighting potential psychological benefits. Both groups completed pre- and post-surveys assessing their comprehension of topics with the patient group also reporting their ACE score. Minimal risks center on potential psychological discomfort given sensitive content; options to skip portions were emphasized alongside emotional support resources. Analysis will evaluate statistical significance between pre- and post-training survey results examine correlations between patient ACE scores and understanding and compare aggregate outcomes across participant groups. Key hypotheses are that training will produce improved scores for both samples with patient participants exhibiting greater gains due to direct lived experience. Benefits include deeper insight into trauma for patients and expanded perspective for future physicians. Protecting confidentiality is paramount; no identifying information is collected data access is restricted storage meets university security protocols. Results may guide refinement of trauma/resilience programming for vulnerable groups. Overall this study uniquely extends ACEs education research by assessing multi-level impact across those with higher pre-existing exposure alongside relatively more privileged

students entering healthcare. This project is funded by the APAF Helping Hands grant.

Monday May 06

## Changes in rate and pattern of suicide attempts after COVID-19

BORAM CHAE; Ho-Kyoung Yoon

Changes in rate and pattern of suicide attempts after COVID-19 Objective: Employing a time-series analysis we investigated the patterns of suicide attempts among patients at Korea University Ansan Hospital's emergency room from 2020 to 2023 focusing on understanding any shifts and trends especially considering the impact of the COVID-19 pandemic. Method: Monthly records of emergency room visits concerning suicide attempts and self-harm incidents were collected from Korea University Ansan Hospital covering the period from 2018 to 2023. Patient data were stratified into three age groups: under 18 19 to 59 and 60 and above. Result: During the pandemic in 2020 and 2021 the number of emergency room admissions for suicide attempts or self-harm increased by 18.8% to 570 cases in 2023. While adults (19-59 years) and the elderly (60 years and above) showed a consistent monthly rise adolescents (10-19 years) displayed significant monthly variations. In January 2023 the incidence was 2.25 times higher (RR=?2.25 95% CI=?1.69-2.85). March witnessed a 1.6-fold increase (RR=?1.60 95% CI=?1.23-1.97) April demonstrated a 2.75-fold surge (RR=?2.75 95% CI=?2.02-3.47) and May saw a 2.67-fold rise (RR=?2.67 95% CI=?1.99-3.34). November experienced a 3.5-fold increase (RR=?3.50 95% CI=?2.56-4.44). In contrast February indicated a 43% decrease (RR=?0.57 95% CI=?0.34-0.80) July showed a 50% reduction (RR=?0.50 95% CI=?0.14-0.86) and August exhibited a 47% decline (RR=?0.53 CI=?0.31-0.76). Conclusion : In the post-COVID-19 period there has been a general upsurge in suicide rates. While there is relatively little variation observed throughout the year in other age groups the

incidence rate among teenagers exhibits an upward trend during the academic semester after COVID-19. It is crucial to thoroughly comprehend and address this pattern to effectively manage the risk of suicide.

**Monday May 06**

### **Clinician attitudes and readiness towards using AI-based interventions in psychiatry**

Justine Chang; Valentina Tamayo Velasquez; Andrea Waddell

Background: Research and development of artificial intelligence (AI) and machine learning applications in medicine are on a rising trajectory with the hope of solving some complex problems in healthcare. However these interventions can only be effectively realized in the real world if clinicians who administer them have trust and confidence and perceive the benefits as outweighing the risks. Existing literature on clinician attitudes towards AI in the field of psychiatry is sparse. Methods: We conducted a qualitative study using focus groups to gather insight from the clinicians at Waypoint Centre for Mental Health. Participants were grouped into a physician group (MD group) or a non-physician clinician group (non-MD group) allowing the identification of any potential between-group differences. Focus group questions asked participants' awareness of the presence of AI as well as their perceived benefits concerns and roles of AI in mental health. We also explored themes of trust conflict resolution and readiness to adopt. Results: We conducted four focus group sessions with a total of 10 MDs and 8 non-MD clinicians. When the AI tool was presented as supporting more administrative mundane repetitive tasks that enhance efficiency attitudes were generally positive. Uses of AI that had higher acceptability include transforming large repositories of historically handwritten patient files to readily accessible and searchable formats handling the large amounts of data existing in the

healthcare system for research purposes (e.g. trending analysis) summarizing and organizing healthcare data and developing patient education tools. When the AI tool was framed as a clinical decision-making tool more polarizing opinions were observed. More hesitation and concerns were expressed by the MD group than the non-MD group. Notable concerns expressed by MD participants include medico-legal liability lack of infrastructure at present to support the development of such technology lack of transparency (black box phenomenon) from the AI algorithm and quality of the inputting data (bias and equity concerns). Some participants (MD and non-MD) worry about overreliance and the potential deterioration in critical thinking if AI is allowed to make decisions in the clinical setting. Some participants also emphasized psychiatry as a very "human" practice stating that AI algorithms may not take a clinician's gut feeling of a patient into consideration and hence cannot replace the clinician's intuition or judgment. The poster will provide a detailed theme map. Conclusion: This project explored the current state of clinician readiness toward AI technology at a psychiatric institution. We present factors and specific barriers that may influence the acceptability and successful implementation of such technology especially if the AI is involved in making clinical decisions.

**Monday May 06**

### **Comparing safety indices for commonly used antidepressants shows certain tricyclic antidepressants have lower complication rates than bupropion**

Zachary Poliacoff

Background: A common concern when prescribing antidepressants to treat depression is the risk of toxic exposure. However there have been no recent US studies assessing the rate of serious complications from antidepressant



overdoses that adjust for the rate at which these agents are prescribed in the population. This study combines two large national datasets to create measures that can help compare the risk of serious complications and death resulting from toxic exposure between commonly prescribed antidepressants. Methods: Yearly summary data on toxic exposures from the National Poison Data System's annual reports was combined with national prescription data collected by the Medical Expenditure Panel Survey to create a dataset representing the number of prescriptions major adverse events and deaths resulting from single drug exposures for each of the included antidepressants between 2013-2020. Drugs were included if they were classified as either a SSRI SNRI DNRI or TCA and had individual entries in both datasets. 291775 single drug exposures over 1594675429 prescriptions were analyzed. Multi-drug exposures were not included. Intention could not be analyzed. The fatal toxicity index (FTI; deaths / 100000 prescriptions) and serious morbidity index (SMI; major adverse effects / 100000 prescriptions) were calculated for each drug. 95% confidence intervals (CI) were constructed using a Poisson distribution. Agents were compared within their class. Bupropion was used as a standard. In cases where statistical significance was not clear by comparing CIs a chi-square test was used. The false discovery rate was controlled for using the Benjamini-Hochberg method with the false discovery level set at 0.05. Results: There was a statistically significant difference between all TCAs' FTI and SMI ( $p = 0.21$ ) though both had a lower SMI ( $p < 0.00001$ ). CIs for amitriptyline and doxepin's FTI and SMI were both significantly greater than bupropion's. There was a statistically significant difference between all SSRIs' FTI and SMI ( $p = 0.045$   $p < 0.00001$ ) though the former was not statistically significant after correction. CIs for both measures were lower for all SSRIs than bupropion's. Escitalopram's FTI and SMI were both lower than citalopram ( $p = 0.048$   $p < 0.00001$ ) though the former was not significant after correction. Duloxetine's FTI and SMI were significantly lower than venlafaxine's ( $p < 0.0001$ ). Venlafaxine's FTI and SMI were significantly lower than bupropion's ( $p < 0.01$ ). Conclusion: There is considerable heterogeneity within

antidepressant classes in terms of safety profiles. Imipramine and nortriptyline have favorable safety profiles compared to bupropion and to other TCAs. All SSRIs and SNRIs compare favorably to bupropion and all TCAs on all measures.

Monday May 06

### **Coping Mechanisms and Their Associations with Depression and Anxiety Among Healthcare Staff in the Aftermath of the COVID-19 Pandemic**

Nimra Rahman BA; Cara Faherty; Chi Chan; Uraina Clark; Nihal Mohamed

Background: Healthcare workers (HCWs) experience considerable stress from significant workload staff shortages and poor physical health. Coping is a major factor in an individual's emotional adjustment to stress (i.e. depression and anxiety) and can be reflected through diverse strategies tactics responses and behaviors. This study investigated coping strategies used by non-physician healthcare staff and the association of such strategies with depression and anxiety in the aftermath of the COVID-19 pandemic. Methods: The study population was recruited from a random sample of 4999 non-physician healthcare staff at a large New York City urban health system between September-November 2022. Participants were sent an anonymous survey electronically via email which included standardized measures including the PHQ-2 GAD-2 and Brief COPE to measure depression anxiety and coping strategies respectively. Nurses administrative staff research staff scientists food service personnel security officers and others were included in the analysis. Exploratory factor analysis of the Brief COPE and logistic regression analysis were conducted to determine the relationship between different types of coping strategies and mental health symptoms. Results: Of the 4999 hospital system staff who were sent the survey 1398 responded and 1172 (28%) completed all of the items for this analysis. Exploratory factor analyses of the Brief COPE revealed a four-factor solution that

explained 61.9% of the variance. These factors represent social support avoidance substance use and active coping strategies. Logistic regression analyses controlling for demographic variables revealed that greater odds of screening positive for depression was associated with avoidance coping (odds ratio [OR] (95% confidence interval [CI])=3.92 (2.91-5.29)  $p < .001$ ) and substance use coping (OR (95% CI)=1.39 (1.00-1.90)  $p = .049$ ). Controlling for demographic variables greater odds of screening positive for anxiety was associated with social coping OR (95% CI)=1.59 (1.22-2.08)  $p = .001$  and avoidance coping OR (95% CI)=2.81 (2.15-3.67)  $p < .001$ . Conclusion: Our analyses revealed that whereas coping by avoiding was associated with both depression and anxiety coping by substance use was more specific to depression and coping by social support was more specific to anxiety. Limitations included a moderate response rate and cross-sectional design which precludes making causal inference. The unique associations between depression anxiety and substance use with social support coping suggest potential targets for interventions that on coping strategies to prevent or reduce depression and anxiety.

Monday May 06

### **Difference in structural brain connectivity between acute non-suicidal self-injury and chronic non-suicidal self-injury among depressed adolescents: a**

Gyung-Mee Kim

The difference in structural brain connectivity between acute non-suicidal self-injury and chronic non-suicidal self-injury among depressed adolescents: a diffusion tensor imaging study  
Objectives: The purpose of this study was to examine alterations of global and local structural brain connectivity between acute non-suicidal self-injury and chronic non-suicidal self-injury among depressed adolescents. Method: In total

fifty-four depressed adolescents aged 12- 18 years who visited a university hospital in South Korea were enrolled in this study.

Sociodemographics and questions which were focused on the previous history of suicide ideas suicide plans suicide attempts and non-suicidal self-injury(NSSI) were assessed. Also adolescents were assessed for their psychological characteristics using Child Depression Inventory (CDI) the scale for Suicide Ideation (SSI) the revised Children's Manifest Anxiety Scale (RCMAS) and the Barratt Impulsiveness Scale (BIS). All participants underwent diffusion tensor imaging(DTI) of the brain. We compared clinical characteristics and imaging data in adolescents with acute NSSI (n=16) to chronic NSSI (n=23). And we calculated the network measures of global and local structural brain connectivity based on the DTI in both groups using the DSI studio program and graph theory. Results: Adolescents with acute NSSI were significantly higher in depression social anxiety and suicidal ideation than adolescents with chronic NSSI. Also we found a significant difference in the local efficiency ( $t = -2.330$   $p = 0.028$ ). Furthermore there were significant correlations between the betweenness centrality of the right superior orbital frontal gyrus right middle frontal gyrus right superior medial frontal gyrus left superior occipital gyrus left paracentral lobule right middle temporal gyrus and right cerebellum 3 ( $t = 2.226$   $p = 0.035$ ;  $t = 2.382$   $p = 0.025$ ;  $t = -2.086$   $p = 0.047$ ;  $t = 2.287$   $p = 0.030$ ;  $t = -2.563$   $p = 0.016$ ;  $t = 2.729$   $p = 0.011$ ;  $t = 2.171$   $p = 0.044$  respectively). Conclusion: These preliminary data support the abnormal connectivity in frontal neural pathways which may contribute to the pathophysiology of NSSI in adolescents. These results will be used in related fields to understand the clinical and biological risk factors of NSSI. Also they will give the opportunity to develop suicide prevention programs for high-risk NSSI and suicide individuals for early intervention. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2018R1C1B5086433to GM Kim).  
Keywords: Non-Suicidal Self-Injury Adolescents diffusion tensor imaging brain

**Monday May 06**

### **Dilemmas of the Digital Age: Medical Student Attitudes Related to Therapy Assistance Online and the Digitalization of Mental Health Services**

John Free MSN RN; Blake Harp M.B.A.

**Introduction:** The most recent psychiatric research observed that up to 90% of medical students experience stress. One systematic review even found that nearly one in two medical students experience burnout before beginning their residency programs. Coping methods to handle emotional turmoil and acute stressors are under significant investigation. Many medical schools across the country offer their students online resources to promote self-care and prioritize student wellness. One such program Therapy Assistance Online (TAO) is a web-based resource aimed to help students overcome anxiety depression and other mental health concerns. However medical students' usage of TAO has yet to be explored. This quantitative descriptive study was designed to elicit the attitudes of medical students on utilizing TAO for mental health support. **Methodology:** Data were collected using an anonymous 11-item questionnaire that was available to first-year (MS1) and second-year (MS2) medical students at Texas Tech University Health Sciences Center (TTUHSC) between January 2nd-14th 2023. This survey was created with guidance from the medical school faculty and derived from themes identified in previous studies. Five-point Likert scales were used to evaluate attitudes toward facets of online mental health platforms. Only complete surveys were used for statistical analysis. All of the medical students took this survey voluntarily and results were reported in aggregate without identifying information. Descriptive statistics and graphs were generated through Qualtrics software. **Results:** The survey received 233 responses; 64.7% of the MS1/MS2

cohort elected to respond. Of those 61 (26.2%) students reported seeking mental health support during medical school. 29 (12.5%) reported using online resources for mental health support other than or in addition to TAO while 23 (9.9%) reported previous use of TAO. Of those students who used TAO 12 (52.2%) found TAO to be helpful or held a neutral opinion. **Discussion:** We found that only 10% of pre-clinical students at TTUHSC had used Therapy Assistance Online and almost half of these participants did not find it helpful. Over one-third of participants agreed there is a stigma attached to students seeking mental health assistance; nevertheless two-thirds reported they would prefer face-to-face sessions over an online platform for mental health support. Only one-quarter of respondents agreed that online self-help programs like TAO effectively respond to the mental health needs of students. **Conclusion:** Medical schools must ensure students have mental healthcare resources they find useful. Despite increasing reliance on online programs in education more generally mental health resources that allow face-to-face interactions may yet be valued most among users. In any case medical schools must promote and ensure easy access to therapy options and communicate clearly that students will remain anonymous with any care they seek out.

**Monday May 06**

### **ECT Outcomes in Patients with Depression: A Large Naturalistic Study at a Tertiary Center**

Shane Berger; Simon Kung MD; Maria Lapid

**Background:** Electroconvulsive therapy (ECT) is widely considered to be the most effective treatment for severe depression. A recent meta-analysis of ECT response and remission in major depression showed particular effectiveness in patients with psychotic features and in the elderly. ECT has also been shown to be more efficacious than transcranial magnetic stimulation (TMS) and ketamine. The aim of this study was to investigate

recent ECT outcomes for depression at a large tertiary center. Methods: Data was obtained from Mayo Clinic Rochester on all patients aged 18+ who received ECT over a 10-year timeframe 3/1/2013-2/28/2023. Patients were included if there was a diagnosis of a depressive disorder (either unipolar bipolar or schizoaffective disorder) and there was a Patient Health Questionnaire-9 (PHQ-9) within 90 days prior to starting ECT and within 180 days after ECT. Only the first acute course of ECT was counted. Patients were excluded if they received less than 3 ECTs had a beginning PHQ-9 score less than 10 had a comorbid diagnosis of psychotic disorder (other than schizoaffective) or dementia or did not give research authorization. The age sex number of acute course treatments and lead placement were collected. Response (>50% reduction in PHQ-9) and remission (final PHQ-9 <5) rates were calculated. Paired t-test was performed on baseline and end PHQ-9 scores. Linear regression was performed on the change in PHQ-9 scores with age sex number of treatments and lead placement as independent variables. Logistic regression was performed on response and remission categories using the same independent variables. BlueSky Statistics 10.3.1 (Chicago IL) was used and statistical significance defined as  $p < 0.05$ . Results: Of 1817 who were initially identified only 398 met final inclusion and exclusion criteria. The overall response rate was 74.9% ( $n=298$ ) and remission rate was 49.7% ( $n=198$ ). The mean ( $\pm$ SD) PHQ-9 score prior to first ECT treatment was  $20.18 \pm 4.61$ . The mean ( $\pm$ SD) ending PHQ-9 score was  $6.59 \pm 6.56$  (paired t-test  $p < 0.001$ ). Linear regression for change in PHQ-9 scores showed no statistically significant differences using age sex number of treatments and lead placement. Logistic regression for response showed age as a statistically significant predictor with a 1.92% higher odds of achieving response with each additional year of age ( $p=0.0105$ ). When controlling for sex older age was still a statistically significant (OR 1.0190  $p=0.0115$ ) predictor of response. There were no statistically significant predictors for remission. Conclusion: Our results affirm the high efficacy of ECT in severe depression. No other established treatment for depression can report a response

rate as high as 75% in a naturalistic study. Our results support that older patients achieve response more than younger patients. With increased awareness of TMS and ketamine this study highlights the continued relevance and place of ECT for severe depression.

Monday May 06

### Efficacy and Safety of Hyperbaric Oxygen Therapy for Fatigue and Neuropsychiatric symptoms of Long-COVID

Yujin Lee; jhingoo chang; Su Young Lee

Background: Long-COVID or post COVID-19 condition is defined as the continuation or development of new symptoms 3 months after the initial SARS-CoV-2 infection with these symptoms lasting for at least 2 months with no other explanation. Fatigue and brain fog are among the most prevalent symptoms of Long-COVID which significantly impact individuals' quality of life but treatment options for these symptoms are limited. Possible mechanisms for long-COVID include neuroinflammation damage to blood vessels by coagulopathy and endothelial dysfunction and neuronal injury. Hyperbaric oxygen therapy (HBOT) known for its benefits in reducing neuroinflammation and increasing angiogenesis is suggested as a possible treatment option for long-COVID. This study aimed to investigate the effect of HBOT on the fatigue and neuropsychiatric symptoms of long-COVID. Methods: The study included 50 long-COVID patients with caseness of fatigue defined by a Chalder Fatigue Scale (CFQ) bimodal score of  $\geq 4$ . Subjects underwent 10 HBOT sessions once daily at 2 atmospheres for 90 minutes over 12 days. Clinical outcomes were evaluated using the bimodal and Likert score of CFQ selected cognitive function tests validated neuropsychological scales and a subjective post COVID-19 symptom checklist before and after HBOT. Adverse events were also assessed. Paired t-tests and Wilcoxon rank-sum tests were

performed and safety evaluations were conducted. Results: Out of 50 subjects included in the analysis 37 completed the treatment. After HBOT 36 out of 37 (97.3%) subjects recovered from fatigue (CFQ bimodal score < 4). Overall fatigue severity decreased significantly (CFQ Likert score mean  $\pm$  standard deviation 22.7  $\pm$  5.3 at baseline vs. 4.1  $\pm$  4.4 post-treatment  $p < 0.001$ ). Following HBOT there was a significant improvement in mental health outcomes including anxiety depression sleep quality and stress severity as well as a reduction in the number of post COVID-19 symptoms. Additionally most cognitive function test outcomes showed significant improvement. Of 13 dropouts 7 discontinued treatment due to adverse events and 6 withdrew consent. Safety evaluations revealed middle ear barotrauma in 7 subjects leading to premature HBOT termination; however they fully recovered without complications. Of 13 dropouts 5 agreed to post-treatment assessment. The rate of subjects who recovered from fatigue was significantly higher in those who completed the full course of 10 HBOT sessions (OR=24  $p=0.033$ ). Conclusions: The significant reduction in fatigue improvements in cognitive function mental health outcomes and post COVID-19 symptoms suggest that HBOT could be a potentially safe and effective therapeutic option for long-COVID patients. Further research is needed to refine protocols and determine long-term effects.

**Monday May 06**

### **Evaluating Stress and Burnout in Medical School Administrative Staff: A Survey study in a California Allopathic Medical School**

Jonathan Shaw; Peter Bota; Charles Lai; Jonathan Townsend; Deborah Wright

Background: While Burnout in Healthcare is a major issue currently there has been limited research on the well-being of the support and administrative workers that are a crucial part of

the medical system. The literature on medical school administrative staff (MSAS) burnout is further complicated by different definitions of “staff” which can also encompass faculty and medical staff. This study aims to provide some insights into the various stressors MSAS face by examining the prevalence of and correlations between burnout factors in MSAS at a California allopathic medical school. Methods: 120 MSAS employees defined as employees in non-curricular roles were contacted anonymously via email list to participate in this study. Two identical survey rounds were sent on February 8th and March 8th 2023 with each form remaining open for responses for 4 weeks. Each survey was broken into 3 sections containing respectively a 13-question proprietary perception scale 2 questions from the 2021 AAMC Staff Engagement Survey and 3 proprietary questions about MSAS-specific aspects of their work and the 19-question-long Copenhagen Burnout Inventory (CBI). Due to privacy and retaliation concerns no demographic questions were included. Results: The Kolmogorov-Smirnov test indicated that the CBI Client-related ( $p = .083$ ) Work-related ( $p = .189$ ) and Personal ( $p = .082$ ) burnout scores are normally distributed unlike all of the proprietary data. No significant differences between survey rounds was found in either the One-Way ANOVA of Personal ( $p = .654$ ) Work-related ( $p = .354$ ) and Client-related ( $p = .272$ ) subscales or the Kruskal-Wallis tests of proprietary question responses. Personal and Work-related ( $r(41) = .891$   $p < .001$ ) Personal and Client-related ( $r(41) = .692$   $p < .001$ ) and Work-related and Client-related burnout scores ( $r(41) = .831$   $p < .001$ ) were found to correlate by Pearson’s correlation. Multiple of the proprietary questions were found to correlate by Spearman’s correlation. The means for the Personal (57.1) and Work (53.4) indicated burnout (CBI cutoff is score  $\geq 50$ ) whereas the Client subscale mean is much less (42.4) albeit the sample size is too small to be conclusive. Conclusions: In light of limited burnout research on MSAS this study provides valuable insights on the prevalence of burnout in medical school administration. In particular the unusually high level of Personal and Work-related burnout among MSAS implies that the high levels of stress in



healthcare may have as much to do with systemic and cultural factors as with the inherent stress of medical work. The consistent correlations and distinctions in subscales indicate that burnout is a lasting issue that need to be solved with plans tailored to each role and situation. Especially given the wide variety of MSAS roles tailored interventions are crucial in supporting this essential but overlooked portion of the medical school and healthcare workforce.

**Monday May 06**

### **Examining the role of social support in the relationship between traumatic events and depressive symptoms in a cohort of postpartum women**

Adriana Bruges-Boude M.D.; Juliana Castro; Anna-Sophie Rommel; Margaret McClure

Background: Pregnancy and the postpartum period are characterized by physiological and psychological changes and increased risk for depressive episodes. Traumatic life events are one of the most important risk factors for depressive symptoms. The stress-buffering model suggests that social support can protect against negative mental health outcomes and help maintain overall well-being during pregnancy and the postpartum period even following stressful life events. Despite advances in trauma research most studies to date do not include pregnant persons and often exclude those who do not meet full post-traumatic stress disorder criteria. We aim to address gaps in the literature by exploring how perceived social support during the postpartum period can affect the relationship between traumatic life events specifically unwanted physical and sexual abuse and postpartum depression symptoms.

Methods: Participants with diverse backgrounds were enrolled in the Generation C-SF cohort (current n=430 target N=500) a New York City-based prospective pregnancy cohort. At three months postpartum participants completed the Trauma History Questionnaire (THQ M=2.51 SD=3.03) the Interpersonal Support Evaluation

List (ISEL M=9.17 SD=1.72) and Edinburgh Postnatal Depression Scale (EPDS M=5.27 SD=4.41). In this analysis we only included participants who completed all questionnaires. The ISEL contains three subscales: perceived availability of appraisal (advice or guidance) belonging (empathy acceptance concern) and tangible social support (help or assistance such as material or financial aid). The scores from the ISEL subscales were combined into a total ISEL score. Higher ISEL scores indicate greater levels of social support. Higher THQ and EPDS scores indicate more trauma and depressive symptoms respectively. We used a mediation analysis to examine the effect of traumatic life events on postpartum depression symptoms with social support as a mediator. Results: We found significant total ( $\beta=1.19$   $t=2.92$   $p=0.0046$ ) and direct ( $\beta=0.86$   $t=2.14$   $p=0.0351$ ) effects of traumatic life events on postpartum depression symptoms. The indirect effect mediated through social support was not significant ( $\beta=0.09$  CI=-0.002; 0.2172). Conclusion: The findings further support the role of traumatic events as a risk factor for postpartum depression symptoms. However our findings do not support our hypothesis that perceived social support (appraisal belonging and tangible) may act as a mediator between traumatic life events and postpartum depression symptoms. Clinicians should assess the patient's history of trauma and consider interventions other than social support to help with depression symptoms in the perinatal period among those at risk

**Monday May 06**

### **Factors Impacting the Relationship Between Physiologic Markers of Stress and Self-Reported Stress: An HRV Analysis**

Marcus Paoletti BA; Tamerlane Visher; Adam Frank

Background: Heart Rate Variability (HRV) is a non-invasive measure of autonomic nervous system function and represents a balance between the sympathetic and parasympathetic branches. HRV has been proposed as a physiologic marker of stress with lower variability associated with stress and various health risks especially when evaluated in highly controlled conditions. Prior research has demonstrated that psychometric measures such as the Big Five Inventory (BFI) can predict reactivity to stress but little is known about their influence on the strength of the relationship between HRV and self-reported stress. Despite its potential as a clinical tool the application of HRV in naturalistic settings has yielded inconsistent results. The need for accurate physiologic measures of stress is especially important among individuals in high stress environments who may underreport stress such as healthcare workers. Methods: We utilized the TILES 2018 dataset—which captured multimodal data from healthcare workers over a ten-week period—to study the relationship between HRV and stress in healthcare workers in a hospital setting. Baseline psychometric measures daily self-report measures captured by ecological momentary assessment and biobehavioral measures—such as HRV—were analyzed from 192 participants across 4537 observations using linear mixed models to capture the longitudinal nature of the data. HRV was calculated as the standard deviation of all normal RR (NN) intervals (SDNN). Results: Results revealed that PSQI score significantly interacted with the HRV-stress relationship with lower PSQI scores corresponding to an elevated correlation between HRV and stress ( $p = 0.037$  coefficient =  $-0.013 [-0.026 -0.001]$ ). BFI may also play a role with Openness and Agreeableness demonstrating trend interactions with the HRV-stress relationship (Openness:  $p = 0.055$  coefficient =  $-0.050 [-0.1 -0.001]$ ; Agreeableness:  $p = 0.058$  coefficient =  $-0.057 [-0.116 -0.002]$ ). Age gender and the remaining BFI dimensions did not show significant associations with HRV-stress relationship. Conclusion: These findings support the hypothesis that individual differences particularly in sleep quality and personality dimensions modulate the fidelity between HRV

and self-reported stress. This study paves the way for further analysis to improve HRV as a clinical tool. There are no disclosures to report for this study.

Monday May 06

### **Food for thought and for clinician training: Association between clinician's emotional responses to suicidal patients and the therapeutic alliance**

Martina Sobrero MD; Rawad El Hayek M.D.

Introduction: Recent research shows that clinicians often struggle with negative emotional responses towards suicidal patients. This can affect the working alliance which is critically important for effective treatment delivery and subsequently treatment outcome. The purpose of this study was to explore associations between negative emotional state variables in the clinician clinician's perception of the working alliance and patients' severity of suicidal ideation (SI). Methods: Clinicians and patients from both inpatient and outpatient units at a hospital in New York City completed a set of questionnaires after their first clinical encounter. Clinician participants filled out the State and Trait Anxiety Inventory (N=852) State Trait Anger Expression Inventory (N=860) and the Working Alliance Inventory scales (N=842) evaluating state anxiety anger and the clinician's perception of therapeutic alliance respectively. Patient participants completed the Columbia-Suicide Severity Rating Scale (CSSRS) to assess the severity of SI over the past month (N=624). Spearman Rho correlations and linear regression were calculated to quantify the relationships. Results: We found a negative correlation of moderate effect size between the clinician's WAI Bond and clinician's state anger ( $-.435$ ) and anxiety ( $-.483$ ) and of small effect size between patient's CSSRS prior month SI ( $-.128$ ). In linear regression both state anxiety and anger had significant independent and negative associations

with the clinician's perception of the therapeutic alliance while suicidal ideation did not retain significance. Conclusion: Clinician's perceived bond with the patient is associated with both their emotional state and the patient's severity of SI. Moreover clinician's emotional state may account for the impact of SI on perceived bond. This finding suggests that clinicians may benefit from training in emotional self-awareness and management when working with suicidal patients.

**Monday May 06**

### **Inflammatory Predictors of Postpartum Anxiety: Findings from a Prospective NYC Pregnancy Cohort**

Carly Kaplan; Anna-Sophie Rommel; Frederieke Gigase

**Background:** Previous studies have implicated inflammation in the pathogenesis of both depression and anxiety. However less research has examined how this relationship applies during and after pregnancy a period of large-scale immunological changes. Though some studies have examined the effect of maternal immune activation on postpartum depression and found an association between elevated prenatal inflammatory cytokines (particularly IL-1 $\beta$  and IL-6) and postpartum depression the relationship between pregnancy cytokines and postpartum anxiety has not been thoroughly explored.

**Methods:** We included 716 participants from Generation C a prospective pregnancy cohort (recruited from April 2020-February 2022). All adult pregnant patients receiving obstetric care at the Mount Sinai Health System in New York City were eligible for participation. Anxiety symptoms were assessed 1-8 months postpartum via the Generalized Anxiety Disorder (GAD) questionnaire. Cytokine levels were measured in blood from routine draws throughout pregnancy. Using quantile regressions the relationship between mean cytokine levels (log-transformed) and continuously measured postpartum anxiety symptoms was investigated separately for 4

cytokines (IL-6 IL-17A IL-1 $\beta$  and CRP). Quantile regressions were adjusted for maternal age race/ethnicity education parity SARS-CoV-2 infection status during pregnancy time since April 2020 and GAD assessment timing. Results: Participants' mean age was 32.99 (SD=4.91) and 327 individuals (45.67%) were white 192 (26.82%) Hispanic 85 (11.87%) Black and 74 (10.34%) were Asian. Mean GAD score was 2.89 (SD=3.64) and 43 (6%) participants scored above the clinical cutoff ( $\geq 10$ ) for moderate/high anxiety. After adjustment IL-17A was significantly associated with increased GAD score at the 75% quantile (b=0.70 SE=0.24 p=0.004). IL-6 and IL-1 $\beta$  exhibited a positively trending correlation at the 75% quantile and 50% quantile respectively though the correlation was not significant. CRP was not significantly associated with postpartum anxiety. Conclusion: These preliminary findings suggest a link between pregnancy inflammation and postpartum anxiety among those experiencing the highest anxiety symptoms. While specific mechanisms require further exploration these findings add to the larger conversation surrounding the hypothesized role of maternal immune activation in postpartum mood disorders. Future research may examine the possibility of capitalizing on this link to aid clinicians in identifying women at elevated biological risk for postpartum mood disorders.

**Monday May 06**

### **Influence of intrinsic factors for workers' subjective well-being**

Kyoung-Sae Na M.D.; Seo-Eun Cho

**Backgrounds** In modern society mental health in the workplace is increasingly considered an important issue and a major political agenda (1). However the absence of negative mental health risk factors or psychopathologies such as work stress depression anxiety and suicidal inclination among workers does not guarantee their mental health. This study sought to investigate the

influence of work-related factors on workers' subjective well-being. **Methods** A nationally representative sample was used. The participants' sociodemographic factors including education level marital status drinking status smoking status job-related factors and subjective health were examined. Job position regularity of the work schedule shift work and presence of piecework incentives were examined as job-related extrinsic factors. Financial support provided at work comprises meal reimbursement school scholarships grants for home ownership workplace welfare funds congratulatory and condolence funds vacation bonuses childcare support and individual health insurance and injury insurance. Subjective well-being was measured using two indices such as the Cantril Ladder and a direct question about the participants' current level of happiness. A multiple regression analysis was used to identify contributing factors for the workers' subjective wellbeing. **Results** Of the nationally representative sample 7797 economically active individuals with no missing data were included in the analysis. The mean age was 46.58 years (SD = 13.5) and 4428 (56.8%) were men. More than half of them worked in the Seoul Metropolitan area (n=3995 51.2%). The most common job position was a full-time worker (n=6029 77.3%). A total of 846 (10.9%) worked overtime 668 (8.6%) worked shift rotations and 1073 (13.8%) worked for companies that offered piecework incentives. A regression analysis was performed with workers' subjective well-being in relation to the three major outcome measures. Job satisfaction (standardized  $\beta$  = 0.272) and subjective health (standardized  $\beta$  = 0.186) were the two variables most strongly associated with subjective well-being. Extrinsic factors such as average monthly income financial welfare leaves and piecework incentives had relatively lesser effects. The variance inflation factor was below 10 and the residuals were below 0.1 for all predictor variables. **Conclusion** These results suggest that personal and work-related factors play a complementary role in workers' health. Furthermore intrinsic factors play a more crucial role than extrinsic factors.

Monday May 06

## Intimate Partner Violence Victimization and PTSD Cluster Symptomology in the U.S. Army

Paul Kim; Farifteh Duffy; Lyndon Riviere

**Introduction** Marked by abuse or aggression in a romantic relationship intimate partner violence (IPV) causes psychological and physical damage to spouses and partners. Past studies report that military couples experience IPV at higher rates and severity compared to their civilian counterparts. Although mental disorders such as post-traumatic stress disorder (PTSD) have been associated with IPV perpetration among military couples it is unclear how IPV victimhood is associated with the symptom clusters that constitute a PTSD diagnosis. Additionally little is known about the degree to which men and women in the military are differentially traumatized by IPV with respect to PTSD symptom clusters. **Methods** Sample data come from active duty soldiers from three large U.S. Army installations. A total of 1394 participants completed a questionnaire in 2018-2019 as part of a behavioral health study. The research was approved by the IRB at the Walter Reed Army Institute of Research. All participants reported being currently married or in a relationship. PTSD symptom clusters were measured using the PTSD Checklist for DSM-5 (PCL-5). DSM-5 guidelines were used to determine which participants screened positive for each criterion. Intimate partner violence was measured using the HITS Scale which is a 4-item scale used to identify victims of IPV. Summed scores of 11 or higher for women and 12 or higher for men were used as cutoffs. Logistic regression analyses were conducted to estimate the effects of gender IPV and the gender by IPV interaction on each of the 4 symptom criteria with combat deployment history as a control. **Results** IPV prevalence was 3.7% (n=48). The prevalence of intrusion avoidance negative cognition/mood and alterations in arousal/reactivity were 16.4% 12.7% 14.9% and 18.2% respectively. IPV increased the odds of

reporting alterations in arousal/reactivity by 6-fold (95% CI [3.46 11.3]) over 5-fold for negative alterations in mood (95% CI [3.13 10.21]) nearly 5-fold for avoidance (95% CI [2.62 8.91]) and over 7-fold for intrusion (95% CI [4.21 13.78]) after adjusting for deployment history. The sex by IPV interaction was significant for the avoidance cluster only ( $\beta = -2.39$  SE = 1.15  $p = 0.038$ ) indicating that males reported significantly higher avoidance symptoms than females when reporting IPV. Discussion IPV prevalence among Army personnel was higher than recent studies have previously reported although this may be attributed to self-report data. IPV victimization was significantly associated with each symptom cluster particularly for intrusion. Males were differentially impacted by avoidance symptoms which is similar to findings from a recent civilian study of trauma. Future studies should examine these relationships longitudinally to better understand the causal direction. This study was supported by Military Operational Medicine Research Program.

Monday May 06

### **Linking Objective Socioeconomic Status and Satisfaction with Life: Mediating Roles of Subjective Social Status and Negative Attitudes toward Self**

Gyumyoung Kim; Hayoung Bae

Background: Lower objective socioeconomic status (SES) has been identified as a risk factor for satisfaction with life (SWL) (Thomson et al. 2022). However it has been suggested that multiple factors are involved in the pathway from objective SES to SWL. A meta-analysis (Tan et al. 2020) found that subjective social status (SSS) defined as individuals' perceptions of themselves relative to others mediates the association between objective SES and SWL. In addition social comparison leads to negative attitudes toward oneself which may explain the association between SSS and psychological well-being (McCarthy & Morina 2020). To further clarify the

psychosocial mechanism between objective SES and SWL our study examined the mediating role of SSS and negative attitudes toward oneself in this association. Methods: We recruited 1300 adults (890 females at birth) aged 18 - 59 ( $M = 35.45$ ). Participants completed an online survey including an assessment of household income the MacArthur Scale of Subjective Social Status the Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS) and the Satisfaction with Life Scale (SWLS). A structural equation model (SEM) estimated the direct and indirect effects of objective SES on SWL using maximum likelihood with the following variables: (1) objective SES as indicated by household income (2) SSS (3) negative attitudes toward oneself as measured by the FSCRS and (4) SWL. All mediation effects were examined by the bootstrapping procedure (10000 times) which provides 95% confidence intervals. Analyses were conducted using Mplus 8.8 with all statistically significant thresholds set at  $P < .001$ . Results: The model showed good fit indices (CFI = .996 RMSEA = .044 and SRMR = .012). Results indicated that the association between objective SES and SWL was fully mediated by SSS and negative attitudes toward self (standardized indirect effect = 0.02  $P = 0.12$  standardized direct effect = 0.13). Both SSS (standardized direct effect = 0.45) and negative attitudes toward self (standardized direct effect = -0.34) were significantly associated with SWL. In indirect effect models SSS significantly mediated the relationship between objective SES and SWL (standardized indirect effect = 0.09) whereas the indirect effect of negative attitudes toward self between SSS and SWL was insignificant (standardized indirect effect = 0.00  $P = 0.92$ ). Both SSS and negative attitudes toward self significantly mediated the relationship between objective SES and SWL (standardized indirect effect = 0.03). Conclusions: Objective SES affects SWL through the mediating pathways of SSS and negative attitudes toward oneself. This study provides the rationale for interventions targeting psychosocial factors that may buffer the associations between SES and SWL. This research was supported by the Brain Research Program of the National Research Foundation (NRF) funded



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**Monday May 06**

### **Mental health challenges in women seeking therapeutic termination of pregnancy in cases of fetal anomalies in Peru: A retrospective chart review**

Jimena Vizaretta; Marta Rondon; Maria Prom de Illanes; Krisztina Baltimore

Background: Termination of pregnancy is prohibited in 86 countries. Low- and middle-income countries make up 81% of those countries. In Peru pregnancy termination is legal in cases where it is considered lifesaving or prevents serious harm to a woman's mental or physical health. Approximately 90% of therapeutic abortions conducted in the country are performed to preserve maternal mental health in cases of fetal anomalies. Patients requesting pregnancy termination routinely complete a psychiatric evaluation and their request is evaluated by a medical board. In the complex context of countries with restricted access to pregnancy termination it is crucial to understand the mental health challenges of women seeking such services. This study examines the demographic and mental health characteristics among women requesting termination of pregnancy in cases of fetal anomalies in Peru. Methods: A retrospective chart review of psychiatric clinical interviews with a perinatal psychiatrist was conducted at a large maternal-perinatal health institution in Lima Peru. Psychiatric evaluations from 291 women who requested a therapeutic pregnancy termination in cases of fetal anomalies between the years 2021 and 2022 were included. Mean patient demographic and reproductive characteristics were calculated. Prevalence of childhood trauma abuse intimate partner violence suicidal ideation and psychiatric diagnoses were evaluated. Results: The mean sample age was 31.3 years (SD

7.4). Educational levels ranged from less than 6 years (4.4%) to 7-11 years (36.2%) and more than 12 years (59.4%). Recent migration was reported by 5.5% of the patients. The mean gestational age was 19.2 weeks (SD 4.8). Gravity was determined to be 25.1% 29.9% and 36.4% for the first second and third pregnancy or more respectively. Per patient report 66.5% of pregnancies were unintended. Diagnoses included depressive disorder (59.7%) anxiety (36.8%) trauma-related disorders (6.4%) and psychotic disorders (2.5%). Suicidal ideation was reported in 20.8% of patients. Childhood trauma events were reported by 52.7% of patients including sexual (11.5%) physical (10.8%) emotional (22.6%) abuse and abandonment (24.7%). Intimate partner violence was reported by 24.9%. Conclusion: In a global context of rising pregnancy termination restrictions this retrospective chart review provides insights into the characteristics of mental health challenges experienced by women seeking a pregnancy termination specifically in cases of fetal anomalies in Peru. The prevalence of suicidal ideation depressive disorders anxiety and trauma-related disorders emphasizes the need to assess and provide comprehensive mental health support to this population within reproductive healthcare services.

**Monday May 06**

### **Mental Health Coping and Protective Factors in Mothers of Children with 22q11.2 Deletion Syndrome: The Role of Maladaptive Coping Methods**

Haley McBride; Carrie Bearden; Nandini Jhawar; Wendy Kates; Sarah Woolf-King

Background: Compared to the large body of mental health research on children with 22q11.2 Deletion Syndrome (22q11DS) and maternal mental health for other pediatric disorders we know far less about the experience of mothers of

children with 22q11DS. Understanding the mental health of this population is especially important because parent mental health symptoms are associated with behavioral and neurodevelopmental outcomes in children. Previous investigations suggest associations between stress anxiety and depression in parents and behavior problems in children with 22q11DS as well as the importance of maternal adaptive coping strategies. The present study attempts to further investigate the mental health coping methods and protective factors of mothers of children with 22q11DS. Methods: An international sample of 71 mothers (M = 40.5 years) of children with 22q11DS (M = 9.2 years) completed an online REDCap survey assessing maternal mental health (symptoms of depression anxiety traumatic stress stress and alcohol consumption) coping methods (adaptive and maladaptive factors based on principal component analysis) and mental health protective factors (social support dyadic adjustment parenting competence). Maternal ratings of child mental health symptoms parent and child demographics and child clinical information were also obtained. Results: Compared to previous prevalence data mothers in our sample reported higher levels of perceived stress (69%) traumatic stress (33.8%) hazardous alcohol consumption (30.9%) anxiety (26.8%) and depression (26.8%). Mothers rated their child with 22q11DS as exceeding the instrument cutoff threshold for internalizing symptoms (32.4%) attention problems (28.2%) and externalizing symptoms (19.7%). Five separate hierarchical linear regressions predicting maternal mental health symptoms were conducted for depression anxiety traumatic stress stress and alcohol use. After controlling for demographic variables and child mental health symptoms maternal self-reported maladaptive coping methods were positively associated with maternal symptoms of depression ( $r = .457$   $p = .004$ ) anxiety ( $r = .381$   $p = .018$ ) stress ( $r = .586$   $p = .000$ ) and traumatic stress ( $r = .537$   $p = .001$ ). Conclusion: Mothers of children with 22q11DS reported high levels of multiple mental health symptoms. Only maladaptive coping methods were significantly correlated with maternal symptoms of depression anxiety stress and traumatic stress. Interventions

to reduce the use of maladaptive coping methods may alleviate mental health symptoms in mothers of children with 22q11DS. Better screening for maternal mental health and the presence of avoidant coping are important to consider. Addressing parent mental health as part of the child with 22q11DS' pediatric care would be ideal for increasing engagement with mental health care.

**Monday May 06**

### **Patient Characteristics and Treatment Patterns of Individuals with Posttraumatic Stress Disorder in the Veterans Affairs Administration System**

Mona Nili; Joseph Magagnoli; Marianne Laouri; Tammy Cummings; Scott Sutton

Background: Posttraumatic stress disorder (PTSD) is a severe often chronic and disabling condition that arises in some individuals following a traumatic event. This study aims to evaluate the clinical and demographic characteristics treatment patterns and health care and resource utilization (HCRU) of individuals with PTSD within the Veterans Affairs (VA) Administration system. Methods: This retrospective cohort study used VA system claims in the VA Informatics and Computing Infrastructure (VINCI) from January 2000 to July 2022. Adults diagnosed with PTSD based on ICD-9/10 codes were included. The index date was the first documented PTSD claim. Inclusion criteria involved adults with at least six months of enrollment prior to index date. The study cohort was followed until the earliest occurrence of last VA activity death or July 31 2022. Descriptive analyses were used for demographics clinical characteristics treatment patterns and healthcare utilization HCRU. Results: The study included 1087260 individuals (mean age=51.6; 92.0% male). Some of the most common comorbidities include obesity [BMI >30] (42.3%) substance use (19.8%) anxiety (18.5%) diabetes (18.0%) chronic pulmonary diseases (9.4%) and sleep disorders (6.9%). In the post-

index period 41.7% used antidepressants and 20.5% used antipsychotics. Trazodone and sertraline were the most prevalent medications in the first-year of post-index period. Social workers internal medicine physicians and psychologists were the main healthcare providers engaged in diagnosing and treating PTSD. Psychotherapy interventions were recorded for 17.8% during the pre-index and 51.7% during the post-index period. The mean number of mental health clinic visits per year was 6.1 while the mean number of psychotherapy sessions per year was 2.0. Conclusion: Overall patients with PTSD in the VA had a large number of co-morbidities and HCRU. These findings illustrate high burden and unmet need for managing this condition with opportunities to improve treatments for these patients. This study was supported by Boehringer Ingelheim Pharmaceutical Inc.

**Monday May 06**

### **Perinatal mental illness: Specialized outpatient treatment in rural context in the Northwest of Spain**

EVA MARIA ROMERO; Laura Alonso; Zaida Gutierrez Hervás; Sara Vega .; Maria Estrella García Llamas

**BACKGROUND:** Increasing evidence highlights the relevance of perinatal mental health as a focus of interest. Recent studies have consistently shown that women's brains undergo neuroanatomical changes during pregnancy and the postpartum period due to fluctuations in hormones which are potent modulators of brain plasticity. This may have a direct impact on the development of the baby's brain. Early detection and effective management of perinatal psychiatric disorders may have an impact on mental healthcare for women and their offspring from a preventive perspective. **METHODS:** Although mental health conditions are common in this period most women do not receive appropriate care. WHO

recommends the identification of symptoms of mental health disorders and to deliver appropriate interventions during the perinatal period. On September 2021 we developed a specific outpatient program as a part of the Psychiatry & MH Service in the "Hospital El Bierzo" a rural area in the Northwest of Spain with a 127683 population catchment area and a 5.20/1000 birth rate in 2021. In this work we describe the population and clinic characteristics of the attended population from 09/01/21 to 30/09/23. **RESULTS:** We attended 119 patients. 47% were derived from Primary Care 30% from psychiatry and MH 17% from Obstetrics and 6% others. 37% of the cases were referred during pregnancy 36% on postpartum and 12% before conception. Additionally 15% were referred due to symptoms suggestive of pathological grief after a perinatal loss. However we found a history of perinatal loss in 37.8% of the sample and 13.4% have suffered more than 1 loss (2-9). The most frequent final diagnoses were adaptative disorders (35%) followed by anxiety disorders (23%) and personality disorder (17%). Psychotic and bipolar disorders were infrequent (1%). Postpartum depressive disorder was present in 10% of the sample. 74 of 119 patients were primary followed up by Psychiatry and 45 for Psychology. Some of them received combined or group therapy . 65 of 73 discharges in the period (89%) were monitored for less than 12 months. 45.2% were referred to Primary Care due to improvement 39.7% abandoned treatment and 151% continued treatment with other professionals in our Psychiatry and MH service. **CONCLUSION:** The results illustrate the service delivery of specialized mental health care for different stages of perinatal period in the terms recommended by WHO in a rural area. Our results may help to design future interventions. We should assess the significant extent of perinatal grief in order to put in place preventive intervention in the future. An interesting field for further research is the relevance of personality disorders in mental perinatal pathology and as a modulator of effectiveness of the interventions. We should continue to detect and avoid the risk of abandonment as one of the major challenging points to improve outcomes in

perinatal psychiatry and mental health care in the future.

**Monday May 06**

### **Predicting suicidal ideation and recent suicide attempts with computational speech and language features in psychiatric inpatients and outpatients**

Simran Bhola; Leily Behbehani BSc; Ran Barzilay; Sunny Tang; Michael Spilka Ph.D.

**Background:** In 2021 an estimated 1.7 million individuals attempted suicide in the U.S. with depression being the most common diagnosed mental illness leading to suicide ideation or attempts. Suicide ideation (SI) is a strong predictor of suicide attempts (SA) therefore detecting indicators of SI can be vital in identifying those at risk for SA. Machine learning and artificial intelligence hold promise in the detection of increased suicide risk to aid established clinical assessments. This may allow clinicians to provide life-saving interventions at critical moments. Speech and language can be predictors for suicidal thoughts and behaviors as changes in speech and lexical choices may manifest as markers of elevated suicide risk. Using machine learning existing literature has extracted speech features from written documents to ascertain risk (e.g. social media posts). This novel research aims to extract natural language processing (NLP) features from audio-recorded speech and use these features to predict SI and SA in a machine-learning framework. **Methods:** Participants with major depressive disorder and/or borderline personality disorder (N=229) were recruited from inpatient and outpatient psychiatric settings and were prompted to respond to several language assessments (e.g. paragraph reading picture descriptions open-ended questions). NLP speech features were extracted from the audio samples. They were compiled with self-report scores from the Columbia Suicide Severity Rating Scale

(CSSRS) taken at the time of assessment as well as binary scores for recent SA. Two predictive models were trained with the prediction targets including SI at the time of assessment (per CSSRS) and recent SA (per self-report and electronic medical records). Both models were validated on an 80/20 split after variable reduction techniques. **Results:** Our gradient boosting algorithm model achieved an accuracy of 0.67 (AUC = 0.76) on the test set for recent SA. Our model achieved an accuracy of 0.76 (AUC = 0.80) on the test set for SI at the time of assessment. **Conclusions:** The model was more successful in predicting SI indicating that speech may be a biomarker of SI. In both cases our model performed significantly better than chance. Future work should evaluate whether there are specific effects within diagnosis or genders as well as testing in independent datasets to evaluate the potential for generalizability. Future work can also explore adding clinical ratings as a predictor in the model. In addition NLP features should be investigated based on importance in the tested models.

**Monday May 06**

### **Sex Differences in PCL-5 Coherence with CAPS Assessment of PTSD**

Bhavya Bakshi; Almira Vazdarjanova; Rebecca Nalloor

**Background:** Post-traumatic stress disorder (PTSD) afflicts some individuals after traumatic events: war assault natural disasters. Common diagnostic tools are PCL-5 a 20-item self-reported measure of PTSD symptoms/severity and the clinician-administered 30-item structured interview CAPS-5 'the gold standard for PTSD assessment'. Prior work suggested differences in severity scoring between PCL-5 and CAPS but they were deemed coherent as the differences did not significantly affect PTSD diagnosis. Because the prior research involved mostly men it is unclear whether the predictive power of PCL-5 is similar for women. We assessed sex differences in

the coherence of PCL-5 and CAPS-5.

Methods: Participants recruitment: Trauma Recovery Clinic VA Augusta HCS and from the community before treatment with eligibility criteria: Age > 21 veterans and non-veterans; and exclusion criteria: individuals unable to provide informed consent and pregnant women.

Participants completed both PCL-5 and CAPS-5 assessments. CAPS-5 was performed and scored by a trained interviewer. Participants were assigned to groups: noPTSD (33 for PCL-5 or >22 for PTSD and met criteria). Spearman's correlation analyses and Odds Ratio (with +/- 95% CI based on the noPTSD and PTSD groups) assessed correlation and predictive power of PCL-5 for CAPS or CAPS for PCL-5 in each sex. Results: The analysis included 98 participants: 65 men and 33 women from varied ethnic backgrounds (age: 22- 78 mean 40). PCL-5 criteria yielded: Men: noPTSD n= 38 subPTSD= 1; PTSD n=26; Women: noPTSD n= 28; PTSD n=5. There was a statistically significant correlation with CAPS scores in men (noPTSD p= 0.517; PTSD p= 0.003; all p = <0.0001). Statistical significance was not present in women (noPTSD p= 0.534; PTSD p= 0.5485; all p = 0.056). Importantly PCL-5 scores were a better predictor of CAPS scores for men compared to women- Men: OR= 2.7 (0.926- 7.951) p= 0.069; Women: OR= 1.4 (0.199- 9.963) p= 0.732). Conversely CAPS criteria yielded: Men: noPTSD n=20 subPTSD n=13; PTSD n=32; Women: noPTSD n= 19 subPTSD n=8 PTSD n= 6 and had a stronger predictive power for PCL-5 in both sexes- Men: OR= 27.8 (3.297-233.926) p= 0.002; Women: OR= 21.7 (0.879- 534.080) p= 0.06). Thus the predictive power of PCL-5 for CAPS is better for men than women group sizes aside as similar group sizes yielded (nearly) significant OR in the CAPS classification. Conclusion: The preliminary data show that PCL-5 has a greater predictive power for CAPS in men than women that merits further investigation. A larger sample will allow analysis of potential sex differences in the utility of PCL-5 in different types of index trauma. If replicated these results will suggest that different tools for PTSD assessment may be needed for men and women to properly identify their PTSD status and provide needed treatment.

Monday May 06

### Sex Differences in PTSD Risk among Children following Traumatic Events

Keerthi Vemulapalli M.D.; D. Newport M.D.; Justin Rousseau; Karen Wagner M.D. Ph.D.; Charles Nemeroff M.D. Ph.D.

Objective: To investigate the association if any between sex assigned at birth and risk for posttraumatic stress disorder (PTSD) among children and adolescents following trauma.

Background: Differences are reported with respect to sex assigned at birth and risk for PTSD after trauma. Current studies suggest women are less likely to experience a traumatic event but more likely to develop PTSD. However it is unclear whether this is a consequence of intrinsic sex-based differences in PTSD risk or differences in the nature and severity of traumatic events experienced by girls vs. boys.

Methods: A prospective multicenter observational study i.e. the Texas Childhood Trauma Research Network (TX-CTRN) was conducted with 1792 trauma-exposed children and adolescents. Initial bivariate estimates of differences in PTSD risk between boys and girls were followed by logistic regression modeling to control for important covariates. Post hoc logistic regression modeling focused exclusively on those who had experienced sexual abuse and physical violence/abuse was performed to enable more detailed characterization of the trauma and its contribution to PTSD risk.

Results: The initial bivariate comparison revealed a significantly greater prevalence of PTSD among traumatized girls than boys (43% vs 21%  $\chi^2 = 963$  p<.0001). Logistic regression controlling for type of trauma and other covariates indicated a significantly higher risk for PTSD among girls than boys (OR=1.94 [95% CI: 1.51-2.50]). However limiting the assessment of PTSD risk to those who had experienced sexual abuse a different picture emerged: PTSD risk was not associated with sex at birth but was instead



driven by whether the sexual abuse involved intercourse (OR=1.90; [95% CI 1.24-2.91]) and the frequency of sexual abuse (OR=1.85; [95% CI 1.17-2.96]). Conversely PTSD risk among those who had experienced physical violence continued to be significantly associated with sex-assigned at birth (OR=2.95; [95% CI 1.91-4.55]) as well as whether the father/stepfather was the perpetrator of the physical abuse (OR=2.46; [95% CI 1.55-3.91]). Conclusions: These data indicate that when more scrutiny is given to the nature severity and frequency of trauma experience sex assigned at birth is not consistently associated with risk for PTSD. This suggests that differences in trauma experienced by girls versus boys may account in part for observed differences in PTSD risk indicating that the relationship between sex assigned at birth and risk for PTSD warrants further investigation.

**Monday May 06**

### **Shared Traumatic Reality of Therapists during Wartime: Immediate Reactions to the Trauma**

Orit Taubman - Ben-Ari; Hilit Erel-Brodsky; Reut Ben kimhy

This study explores the experience of Israeli therapists who both worked with clients in emergency interventions during the third week following the Hamas attack on Israel on October 7 2023 and were themselves exposed to one extent or another to the terrifying events. It is based on the concept of shared traumatic reality (Bauwens & Tosone 2014; Figley 2012) i.e. the responses of clinicians that stem from the collective trauma to this experience. Previous investigations of shared trauma focus mainly on therapists' reactions to the event and contributing factors (e.g. Freedman & Tuval Mashiach 2018). In the current study therapists' reports of the themes their clients raised in therapeutic sessions were compared with their reports of the hardships they

themselves experienced as individuals and professionals during the same period. The study examines how close the themes are and how challenging it is to cope concurrently with a traumatic reality that is experienced both directly and indirectly. Two hundred therapists (psychiatrists psychologists social workers) completed open-ended questionnaires during the third week following October 7. Seven main categories emerged from the responses to questions about both their clients and themselves: (1) Uncertainty and worries about the near and more distant future; (2) Overwhelming emotions; (3) Physical sensations; (4) Shattered meaning and loss of trust; (5) Lack of routine; (6) Self-preservation; and (7) Shared trauma. The findings shed light on early reactions to a shared traumatic reality in the period closely following the trauma itself indicating that professionals find it hard to differentiate between the personal professional and national levels when exposed to a large-scale traumatic event they share with their clients.

**Monday May 06**

### **The Complex Impact of Substance Use on Symptoms of SARS-CoV-2 Infection in a Psychiatric Inpatient Cohort**

Sophia McInturff BS; Ana Ruiz BS; Christopher Gurguis; Scott Lane; Stanley Thomas

Background: The global SARS-CoV-2 pandemic emerged in the context of longitudinal increases in substance use in the U.S. (1). In turn substance use and its associated medical comorbidities were found to worsen the prognosis of individuals with SARS-CoV-2 infection (1 2). Infection was also found to worsen psychiatric symptoms in those already diagnosed with mental illness though this effect was heterogenous across diagnoses (3-5). These patterns suggest complex interactions among psychiatric illness the immune system stress and resilience systems and substance use. Methods: We examined the impact of substance use on symptoms of SARS-

CoV-2 in an inpatient psychiatric sample to further elucidate these variables. The data were extracted retrospectively from the EHR of patients who tested positive for SARS-CoV-2 at a large urban inpatient psychiatric hospital in Texas between June 2020 and February 2022. We compared the frequency of asymptomatic infection between individuals with and without a current diagnosis of a substance use disorder (SUD) and between individuals with and without a positive urine drug screen (UDS) using separate chi-square analyses. We used generalized linear models fit with Poisson distributions to examine the influence of diagnosis of SUD and positive UDS findings on duration of symptoms. Results: The sample included 305 psychiatric inpatients (mean age = 35.13 60.3% male) 34.1% of whom were diagnosed with a SUD. UDS results were available for 141 participants (46.23%). There was no difference in the frequency of asymptomatic infection among those with a diagnosis of SUD ( $\chi^2=0.21$   $p=0.65$ ). Asymptomatic infection was more common in those with a negative UDS ( $\chi^2=5.78$   $p=0.016$ ). Patients with a substance use diagnosis tended to have longer duration of COVID symptoms ( $\chi^2=8.49$   $p=0.0036$ ). There was no effect of positive UDS status on duration of symptoms ( $\chi^2=0.85$   $p=0.36$ ). Conclusion: Collectively these results highlight the complexity of the relationship between substance use and infectious symptoms in psychiatric inpatients. A history of SUD appeared to lengthen symptoms when present but did not affect the probability of having symptoms of Sars-CoV-2 infection. This pattern suggests longitudinal or cumulative effects of substance use diminished the immune response to infection in these patients. At the same time individuals with a positive UDS were more likely to experience symptoms of SARS-CoV-2 infection but did not experience a longer duration of symptoms. In a previous study substance use was conceptualized as a form of coping with the stress of the pandemic but resulted in decreased avoidance behavior and therefore a higher chance of infection (6). Future work should distinguish between acute effects of repeated substance use on infectious symptoms.

Monday May 06

## The development and pilot trial testing of a cognitive-behavioral suicide prevention treatment for adults with schizophrenia spectrum disorders

Lindsay Bornheimer PhD; Nicholas Brdar BS; Juliann Li Verdugo MSW

Background: Suicide is a leading cause of death for individuals with schizophrenia spectrum disorders (SSDs) yet evidence-informed interventions aiming to prevent suicide within this population are lacking. Cognitive Behavioral Suicide Prevention for psychosis (CBSPP) was recently developed in the United Kingdom as one of the first suicide prevention-focused interventions tailored for psychosis symptoms and required modifications for delivery in US community mental health (CMH). This poster presents on treatment modification (Aim 1 Phase 1) and preliminary testing of CBSPP (Aim 1 Phase 2) in a NIMH-funded pilot effectiveness clinical trial (R34) study. Methods: Data were collected from stakeholder participants ( $n= 25$ ) to inform treatment modifications including 6 clients with SSDs and recent suicide ideation or attempt 7 peer advocates and 12 mental health providers in CMH. The treatment was preliminarily tested in the Aim 1 Phase 2 open pilot trial of mental health providers ( $n= 5$ ) and clients with SSDs and recent suicide ideation or attempt ( $n=5$ ). Clients received 10 individual CBSPP therapy sessions across 10 weeks by trained providers and completed clinical assessments at four time points (baseline mid-treatment post-treatment and follow-up). Quantitative data were analyzed in SPSS28. Results: Stakeholders agreed in Aim 1 Phase 1 that there was a need for CBSPP in CMH clients desired to receive the treatment and providers expressed interest in being trained to deliver the treatment. Final CBSPP modifications include tailoring CBSPP content and protocol for psychosis clients in CMH increasing the feasibility of provider training and enhancing client engagement in the treatment. In the Aim 1 Phase 2

open pilot trial the percentage of clients who endorsed suicide ideation and plan decreased from baseline (60% and 40% respectively) to post-treatment (40% and 20% respectively). Depression scores significantly decreased from baseline (M = 13.60 SD = 5.73) to mid-treatment (M = 9.00 SD = 2.92;  $t(4) = 3.373$   $p < .05$ ) and from baseline to follow-up (M = 7.60 SD = 3.65;  $t(4) = 3.0$   $p < .05$ ). Improvements were also found for hopelessness general psychosis symptoms entrapment defeat coping psychological stress and impulsivity from baseline to post-treatment. Qualitative findings reinforced quantitative client results and established feedback about the treatment experience. Conclusion: Stakeholder involvement was essential in the treatment modification process and open pilot findings provided preliminary evidence of CBSPP's potential as a suicide prevention approach for adults with psychosis in CMH. A randomized clinical trial is currently underway and future research will further examine the effectiveness and implementation of CBSPP across various clinical settings. This study was funded by the National Institute of Mental Health (NIMH) within the National Institutes of Health (NIH).

Monday May 06

### **Trauma Scars Behind Bars: Exploring Trauma Perceptions and Recovery Desires Among Justice-Impacted Women in Prison**

Amy Kim BA; Katherin Sudol; Kirsten Dickins

Background: The population of justice-impacted women (JW) in the United States is on the rise currently numbering approximately 172700 incarcerated women and girls. JW often endure extensive trauma both before and during their incarceration which significantly contributes to their biopsychosocial risks for mental illness. This heightened risk is particularly evident in the high rates of post-traumatic stress disorder (PTSD) among JW which often co-occurs with substance

use disorders (SUD). Data from 2002 show that 69.2% of JW met the DSM-IV criteria for substance dependence or abuse however only about half of these women received treatment. We could not find data on rates of treatment engagement in JW with PTSD. Our study aims to better understand the gap in treatment engagement by exploring the perceptions of trauma among JW and examining their attitudes towards interventions for PTSD and co-occurring SUDs. Methods: This study was conducted in two women's prisons in the Midwestern US with 51 JW participants. A sequential mixed methods approach was utilized. We used stratified random sampling to select 8 JW for in-depth pre-/post-intervention semi-structured interviews. A deductive-inductive content analysis approach was employed with an analytic matrix informed by the Ecological Model of Psychological Trauma. Results: All 51 participants experienced at least one traumatic event pre-incarceration with physical (n=50 98%) and emotional (n=50 98%) abuse being the most frequently reported exposures. PTSD symptomatology was prominent within this sample with 96% (n=49) of participants demonstrating scores on the PTSD Checklist for DSM-5 (PCL-5) reflective of a probable PTSD diagnosis. Of the 51 JW 43% (n=22) had a history of drug-related charges. Among the 8 participants selected for in-depth interviews 7 (87.5%) reported substance use (SU) prior to incarceration. Three major deductive themes were identified in our analyses: Trauma Trauma Responses and Recovery. JW articulated that SU was a coping mechanism and that they used substances to avoid or suppress thoughts feelings and unresolved reminders of past and ongoing traumas. JW shared concerns about returning to SU upon re-entering their communities where many of them returned to the contexts of their prior traumas and where SU was normalized making recovery maintenance challenging. Several participants emphasized the importance of a peer-led component in trauma-focused interventions. Conclusion: This study underscores the need for improvement in access and engagement in trauma-focused treatments – a matter of healthcare equity for JW. To improve mental health outcomes we recommend

screening all JW for trauma alcohol and substance use and mental illness at the point of incarceration and again prior to release. Health services should be tailored to the trauma-related needs of JW and should incorporate interventions with peer-led sessions that address co-occurring PTSD and SUDs.

**Monday May 06**

### **Work stress mental wellbeing and presenteeism in employees in the United Kingdom (EMPOWER study).**

Christina Van Der Feltz-Cornelis; Fidan Turk; Jenny Sweetman; Carlota de Miquel Bleier; Beatriz Olaya

Work stress and related anxiety and depression can have an enormous impact on the well-being and work productivity of employees. It can affect their employers family and society as well. The European platform to Promote Wellbeing and Health in the workplace (EMPOWER) investigates and tests the impact and cost-effectiveness of an eHealth intervention platform aiming to prevent common mental health complications and to reduce psychological distress in the workplace in four European countries. The EMPOWER project started 1.1.2020 and is currently ongoing. We report baseline characteristics of 341 employees recruited in NHS mental health trusts and a University in the United Kingdom. Mean age was 35 years 272 (80%) were female 278 (81%) living together. 292 (85%) completed a University degree 261 (76%) had a permanent contract. 89(35%) reported presenteeism. Mean(SD) depression score (PHQ9) was 7.4(5.6) anxiety score (GAD7) 5.9(4.6) somatisation score (PHQ-15) 7.8(4.3) and wellbeing score (WHO-5) 42.7(21.2). In the group reporting presenteeism scores were significantly worse ( $p < .001$ ) for depression (9.69); anxiety (7.36) and wellbeing (34.38). However none of the scores reached clinical level. Pearson correlation analysis showed significant associations between mental health and presenteeism. Depression and anxiety (.73) and

somatisation (.59) were associated with large effect sizes. Well-being was negatively associated with depression (-.75) and anxiety (-.58). Depression (.38) anxiety (.29) somatisation (.33) and wellbeing (-.30) were associated with presenteeism. 255 Employees reported on stress levels due to psychosocial risk factors at the workplace with elevated mean scores 40.13(15.8). Numerous adverse work circumstances were reported. Among others 65% reported too much work to do 54% had to adapt to continual changes 41% reported poor communication within the organisation 38% had working hours hindering private life 30% reported a bad working atmosphere 25% reported lack of influence on how the job was performed and 24% reported lack of or inappropriate means to perform the job. Pearson correlation analysis showed significant associations between between stress levels due to psychosocial risk factors at the workplace and mental health outcomes such as depression (.39) anxiety (.36) somatisation (.29) a negative association with wellbeing (-.43) and an association between work related stress levels and presenteeism (.21). Conclusion: The participants in this sample indicated elevated stress levels due to psychosocial risk factors at the workplace associated with depression anxiety somatisation low wellbeing and presenteeism. Given the numerous reported adverse work circumstances the finding that average levels of depression anxiety and low well-being in the sample were mild might indicate factors enhancing resilience of the workforce that warrant further study. Funding: European Union Horizon 2020

**Monday May 06**

### **Poster Session 11**

Monday May 06

## (B)-Blocking Traumatic Memories

Rohini Rajnarayanan M.D.

Propranolol is a commonly used medication for hypertension tremors and arrhythmias. Recently its use has broadened to include another potential indication- treatment of post-traumatic stress disorder (PTSD). Intrusive memories one of the debilitating symptoms of PTSD could be alleviated by propranolol based on its proposed effect on impairing (trauma-associated) memory reconsolidation. Preliminary clinical trials showed either reduced physiological response to the traumatic memory reduced likelihood of developing PTSD or subjects remembering fewer emotional details of the traumatic event- these effects seem to depend on the timing of dose delivery<sup>4</sup>. This review poster aims to present updated information on the potential of propranolol as a treatment for PTSD. The research for this poster aimed to answer the question: "Is propranolol an effective medication for the treatment of PTSD?" A broad literature search in PubMed database using the terms "propranolol" and "PTSD" were used to find relevant studies. Additional articles were found from bibliographies of those studies. Only articles published within the last five years were used to include the most recent information. Because of a limited number of peer-reviewed studies within the last five years there were no restrictions on study design or language to avoid excluding relevant information. Review articles comments and abstracts were excluded from this search. This review compiled the results of three studies to identify a successful treatment modality for PTSD. A study done on mice using an activity-dependent tagging system found that propranolol works by decreasing fear expression and weakening the reactivation of initial trauma but does not impact anxiety-like behavior. Propranolol was found most beneficial with short term decrease in fear expression especially when administered just prior to re-exposure to the fearful stimulus<sup>2</sup>. Two similar RCTs on humans investigating timing of dose administration showed mixed results. The study done by Roullet

et al. showed no difference in symptom reduction between propranolol or placebo when co-administered with memory reactivation therapy; conversely Brunet et al. displayed a notable decrease in the posttreatment PCL5 score of the experimental group when compared to the placebo<sup>13</sup>. Additionally PCL5 and Beck's Depression Inventory showed continued improvement in participants with severe PTSD most notably at 3month follow up<sup>3</sup>. This indicates that while the immediate benefit of propranolol may be uncertain there are potential long-term benefits to pre-exposure propranolol treatment. Propranolol seems most beneficial when administered prior to fear re-activation however the true long- and short-term effects of propranolol on PTSD are still not well understood. Further research is needed to better understand the effects of propranolol on the intrusive memories associated with PTSD.

Monday May 06

## App-tivating Progress: Harnessing Smartphone Apps for Depression Relief: A Systematic Review

Leah Pasch; Rhea Verma; Aman Sandhu; Ann Marie Masiello; Rahul Kashyap

Background: Mental health conditions impact a significant proportion of the population with barriers like affordability stigma and limited healthcare providers often hindering access to treatment. Smartphone applications as therapeutic interventions for mental health could address many of these concerns and exemplify a promising new direction for delivering healthcare. A previous meta-analysis examined the efficacy of mobile apps for depression and found a moderate reduction in depression symptoms. However this review required depression as a diagnosis and omitted the undiagnosed population. We aimed to conduct a systematic review to explore the effectiveness of smartphone apps as mental health interventions for managing depression or related symptoms. Methods: A



comprehensive search was conducted on PubMed to identify studies published from January 2019 to March 2023. Included studies were randomized control trials that examined the impact of smartphone apps designed as interventions for mental health conditions. Control conditions were either waitlist or attention controls. Participants were ? 18 years old with no diagnosis required. Our meta-analysis assessed app efficacy by extracting quantifiable measures of depressive symptoms taken via diagnostic or screening tools and computing the mean difference in scores between the experimental and control group at post-intervention. A lower score indicates less depressive symptoms. This study was IRB exempted. Results: After screening for inclusion and exclusion criteria and selecting articles for a depression analysis a total of 15 studies were included. The total population included 3722 participants with 1914 in the experimental and 1806 in the control group. The pooled difference in scores between the experimental and control group at post-intervention with the experimental group exhibiting lower scores was -1.62 95% CI: -1.70 - 1.55] (P < 0.001). Limitations of our analysis include large heterogeneity defined by I2= 99%. For a more homogenous sample we analyzed studies that only used the Patient Health Questionnaire (PHQ-9) as a diagnostic tool yielding a 0.73 mean difference in scores favoring the experimental group when compared to the control at post-intervention [MD: -0.73 95% CI: - 1.14 -0.32] (P = 0.0004). Conclusion: Our findings indicate that the experimental group which received the smartphone app intervention exhibited significantly fewer depressive symptoms as measured by diagnostic scales when compared with the control group at post-intervention. The subgroup with uniform PHQ-9 assessment also consistently showed a statistically significant mean difference in favor of the experimental group displaying lower scores and fewer depressive symptoms. These results offer support towards the potential therapeutic use of smartphone apps for managing depression.

Monday May 06

## Assessing the Accuracy of AI-Generated Psychiatric Diagnoses using ChatGPT

Samantha Li; Katherine Han; Margaret Yau; Kendrick Davis

Background: Generative artificial intelligence (AI) has gained popularity since the chatbot ChatGPT was made public for users in November 2022. Generative AI technology such as ChatGPT uses deep learning techniques to create responses that humans would give after being asked a question in natural language. Studies have explored the ability of ChatGPT to generate accurate information to diverse medical queries. However the ability of ChatGPT in generating differential diagnoses given case presentations in psychiatry has not yet been examined. This study explores ChatGPT's utility in generating accurate diagnoses when given case reports involving presentations of psychiatric or neuropsychiatric symptoms. Methods: The publicly available ChatGPT 3.5 was used. The large language model was trained on data up to September 2021 thus not including any publications from 2022 and onward. We included a total of 20 psychiatry case reports involving a variety of diagnoses (such as mood psychotic substance use anxiety and neuropsychiatric disorders) that were published during years 2022-2023 in open-access peer-reviewed journals. Each of the case presentations which included only patients' subjective and objective findings was inputted into ChatGPT followed by the prompt "Provide three differential diagnoses in descending order of likelihood." ChatGPT's accuracy was measured by the percentage of cases for which it generated the correct diagnosis as one of its three differential diagnoses. Results: ChatGPT provided the correct diagnosis within its three differentials in a matter of seconds for 13 of the 20 case reports (n=20) giving an accuracy rate of 65%. The cases for which ChatGPT was not able to provide accurate diagnoses were primarily complex cases involving comorbid psychiatric disorders (e.g. OCD with Schizophrenia rumination disorder with intellectual disability)

and neuropsychiatric symptoms (e.g. neuroacanthocytosis poststroke psychosis catatonia). Of the 13 cases that were correct 12 of them were given the correct diagnosis as the first differential when ChatGPT was asked to provide differentials in descending order of likelihood. ChatGPT is also noted to present an explanation of the logical reasoning involved in providing the differential diagnoses. Conclusions: ChatGPT has an overall accuracy of 65% in generating the correct diagnosis when given the presentation of a patient with psychiatric symptoms. It shows limited accuracy in complex cases involving comorbid psychiatric diagnoses and neuropsychiatric disorders. With more research and model development generative AI has the potential in aiding the process of diagnosing psychiatric disorders and in helping learners understand the logical reasoning involved in the diagnostic process. At the same time the roles of generative AI in clinical psychiatric practice should be further examined given the inaccuracies and biases present in outputs of the technology.

**Monday May 06**

### **Assessing the Impact of Perinatal Depression on Postpartum Contraception Intent Choice and Reported Use**

Grace Masters M.D.;Ph.D.; Nancy Byatt D.O. M.B.A. M.S.; Tiffany Moore Simas

Objectives: Depression is a serious and common complication during pregnancy and the year following childbirth (the perinatal period). Postpartum contraception planning may reduce the risk of depression by decreasing the likelihood of unintended pregnancy and short interpregnancy intervals. The purpose of this study was to assess contraception intent choice and reported use in perinatal individuals with depression symptoms. Method: The study cohort included 212 individuals aged 18-45 who screened positive for depression on the Edinburgh

Postnatal Depression Scale (EPDS score  $\geq 10$ ) in pregnancy or up to 3-months postpartum. Contraception intent and method choice were assessed at 1-3 months postpartum. At 5-7 months postpartum contraception use and method were queried and the EPDS was repeated. Logistic regressions examined associations with contraception use/method and EPDS score. Results: Compared to those with a negative EPDS at 5-7 months postpartum participants with persistent depression symptoms were 63% less likely to use contraception overall (adjusted odds ratio [aOR]=0.37 95% confidence interval [CI]=0.14-0.97). Among those who reported any contraception use at 5-7 months postpartum participants with persistent depression symptoms were 5-times more likely to report using less effective contraceptive methods over the most effective contraceptive methods (aOR=5.02 95% CI=1.69-14.92) compared to those with a negative EPDS screen. Conclusion: Perinatal individuals with depressive symptoms that persisted at 5-7 months postpartum were less likely to report using contraception overall and more likely to report using less-effective methods. Our findings highlight the importance of provider engagement in contraception planning particularly with individuals with perinatal depression. We found associations between perinatal depression and non-use or use of less effective contraception. Postpartum contraception planning can mitigate risks for perinatal depression by minimizing the risk of unintended pregnancy and short interpregnancy intervals. Provider engagement with all patients around contraception planning is important particularly those with perinatal depression symptoms.

**Monday May 06**

### **Association of cytokines with trauma and post-traumatic stress disorder in patients with trauma history**

Rishav Koirala M.D.;Ph.D.; Suraj Thapa M.B.B.S.; Edvard Hauff; saroj ojha; Hans Christian Dalsbotten Aass

Post-traumatic stress disorder (PTSD) is a mental disorder that can occur after trauma. Although inflammatory markers such as cytokines are found altered in trauma and PTSD there is no consensus regarding which can be considered as biomarkers. Studies from South Asia region is also rare. We studied cytokines among trauma affected patients and matched healthy controls. Fifty patients (cases) with trauma visiting the University hospital in Kathmandu and thirty-nine healthy controls were selected for this study. We compared the levels of the cytokines in thirty-four age and gender matched pairs of case and control among three groups: healthy volunteers cases with PTSD and cases without PTSD. Among the 34 pair-matched cases and controls IL-6 was significantly higher in both PTSD positive cases 2.43 (0.00 – 14.54) pg/ml ( $p=0.004$ ) and PTSD negative cases 3.00 (0.92 – 3.86) pg/ml ( $p=0.005$ ) than in controls 0.39 (0.00 – 11.38) pg/ml. IL-1b was significantly higher in PTSD positive cases 0.17 (0.00 – 5.27) pg/ml ( $p=0.011$ ) than in controls 0.00 (0.00 – 0.12) pg/ml. Other cytokines did not show significant differences. IL-6 was higher in both the trauma affected groups and IL-1b was higher in the trauma affected group with PTSD when compared to healthy controls. This supports the immune system activation hypothesis after trauma.

**Monday May 06**

### **Bursting the Substance Use Bubble: A Systematic Review of Intermittent and Continuous Theta Burst Stimulation for Substance Use Disorders**

Kelly Ahern B.S.; Samantha Scaletty; Leslie Hassett M.L.S. A.H.I.P.; Arjun Athreya Ph.D. M.S.; Paul Croarkin D.O.

Background: Transcranial magnetic stimulation (TMS) has shown promise in the treatment of various psychiatric and neurological disorders. Recent literature has focused on treatment of

substance use disorders (SUDs) with TMS including with a protocol called theta burst stimulation (TBS). TBS is further subdivided into continuous (cTBS) or intermittent (iTBS) protocols with inhibitory and excitatory effects respectively. In this systematic review we examine the evidence for TBS protocols in SUD treatment of adults. Method: Our team conducted a systematic review of different TMS protocols for various SUDs. We systematically searched articles across multiple databases. Randomized or nonrandomized controlled trials case studies and observational studies were included. Studies with TBS protocols were isolated from this pool. Our initial search occurred in February 2022 with updates in December 2022 and September 2023. Results: We identified 1133 studies reporting on the use of TMS for SUDs 27 of which included TBS protocols and met inclusionary criteria. Of this number 15 studies used iTBS as the sole TMS protocol 2 compared iTBS to high-frequency rTMS (HF-rTMS) 5 used cTBS as the sole TMS protocol and 5 compared iTBS and cTBS. All TBS studies targeted areas of the prefrontal cortex. iTBS was most heavily studied in the context of methamphetamine use disorder ( $n=13$  studies) but nicotine ( $n=5$ ) cocaine ( $n=2$ ) and opioid ( $n=2$ ) use disorders were also represented. cTBS was studied in alcohol ( $n=3$ ) nicotine ( $n=3$ ) methamphetamine ( $n=2$ ) and opioid ( $n=1$ ) use disorders. One study incorporated 2 independent experiments testing the effects of cTBS on neurophysiology in alcohol and cocaine use disorders separately. The most common finding among the iTBS studies was reduced cravings ( $n=10$ ) with 2 trials finding similar craving outcomes between HF-rTMS and iTBS. cTBS outcomes included impaired inhibitory control ( $n=1$ ) brain connectivity changes ( $n=2$ ) no change in cravings ( $n=1$ ) and unchanged or increased consumption ( $n=2$ ). When iTBS and cTBS were directly compared cTBS was found to be comparable or even superior to iTBS in reducing cravings ( $n=4$ ). Combining cTBS and iTBS improved withdrawal symptoms more than either protocol did individually ( $n=1$ ). TBS protocols were generally well-tolerated with headache being the most frequently reported side effect across all TBS studies ( $n=9$ ). Side effect reporting was less

consistent among cTBS studies than with iTBS but reported cTBS side effects were found to be milder than iTBS side effects (n=1). Conclusion: To our knowledge this is the first systematic review over TBS for the treatment of SUDs. While more evidence exists to support the use of iTBS in SUD treatment our findings highlight a need to further investigate cTBS used alone or combined with iTBS. TBS protocols have yielded encouraging results in treating aspects of SUDs but the paucity of available evidence necessitates further investigation.

**Monday May 06**

### **ChatGPT on Capacit: Examining the Reliability of AI to Make Capacity Determinations**

Chukwuemeka Onyilo MD; Sek Eun Lee; Walid Anwar

Introduction: Natural Language Processing Programs (NLPPs) such as ChatGPT & Bard are novel technologies set to change the healthcare landscape(1). However just because they can produce logical & complex responses does not mean they are replacements for physicians. Our team explored NLPPs' ability & consistency in making capacity determinations. Objectives: Examine the inter-rater reliability between NLPPs & between NLPPs & psychiatrists in determining patient capacity. Methods: Twenty fictional capacity vignettes of varying clinical completeness were used. Some were designed to lack elements of capacity (communication understanding appreciation reasoning). A few were designed as complex ethical scenarios emphasizing autonomy vs. paternalism & justice vs. benevolence. These vignettes were fed into ChatGPT 3.5 & BARD. Each was prompted to determine whether the patient in the vignette had capacity & why. Additionally two psychiatrists without knowledge of the NLPP's determinations were asked to make capacity decisions. Their

capacity determinations were classified as "yes" "no" or "uncertain." All questions were framed as a scenario where the asker was a medical student taking an exam. The NLPP's determinations were then analyzed for inter-rater reliability between themselves & the human psychiatrist using Cohen's kappa. Our team used Dr. Mary McHugh's strict healthcare thresholds for interpreting Cohen's kappa(2). Results: Comparing the NLPPs with each other the weighted Kappa was 0.072 signifying no agreement. The Kappa between attending psychiatrist and ChatGPT was 0.296 and Bard was 0.162 signifying slight to fair agreement. The Kappa between resident psychiatrist and ChatGPT was 0.194 and with Bard was 0.017 signifying only slight agreement. Between resident & attending psychiatrist the kappa was 0.487 signifying moderate agreement. ChatGPT 3.5 had higher Kappas but they were still in the slight to fair range of agreement. Conclusion: Our research helps show that there is still a lot of work to be done to reliably depend on NLPPs to mimic human decision-making for something as serious as a capacity determination - if that is even ethical at all. The interrater reliability between the two NLPPs would be considered 'None' per Dr. McHugh's ratings. ChatGPT had a higher kappa when compared to human psychiatrists but still a low overall reliability. NLPPs are incredible technologies with notable healthcare applications in imaging EMRs diagnosis innovation & treatment(3). As we see the dawn of a technological revolution impacting all fields of medicine we must temper their introduction cautiously. A greater question of whether we should entrust AI to balance autonomy & beneficence while keeping sight of the larger humanistic picture remains unanswered.

**Monday May 06**

### **Comparing patient and provider perspectives of the role of contraception in public mental health care**

Clara Nguyen BS BA; Emily Dossett MD; Alison Hamilton; Kristina Cordasco; Nichole Goodsmith MD PhD

**Background** For many individuals with serious mental illness diagnoses mental health (MH) clinics serve as their primary healthcare contact; thus there is growing interest in “reverse integration” or delivery of primary care (PC) services in MH clinics. Providing contraception in MH clinics is a potentially impactful example. To inform such efforts we assessed patient and provider attitudes on contraceptive counseling and provision in public MH clinics. **Methods** Applying a reproductive justice framework and principles of community-partnered participatory research we partnered with leadership of a large urban safety net MH system to conduct qualitative interviews with 36 MH providers (psychiatrists therapists case managers and nurses) and 22 reproductive-aged cisgender women patients (predominantly Black or Latina). Interviews focused on experiences and preferences of addressing contraception during routine MH care. Providers also responded to a vignette of a sexually active patient who desires to avoid pregnancy and is not using contraception. We used rapid qualitative analysis to summarize interview transcripts and identified themes using matrix analysis. **Results** Patients described limited experiences discussing contraception with MH providers but many expressed a desire for discussion citing relevance to MH and wanting information about contraceptive options or potential interactions with psychotropic medications. Those who had discussed contraception described these conversations as appreciated or “normal.” Asked whether they would prefer to receive contraceptive services from their MH or PC clinic some favored PC citing the relevant medical knowledge and scope of practice of PC providers. Others favored MH citing a closer relationship and the MH provider’s intimate knowledge of the individual’s MH symptoms and medications. Providers varied in their experiences with and comfort discussing contraception. Some brought it up routinely; many never discussed it or brought it up only when concerned. In response to the vignette most

providers said they would educate the patient on her pregnancy risk and refer her elsewhere (e.g. PC or free clinic) for contraception; some would discuss specific contraceptive options. Providers shared concerns about pressuring the patient or that the patient might be uncomfortable or unreceptive. Providers who expressed discomfort around discussing contraception often cited scope of practice or lack of knowledge training or experience. Several male providers expressed gender-related discomfort. **Conclusions** Patients expressed a desire to discuss contraception with MH providers; providers however varied in degree of comfort and competence in contraceptive counseling. MH providers would benefit from training in contraceptive options side effects and patient-centered contraceptive counseling approaches to mobilize their trusted relationships with patients to bridge gaps in access to contraceptive services.

**Monday May 06**

### **Effectiveness of AI-Powered Detection and Intervention in Adolescent Substance Abuse - A Literature Review**

Ron Tang OMS-IV; Jose Vito M.D.

**Background:** Substance abuse in adolescents poses a significant public health concern impacting mental physical and social wellbeing. Despite current efforts the prevalence of this issue continues to grow prompting an urgent need for innovative strategies. The increasing role of artificial intelligence (AI) in healthcare systems and mental health has created new methods for early detection and intervention. The authors aimed to review recent literature on effectiveness of AI-powered detection and intervention in addressing adolescent substance abuse. **Methods:** A literature search was completed using PubMed APA PsycInfo and Google Scholar databases to review publications describing the use of AI in the detection and intervention in



substance abuse in adolescents. The authors searched and reviewed studies published between 2019 - 2023 searching keywords including "AI" "detection" "intervention" "substance abuse" and "adolescents. Results: Multiple studies have shown the efficacy of AI-powered mobile Health (mHealth) techniques such as mobile apps for predicting diseases and providing plans for detection. Mobile apps enables individuals to evaluate their risk level for conditions like opioid use disorder with privacy. This modality addresses the limitations of the standard physician-administered questionnaires known for their sensitivity-related unreliability. A recent Finnish study which was the first to use AI methods to find the most important cannabis use predictors like social settings predicted cannabis use with 96% accuracy in 12-month span. This predictive percentage is a significant improvement from conventional methods. This finding underscores AI's potential and its multifaceted utility of promoting preventative care. For interventions the review resulted in 29 unique interventions which only 6 have been captured in peer-reviewed literature. Additionally the 29 interventions are further separated into 5 categories: smartphone applications healthcare data-related biosensor-related digital and virtual-related and other with the majority of the interventions as smart phone applications. With the limited peer-reviewed literature on AI's detection and interventions on substance abuse further research is required to explore available modalities and objectively measure their effectiveness especially in adolescents. Conclusion: AI-powered detection and interventions have the potential to increase identification and support of substance abuse in adolescents. However ethical and safety concerns also follow with AI integration. While there are existing challenges continued research in this field and technological advances are needed for more personalized and effective approaches. Future studies include interdisciplinary collaborations between healthcare professionals and AI experts for more comprehensive and ethical solutions."

Monday May 06

## Effects of Ashwagandha on Cognition Energy and Mood in Adults: A Prospective Randomized Double-Blind Placebo-Controlled Study

Ravleen Suri MBBS; Gurtej Gill; Sasidhar Gunturu

Background: Ashwagandha an ayurvedic 'rasayana' derived from nature boasts a multitude of therapeutic advantages. Functioning as a recognized 'adaptogen' it displays robust anxiolytic characteristics. The escalating occurrence of stress and its detrimental impact on well-being is a swiftly growing global concern. Given the unfavourable repercussions with many current medications there is a need to delve into alternative solutions like Ashwagandha to evaluate its effectiveness in stress treatment. Methods: A dual-center randomized placebo-controlled trial was carried out across two locations: D.Y. Patil University Navi Mumbai India and Clinical Research Australia DunCraig Australia. The study involved 121 participants who were divided into an experimental (n=61) and a placebo group (n=60). Data was collected at week 0 and week 8. The participants aged between 30 and 75 years had self-reported challenges with memory cognitive function attention fatigue and mood fluctuations. They were randomly assigned to receive either Ashwagandha or a placebo. Their cognitive abilities mood states fatigue levels and executive functioning were evaluated using the Computerized Mental Performance Assessment System Profile of Mood States (POMS) scale Behavior Rating Inventory of Executive Function-Adult (BRIEF-A) and the Mental Fatigue Scale (MFS). The supplement administered during the study was KSM-66 Ashwagandha root extract encapsulated at a dose of 300mg which was produced by Ixoreal Biomed Inc. in California USA. The participants were directed to take the capsule twice daily for 8 weeks. The research adhered to the principles outlined in the Helsinki Declaration (1989 amendment) and received approval from the Institutional Ethics Committees. The study's

ethical considerations followed the guidelines of Good Clinical Practice and the protocol was registered with the clinical trials registry of India (CTRI registration number: CTRI/2021/10/037029; [Registered on: 01/10/2021]. Results: In comparison to the baseline data the study revealed positive advancements in episodic memory ( $p=0.026$ ) working memory ( $p=0.027$ ) and attentional accuracy ( $p<0.001$ ). The scores for location learning demonstrated a significant increase indicating improved learning duration within the ashwagandha group as opposed to the placebo group after an 8-week period of supplement consumption. Noteworthy statistical significance was observed in both BRIEF-A scores and MFS scores signifying enhanced executive functioning and mood improvement in the ashwagandha group. Conclusion: The findings of our investigation strongly indicate that a regimen of 300mg taken twice daily can effectively enhance cognition elevate energy levels and uplift mood among adults. This study highlights the necessity for further research into ashwagandha's potential encompassing extended study durations diverse dosage levels and broader demographic samples.

**Monday May 06**

### **Empowering Mental Health Care Teams: A Survey-Based Assessment of Healthcare Worker Access to Mental Health Care**

Amira Athanasios M.D.; Nicholas Flugrad M.D.

In this cross-sectional survey-based study we delved into the mental health of healthcare workers (HCWs) within the expansive Hackensack Meridian Health (HMH) system in New Jersey. Our goal was to assess the vectors of mental health wellness within this HCW population and explore whether those with high levels of mental distress were able to access behavioral health resources or treatment. Additionally we aimed to identify the barriers hindering HCWs from accessing mental healthcare. This study sought to analyze variations in responses based on HCW demographics

including age gender clinical role hospital clinical setting shift schedule and years of experience. The healthcare sector confronted unprecedented challenges during the COVID-19 pandemic. Healthcare providers found themselves grappling with the emotional toll of caring for critically ill patients compounded by issues such as personal protective equipment shortages and grueling work hours. This study was motivated by the need to gain a comprehensive understanding of the extent of these challenges and their impact on the mental health of HCWs as well as how HCWs coped with these pressures. Existing research indicated increased anxiety depression and post-traumatic stress symptoms among HCWs during the pandemic yet there was limited research on effective solutions. Our study aimed to address this gap by assessing access barriers and motivations for mental health care among HCWs. The primary objective of this study was to rigorously assess the access HCWs had to mental health resources during the COVID-19 pandemic. We anticipated finding a relatively low level of utilization of behavioral health treatment among HCWs. Moreover we expected to identify various barriers including a culture of self-diagnosis internalized bias and concerns about disclosure. This study was driven by a commitment to providing data-driven insights that could aid in supporting the mental well-being of our healthcare heroes. We employed a cross-sectional survey design gathering data from HMH HCWs through an IRB-approval. The survey encompassed demographic questions validated mental health screening tools and queries designed to understand access to mental health care. To minimize potential research team influence recruitment emails were dispatched by HMH's HR department. Strict ethical standards were upheld ensuring data security confidentiality and informed consent. This study represented a critical endeavor that illuminated the mental health challenges faced by HCWs during the pandemic and the multifaceted factors that influenced their access to mental health care. The findings hold the potential to inform strategies that could more effectively support the mental well-being of our invaluable healthcare workers

while highlighting potential equity shortcomings and in turn enhancing patient care outcomes.

**Monday May 06**

### **Evaluating Top Three Traumas Reported by Military Service Members and Veterans With PTSD**

Jennifer Hein; Kiara Buccellato; Andrew Rumble D.O.

Introduction: Psychotherapy for posttraumatic stress disorder (PTSD) often requires the patient to identify a single traumatic incident. However military service members and veterans often experience multiple traumatic events and express difficulty choosing one to focus on. The aim of this study was to evaluate and categorize the top three traumas identified by individuals who participated in a randomized clinical trial for the treatment of PTSD (Peterson et al. 2023). Materials and

Method: This study consisted of 110 service members and veterans diagnosed with PTSD and enrolled in an intensive outpatient treatment program. Each participant identified their top three traumas and ranked them from one (most distressing) to three (least distressing). Each reported trauma was then placed into one of six different categories based on the Stein et al. categorization scheme (2012): Life Threat to Self Life Threat to Others Traumatic Loss Aftermath of Violence Moral Injury by Self and Moral Injury by Others. Each event was also categorized as Combat/Non-Combat Related Military/Non-Military Related and Sexual/Non-Sexual Related Trauma. Categorizations for each reported event was performed by two separate providers.

Results: This sample included a total of 258 traumas. The primary (most distressing) trauma (N = 98) was most commonly Life Threat to Self (34.7%) followed by Life Threat to Others (24.5%) and Aftermath of Violence (23.5%). The majority of these were Military (92.7%) Combat (76.9%) and Non-Sexual Related traumas (90.9%). For the

second most distressing trauma (N = 79) Life Threat to Self (49.4%) was again the most common category followed by Aftermath of Violence (19%). Both Life Threat to Others and Traumatic Loss were also reported (12.7%). The majority of these events were Military (66.7%) Combat (67.4%); and Non-Sexual Related Trauma (90.7%). For the least distressing trauma (N = 81) Life Threat to Self was the most commonly reported (36.8%) followed by Aftermath of Violence (11.1%) and then Life Threat to Others (10.3%). The least distressing trauma was mostly Military (58.1%) Combat (46.2%) and Non-Sexual Related trauma (68.4%). Conclusions: In this study Life Threat to Self was the most prevalent trauma type among each participant's top three traumas. Aftermath of Violence was the next common type followed by Life Threat to Others. Additionally the majority of traumas were Military and Combat Related with the exception of those reported as least distressing in which only 46% were Combat Related. Future research could examine if these common trauma types correlate with symptom severity; for e.g. in a study by Litz et al. (2018) they found that individuals who experienced Moral Injury by Self had greater symptoms of reexperiencing guilt and self-blame compared to those who reported Life Threat to Self. Additionally future research should examine if trauma types could impact treatment outcomes.

**Monday May 06**

### **Evaluation of Implementation Strategies for a Task-Shifted Intervention to Target Depression & Alcohol Use Among Fathers in Kenya**

Michaela Greenlee; Ali Giusto PhD

In Kenya and other areas there is a gap in treatment efforts for fathers struggling with depression and problem alcohol use. While some treatments exist to treat depression and alcohol use understanding how to deliver treatments

sustainably that engage men are needed. To do this this study aimed to identify implementation strategies for delivering a lay provider intervention for fathers with problem alcohol use and depression in Kenya. To identify promising implementation strategies we conducted key informant interviews and focus group discussions with community members in Eldoret Kenya. 31 individuals were interviewed including policymakers hospital leaders mental health providers fathers experiencing alcohol use community leaders current and past patients. Interviews were guided by the Consolidated Framework for Implementation Research and Integrated Sustainability Framework. The frame method and thematic analysis were used for analysis. Analysis included transcript review coding using NVivo 12.0 and extracting implementation strategies from transcripts and summaries. Strategies were coded matched and operationalized by Expert Recommendations for Implementing Change (ERIC) taxonomy. Using this data we specified the strategy matches based on actor action action target temporality dose outcome affected and justification. Regarding facilitators of fathers' engagement intervention reach and acceptability may be facilitated by family-centered group sessions and might bring more positivity to fathers. This matched with the ERIC strategy to "involve patients/consumers and family members" in the implementation effort. An often noted retention strategy may involve increasing fathers' financial support (e.g. providing gifts like kids' school supplies) or helping them start businesses which matched with the ERIC strategy to "alter incentive/allowance structures." Concerning the location hospitals or churches may facilitate the intervention's reach appropriateness and patient-centeredness by providing fathers a safe space where they feel unjudged. This matched with the ERIC strategy to "change service sites" to increase access. Lastly sustainment may be achieved by connecting fathers to peer support groups composed of fathers who have overcome their depression and problem alcohol use which matched with the ERIC strategy to "promote network weaving" thus upholding the intervention's acceptability satisfaction and patient-centeredness. Top

strategies suggested supporting fathers socially and financially were important to successful delivery. Fathers may benefit from being empowered not only by family members during the intervention and peer support groups post-intervention but also financial resources to sustain motivation. Future analysis will include further evaluating the intervention's acceptability appropriateness feasibility and fidelity to inform implementation revisions.

**Monday May 06**

### **Existing guidance on establishing medical student - resident mentorship programs: a literature review**

Grace Ro M.D.; Tessa Oliver; Japsimran Kaur BS; Mark Nickels

Background: Interest and match data in psychiatry residency among graduating medical students continue to grow each year. There is published literature about the importance and benefits of providing mentorship to medical students. However there is limited information about how to establish such a program connecting medical students to residents in training in institutions where such programs do not currently exist. This literature review explores what such structures guidance or tools exists in the literature and discusses potential areas for more academic research in medical education and mentorship to be explored. Methods: The online databases PubMed and MedEd Portal were used to identify potential articles to assess the current literature of existing programs which connect medical students to residents in their specialty of interest from inception to 8/17/23. The search strategy contained terms related to "medical student OR medical" AND "mentorship OR mentor" AND "resident OR residency" in various permutations. To be considered for this review the articles had to be written in English describe a program resource or tool involving both medical students and residents for the purpose of providing mentorship. Results: Of the 176 results on PubMed 6 articles

met the above inclusion criteria for this literature review. Of the 198 results on MedEd Portal 4 articles met the above inclusion criteria for this literature review. 20% (N = 2) of the articles discussed how to build a mentorship program one of which discussed a medical student focused vascular surgery research mentorship program built on 4 pillars: ownership mentorship experience and independence within the research process and another article which discussed mentorship in anesthesiology that outlined a 5 step mentorship plan: identification of program rationale provision of mentee education design of tailored programs development of mentor profiles and fostering mentor relationships. A majority of articles included resources for mentors (80% N = 8) 20% (N = 2) for mentees and 10% (N = 1) for program directors. Of the 10 articles reviewed 70% (N = 7) had resources for career mentorship 50% (N = 5) for clinical mentorship and 30% (N = 3) for research mentorship. As one article had resources for both mentors and mentees and multiple had resources for more than one mentorship sphere percentages above do not total to 100%. Conclusion: There are existing tools and resources focused on the mentor-mentee relationship in medicine though limited guidance in the process of establishing a mentorship program involving medical students and residents. More research in this area may be helpful for early trainees to have access to sustainable established mentorship resources as they pursue a career in psychiatry.

**Monday May 06**

### **Face-to-Face or Facebook? The Positives and Negatives of Online Self-Disclosure Within Adolescent Populations**

Megan Abraham MS2; Michael Grunsted

Background: Sharing aspects of one's life commonly termed self-disclosure is a hallmark of social media usage. Online self-disclosure of

one's mental health has the potential to bring the benefits of its face-to-face counterpart. However there are also potential negative effects that could impact both those who disclose information online and the recipients of their disclosure that should be considered. This project aims to review the relevant literature surrounding the subjects of online self-disclosure and mental health within adolescent relationships in order to understand the connections between these concepts and their implications for patients. Methods: An online literature search was conducted using the OVID Medline and PubMed search engines. Search terms included 'suicide' 'self-disclosure' 'social media' 'adolescents' and 'sharing'. Based on the initial literature review 76 articles were found. 4 duplicates were screened out. Of the remaining 72 articles 30 were irrelevant to the topic. The final 31 articles were used based on their specific relevance to this literature review. Results: The results of the study highlight the positive outcomes associated with online self-disclosure for both the discloser and the recipient. These include an improved sense of community and interpersonal relationships an increase in social support and the ability to use social media as a potential screening tool and resource for those struggling with their mental health. Furthermore our results highlight the negative outcomes of online disclosure for both groups. These include less fulfilling interactions compared to in-person connections potential fear of repercussions and judgment and the phenomenon of social contagion. Conclusions: The goal of this project was to compile the limited research relating to mental health and self-disclosure on the internet within youth populations. Online self-disclosure allows for the extension of social networks for those with anxiety or depression and those within marginalized groups. However exposure to certain types of online disclosure such as self-harm is correlated with phenomena like suicide contagion. Due to the varied nature of its benefits and harms more research and clinical observation should be centered on self-disclosure specifically through social media. This could better equip medical professionals in their recommendations for



patients and families regarding social media usage.

**Monday May 06**

### **Family Planning and Contraception Education in Women of Child-bearing Age in an Inpatient Behavioral Health Unit.**

Nazila Sharbaf Shoar M.D.

An unintended pregnancy in women with mental disorders can affect both maternal and child health outcomes. Moreover the number of unplanned pregnancies in women of child-bearing age diagnosed with schizophrenia is higher than the general population. As a result our goal is to enhance patient education on reproductive health and access to contraception in women of child-bearing age admitted to an inpatient behavioral health unit at a community hospital in the Central Valley of California. We developed patient-education materials on the complex interaction between pregnancy maternal mental health and the potential for teratogenic effects of psychotropic medications. In addition with the informed consent of the patient we will place outpatient referral to Obstetrician-Gynecologist Women Health clinic as part of the discharge planning process to mitigate the number of unintended pregnancy in recently hospitalized women with mental disorders. All female patients of reproductive age (18 to 51 years old) with a mental disorder admitted voluntarily or involuntarily for danger to self danger to others and/or grave disability will be considered for inclusion in this endeavor. The treating physician will provide patient education both verbally and via an educational pamphlet to the patient. This discussion will occur when the patient's mental state is stable close to the time of discharge and will be documented in the patient's electronic medical record. Information on contraception discussion on admission and then again upon discharge will be recorded with the aim for at least

70 percent documented counseling in the medical record. Lastly we will track the decision to consent for referral to Obstetrician-Gynecologist Women Health clinic. As a part of this study we further discuss issues related to mental health specific contraception method safety and drug interaction considerations clinical counseling and management strategies. We highlight areas for future research as there are gaps in current scientific knowledge of psychiatric illness and contraception.

**Monday May 06**

### **Informed Consent and Contraception When Prescribing Valproate to Individuals of Childbearing Potential**

Natalie Jarahzadeh M.D.; Anna Belikova D.O.; Mariella Suleiman M.D.

Background: Valproate (VPA) is prescribed for neurologic and psychiatric disorders and while effective for management of bipolar disorder it comes with significant risk of teratogenicity including congenital malformations [123]. Guidelines established by APA NICE etc. are not routinely followed by prescribers and there is no standardized protocol on obtaining informed consent when starting a woman of reproductive age on VPA and discussions regarding adequate contraception remain limited [4]. Objective: This quality improvement (QI) project aims to ensure all patients in our department receiving VPA are counseled on the potential teratogenic risks and adequate contraception use. Method: This is an IRB exempt QI project analyzing the documentation of risk including teratogenicity and need for contraception including which methods and who is the prescriber before and after a department-wide educational intervention targeting all clinicians who work with individuals of child-bearing potential. Data collection was done manually by psychiatry residents on all inpatient and outpatient charts identified by MIS as having a prescription for VPA in 2022 and 6 months post-intervention. Results: The data

shows 62.8% of providers pre-intervention vs. 71.4% of provider's post-intervention documented informed consent 13.22% vs. 28% documented teratogenicity and 15.66% vs. 28% documented contraception. Conclusion: The low rates of documented informed consent and even lower rates of documented contraception in our data sample are of concern and unfortunately not very different than published national averages. While we did observe an improvement in rates of documentation there is still opportunity for further provider education and awareness of these safe practices. Only when this is achieved would the psychiatric community be equipped to address the adverse effects of VPA. The principle of "do no harm" needs to be at the forefront of every clinical visit and we aim to implement the educational intervention yearly at our institution to improve the safety of all patients.

**Monday May 06**

### **Investigating perceived relationship quality and its links with adult attachment and psychological health and well-being**

Nida Khan D.O.; Robert Wilson M.D.; Jenna Taglienti M.D.

Introduction: We looked to understand how self-reported perceived relationship quality would be related to psychological health and well-being and adult attachment. Past research has shown that psychological well-being is strongly tied to having good committed relationships in one's life and attachment patterns are also predictive and indicative of relationship quality and duration.

Methods: 225 undergraduate students were asked to take part in completing a packet of self-reports assessing relationship factors. For this analysis they completed the Perceived Relationship Quality Component Inventory (PRQC; Fletcher et al. 2000 assesses relationship quality and has 6 components of relationship quality-satisfaction commitment intimacy trust passion and love) The

Schwartz Outcome Scale-10 (Blais et al. 1999; measure of psychological health and wellbeing) and the Experience of Close Relationship Scale (Brennan Clark Shaver 1998; measure of adult attachment). The average age of the participants was 20.9 (SD=4.3) years of age with 81% being female. Results: PRQC satisfaction scale was positively correlated with SOS-10 ( $r = .23 p < .01$ ) and negatively correlated with attachment anxiety ( $r = -.25 p < .01$ ) and attachment avoidance ( $r = -.42 p < .01$ ). The PRQC commitment scale was negatively correlated with attachment avoidance ( $r = .41 p < .01$ ) and PRQC intimacy scale was positively correlated with SOS-10 ( $r = .16 p = .01$ ) and negatively correlated with attachment avoidance ( $r = -.54 p < .01$ ). PRQC trust scale was positively correlated with SOS-10 ( $r = .18 p < .01$ ) and negatively correlated with attachment anxiety ( $r = -.19 p < .01$ ) and attachment avoidance ( $r = -.54 p < .01$ ). PRQC passion scale was positively correlated SOS-10 scale ( $r = .19 p < .01$ ) and negatively correlated with attachment avoidance ( $r = -.32 p < .01$ ). PRQC love scale was negatively correlated with attachment avoidance ( $r = -.49 p < .01$ ). Discussion: Our results illustrated that how someone perceives their relationship is strongly tied to how they also rate their psychological health and well-being as well as their attachment style. We expected that all aspects of the PRQC would be positively correlated with the SOS-10 scores. Our results also showed some discriminant validity with regard to the PRQC scales and adult attachment. In particular attachment avoidance marked by a fear of dependence and interpersonal intimacy excessive self-reliance and a reluctance to self-disclose more negatively affected the person's perception of their relationships.

**Monday May 06**

### **Is There a Role for a Single Session of Trauma Focused Therapy in the Acute Inpatient Psychiatric Unit?**

David Eckles M.D.; Olli Toukolehto

Ideally patients admitted to the inpatient psychiatric unit for suicidality secondary to trauma have a quick transition to outpatient trauma-based therapy. However access to outpatient care is not necessarily timely. Wait times can be over 30 days (Majlessi 2021) and scheduling an appointment with a psychiatrist despite having insurance can be difficult (Malowney 2015). Additionally the percentage of mental health needs covered in a state can range significantly. As an example here in Hawaii only 14.1% of the state's mental health needs are met (KFF 2022). What about trauma therapy while inpatient? Due to the number of sessions required for most manualized trauma therapy inpatient trauma therapy is not ideal. Prolonged exposure cognitive processing therapy and EMDR all require anywhere from 10-12 session (Kip 2013). However accelerated resolution therapy (ART) requires an average of 3.7 sessions (Howe 2018) but has been done in a single session as short as 45 minutes (Toukolehto 2019). ART is a variation of EMDR and EMDR is recommended by multiple clinical practice guidelines for PTSD (Megnin-Viggars 2019; VA.gov | Veterans Affairs 2023). This research poster presents the case of two patients with sexual assault history who were treated with a single session of ART during an inpatient psychiatric admission. Both patients were in their early twenties female and admitted for suicidality secondary to their trauma history. One patient had a complex trauma history of both recent and distant sexual trauma. The other patient had a recent sexual trauma. Both patients received a single session of ART during their inpatient psychiatric hospitalization. They both reported improvement in symptoms and showed clinical improvement (i.e. resolution of dysphoria increased sleep decreased anxiety improved eye contact full ranging affect and report that the traumatic memories were less intrusive and bothersome). To the authors' knowledge there are no published studies nor case reports of ART used in an inpatient psychiatric unit. Although we cannot conclude that ART had lasting effects beyond the observed effects on the unit prior publications of ART have confirmed that the

therapeutic effect lasts at least two months (Waits et al. 2017) to six months (Toukolehto 2019). These cases show that ART can be effective for reducing trauma symptoms and thus patient suffering during acute stabilization. ART can potentially bridge the gap between inpatient discharge and the wait for outpatient trauma therapy. However further research is needed to collect more robust evidence. Although ART was effective in clinically reducing trauma related symptoms the main limitation of these cases is lack of objective measurements of PTSD due to loss to follow up. Namely pre and post objective data collection is needed to determine the immediate effects of inpatient ART and the length of lasting effects after discharge.

**Monday May 06**

### **Lithium Use During Lactation**

Megan Kummerlowe D.O.; Jonathan Leung Pharm.D R.Ph; Hannah Betcher M.D.

Introduction: Historically breastfeeding with maternal lithium use has been discouraged based on breast milk transfer and cases of elevated infant serum lithium concentrations. Recent data suggests that maternal lithium is acceptable in breastfeeding for healthy full-term infants with appropriate monitoring. Lack of clear recommendations for infant monitoring may contribute to decreased patient and clinician comfort with breastfeeding in this population. We aimed to identify current breastfeeding rates for patients using lithium within our institution to guide research and practice guidelines.

Methods: We conducted a retrospective chart review to identify cases of pregnant persons prescribed lithium reporting rates of breastfeeding and infant adverse events. Results: We identified 18 cases of maternal lithium use in the postpartum period within our institution over 10 years. 39% (n=7) of patients taking lithium postpartum breastfed. Most patients 61% (n=11) initiated lithium prior to pregnancy with 28% (n=5) starting postpartum and 11% (n=2) starting during

pregnancy. Median lithium dose was 900 mg daily. No adverse infant side effects were observed based on parental or available clinician reports. Conclusion: Our data demonstrates that most patients using lithium postpartum have been taking lithium long-term and most patients are not breastfeeding while taking lithium. As in our cohort a recent study demonstrated that lithium exposure in breast milk is tolerated by infants with no severe adverse effects reported. Given the importance of lithium as a mood stabilizer there is a clear need for ongoing research and monitoring guidance to better support patients who would like to breastfeed while on lithium.

**Monday May 06**

### **Migrants post-traumatic stress disorder after recent armed conflicts: a reanalysis in European countries**

Victor Rodrigues; Akhil Anand; Rubi Luna; Julio Nunes Silva M.D.; Chuan-Mei Lee

**Background** European armed conflicts like the current Russo-Ukrainian war have a global impact on the mental health of refugees and migrants in the US. Multiple studies have reported the onset of post-traumatic stress disorder (PTSD) in migrants due to armed conflicts. A recent meta-analysis examined related publications from 1994 to 2021 without geographic restrictions. However it is important to consider that the prevalence rates of PTSD among migrants may differ based on geographic location the wide range of cultural contexts and reasons for conflict around the globe. The present study aims to analyze PTSD prevalence in populations impacted by recent European armed conflicts. **Methods** We used a random-effects model to calculate PTSD prevalence and a meta-regression to evaluate eventual associations with the variables age (years) displacement time (years) and conflict/terrorism-related deaths per 10000 people. Selected studies included all countries of

armed conflict origin in Europe. We also assessed the publications' critical appraisal by using the Joanna Briggs Institute Checklist for Prevalence Studies. Data was extracted from the referenced meta-analysis. This study used the software R version 4.3.1 and the packages meta and metafor. **Results** We identified six publications. All studies analyzed conflicts in lower- and upper-middle-income countries comprising interviews with a total of 2477 people. The prevalence of PTSD among all populations was 40.49% (95% CI 27.97% - 54.38%;  $I^2$  93.4%). Median displacement time age and death rate were 5.00 (range from 1.00 to 14.70) 37.40 (range from 20.70 to 47.00) and 3.965 (range from 0.250 to 41.380) respectively. Younger age was significantly associated with a higher PTSD prevalence (odds ratio (OR) 0.92 (95% CI 0.89 - 0.95)). The results for the other analyzed variables (displacement time and death rate) were not statistically significant. Overall the numbers of yes no and unclear in the risk of bias were 37 (68.5%) 7 (13.0%) and 10 (18.5%) respectively. Participant sampling had the worst performance in the risk analysis. A subanalysis of the studies that only included a refugee population (and not internally displaced persons) also yielded a similar conclusion for the age variable (OR 0.93 (95% CI 0.9 - 0.95)). This study has a few limitations: (i) the small sample size and (ii) the high heterogeneity between the studies. **Conclusion** Results suggest a high prevalence of PTSD in migrants due to recent European armed conflicts. It also proposes similar to the referenced meta-analysis that younger-age migrants are at higher risk of developing the condition. Further research with larger sample sizes is necessary to better understand how trauma and mental health outcomes of migrant populations impacted by armed conflicts vary over time and across countries.

**Monday May 06**

### **Mind the Gap (in care): Training Mental Health Providers to Address Patients'**

## Unmet Sexual and Reproductive Healthcare Needs

Hannah Kearney MSc MD; Juveria Zaheer M.D. M.Sc.; Lucy Barker M.D.

**SUMMARY:** Background: The National Institute of Mental Health estimates that 5.5% of adults in the United States live with a psychiatric disorder that results in serious functional impairment or a severe and persistent mental illness" (SPMI). Individuals with SPMI are at a subsequently elevated risk of experiencing disparities in terms of both access to healthcare and health outcomes. Two domains in which individuals with SPMI face substantially worse outcomes than the general population are sexual and reproductive healthcare (SRHC). Prior studies have demonstrated that individuals with lived experience of SPMI are more likely to have an increased number of lifetime sexual partners engage in risky sexual behaviours be at risk of contracting a sexually transmitted infection and experience unwanted pregnancies. However despite increased knowledge of these disparities and calls for systemic change by organizations such as the National Task Force on Women's Reproductive Mental Health training mental health providers (MHP) on SRHC has yet to be integrated into standard practice. This literature review aims to synthesize existing work on the comfort knowledge and training of MHP on SRHC topics and to summarize current recommendations for clinical change. Methods: A literature review was conducted by searching OVID Medline Embase and PsycInfo for peer-reviewed articles addressing MHP comfort knowledge and training on sexual and reproductive health including qualitative studies survey studies educational interventions and literature reviews. The search used relevant keywords including "Mental Health" "Sexual Health" "Reproductive Health" "Family Planning" "Health Personnel" "Education" and "Practice Guideline." The search generated 224 results which were then screened for language and relevant content using the title and abstract. Articles written in English that mentioned MHP and SRHC progressed to a full-text review. Articles

were then assessed for data on or discussion of provider comfort knowledge or training on SRHC in a mental health context. Results: Of the 18 full-text articles reviewed only 14 focused explicitly on MHP knowledge comfort or training on SRHC. Notably only one article assessed the efficacy of an SRHC educational intervention for MHP. A common theme that emerged from the heterogeneous pool of literature was that providers reported having inadequate training in SRHC leading them to not offer SRHC due to a lack of knowledge or ability despite having a reported interest in doing so. Conclusion: To address the significant SRHC disparities experienced by patients living with SPMI systemic interventions—including improved provider education and hospital-based policies—must be implemented. Further research on the best practices for MHP training on SRHC is also needed to ensure providers have adequate skills and knowledge to deliver affirming care."

**Monday May 06**

## Network Connectivity and Neural Correlates of Moral Injury: A Scoping Review

Srija Seenivasan; Aaron Wolfgang M.D.; Chandler Sours Rhodes; Sharon Kim; Lyubov Tmanova

Background: Moral injury an experience of a transgression of one's personal ethics is an increasingly important concept in psychiatry due to its frequent overlap with posttraumatic stress disorder (PTSD) considering 25-35% of those with PTSD are diagnosed due to a morally injurious event (Litz et al. 2018). The neural signatures of PTSD including those related to the central executive network (CEN) default mode network (DMN) and the salience network as well as their modulation for therapy have been extensively studied using neuroimaging techniques. However studies on the neuroimaging correlates of moral injury remain scarce. This scoping review aims to summarize the current state of neuroimaging evidence regarding moral injury and identify gaps



in the literature that may guide further research for personalized diagnostic and treatment approaches. Methods: Four databases OVID PsycINFO PubMed and Web of Science were searched with four concepts: neuroimaging (e.g. MRI DTI PET); neural correlates (e.g. functional connectivity neural networks brain regions); moral injury (e.g. moral transgression psychological injury); and PTSD. The search results were limited by publication within the last 10 years adult subjects of age 19+ and human studies. Selected articles were screened using Covidence in a three-person team. Exclusion criteria included EEG TBI neuropsychiatric disorders and PTSD without mention of subtype of trauma. Inclusion criteria included PTSD with mention of subtype of trauma. Results: We identified overlapping conclusions on the neural network nodes and signatures of moral injury based on identified concepts of self-referential processing guilt shame transgressions or betrayal. Sun et al. (2019) found increased activity of the inferior parietal lobule in the DMN while Lloyd et al. (2021) identified increased activity in primarily the dorsal medial prefrontal cortex of the DMN. He also showed increased activation of the salience network and dorsal anterior cingulate cortex node. Kearney et al. (2023) found functional hyperconnectivity of the supramarginal gyrus within the sensorimotor network. Lastly Terpou et al. (2022) reported higher functional connectivity in the midbrain periaqueductal grey and cerebellar lobule not typically included in intrinsic connectivity networks. Conclusions: The small number of studies that investigate the potentially unique neural correlates of moral injury highlights the need for more neuroimaging studies to incorporate moral injury as a distinct construct. We also call attention to the need to aggregate neuroimaging findings specifically fMRI data to highlight clear neural pathways for moral injury parallel to the fear-based neural circuits established for PTSD. Clarifying whether moral injury carries a distinct neural signature from other trauma types may help guide personalized diagnostic and treatment approaches.

**Monday May 06**

### **Olfactory-Enhanced Therapy for PTSD**

Hope Kronman M.D.;Ph.D.; Lara Tang

Smell is one of the most intimate ties between experience and emotion. We know this anecdotally we know it from countless examples in literature and history - think Proust think ancient Egyptian incense burning – and we know it from neurophysiology. The nose-to-brain connection is more direct than for any other sensory modality and in fact has been used in recent years as a convenient delivery system for a number of neurotropic medicines. In PTSD olfactory stimuli are common and can be particularly aversive. On the other hand positive olfactory cues may have the power to counterbalance other strong sensory signals that arise in anxiety. The literature to date on virtual reality suggests that sensory immersion can be useful in the treatment of PTSD and that olfactory stimuli increase the sense of presence in virtual environments. What's more pleasant smell can be especially useful in alleviating somatic symptoms (e.g. abdominal pain tension) which often plague patients suffering from anxiety disorders. Here we review this literature and present a case study of a Vietnam veteran suffering from PTSD who underwent 5 sessions of olfactory-enhanced mindfulness while on an inpatient psychiatric unit. Qualitative patient response and quantitative improvements in the validated 17-item Anxiety Symptoms Questionnaire are reported.

**Monday May 06**

### **Postpartum Depression Screening and Risk Factor Analysis in the Setting of a Pregnancy Crisis Center**

Priyanka Bhakta BBA; Elizabeth Bradshaw;  
Catherine Hand; Elizabeth Long; Danielle Wood

Background: Postpartum depression is a mental disorder that is both fierce in its debilitating hold on mothers as well as unfortunately common. According to the American Academy of Psychiatry (AAP) it has been estimated to affect 1 in 7 women. Several studies have demonstrated the negative outcomes on both mothers and newborns leading to 20% of maternal deaths after birth persistent depression for mothers fewer attendance at well-child visits and decreased likelihood in following safety recommendations for infants. Although several risk factors have been proposed in previous literature etiology of this disorder is still unclear. In coordination with Any Woman Can a pregnancy crisis center women were screened for Postpartum Depression two weeks after their due date. Methods: Medical students called women who had been seen at Any Woman Can two to four weeks after their due date and screened them for PPD. The Patient Health Questionnaire-2 (PHQ2) was used as an initial screen for depressive symptoms. Women who scored 2+ underwent additional screening through the Edinburgh Postnatal Depression Scale. Women who screened positive were given free education resources to receive counseling and encouraged to visit their healthcare provider for appropriate workup and treatment. Epidemiological data was collected and risk factors were analyzed using STATA. Results: From October 2020 to December 2022 103 women were screened and epidemiological data collected. 19.4% of patients screened positive for PPD higher than the national average of 14.4% reported by the AAP. Of the risk factors associated with PPD education level initial intention to carry and planned pregnancy showed statistically different outcomes between the +PPD and -PPD groups. Conclusion: While the 19.4% positive rate is higher than estimated by the APA and certain known risk factors were not statistically significant results may have been affected by the small sample size or pre-screening bias. The population screened in the study were also at a much higher likelihood of having multiple risk factors associated with postpartum depression as they received care from a pregnancy crisis center. In the future this study would like to look into other PPD risk factors established by the literature

including previous mental health diagnoses as well as outcomes of mothers that screened positive and received education and resources. It is imperative to better understand the etiology of PPD in order to better educate and screen mothers to lead to appropriate treatment and improve outcomes for both mother and child.

**Monday May 06**

### **PTSD symptoms as a predictor of severity in anxiety clinic patients**

Lindsay Pang MD; Claudia Soto de La Cerda; Andrea Boscutti M.D.; Carolina Olmos M.D.

Introduction: Anxiety has long been associated with mood disorder comorbidities despite remaining a diagnostically distinct entity. It has been suggested that this association may be related to possible overlap of diagnosis criteria or partially due to shared genetic predispositions. However there is still lack of emphasis on PTSD screening significance or the impact of PTSD symptoms on anxiety severity. There are currently no recommendations of PTSD screenings in anxious or depressed patients or cut-off scores in self-reported instruments that indicate simultaneous presence of PTSD. Patient administered questionnaires such as PHQ-9 and GAD-7 have been validated instruments to assess the severity of depression and anxiety symptoms respectively. Here we assess the correlation between GAD-7 and PHQ-9 and the relationship with PTSD amongst patients from our anxiety clinic. Method: Patients treated at our institution's anxiety clinic were given the PHQ-9 and GAD-7 to fill out prior or during their initial intake assessment. The patients' primary diagnoses and comorbidities were documented. A bootstrapping technique with 1000 iterations was employed to estimate the partial correlation between the PHQ-9 and GAD-7 scores. Separate Bayesian regression analyses were conducted to predict GAD-7 and PHQ-9 scores. PTSD diagnosis was used as independent predictors while controlling for age. Results: The sample

included 83 subjects. The mean ( $\pm$  SD) age was  $39.25 \pm 14.21$ . 10.84% were males. The average GAD-7 and PHQ-9 scores were  $11.22 \pm 5.88$  and  $9.96 \pm 6.85$  respectively. The prevalence of MDD Panic disorder and PTSD symptoms as comorbidities were 60.24% 34.94% and 34.94% respectively. After adjusting for age the bootstrapped correlation coefficient between GAD-7 and PHQ-9 scores was 0.74. The 95% confidence interval for this correlation coefficient ranged from 0.63 to 0.83. For GAD-7 scores the posterior mean  $\pm$  SD 3% highest density interval (HDI) and 97% HDI for the age coefficient were  $-0.017 \pm 0.046$  and  $[-0.107 - 0.067]$ . For the PTSD coefficient values were  $3.051 \pm 1.337$  and  $[0.553 - 5.584]$ . For PHQ-9 values were  $-0.046 \pm 0.054$  and  $[-0.145 - 0.054]$  for the age coefficient; for the PTSD coefficient values were  $2.521 \pm 1.565$  and  $[-0.257 - 5.622]$ . Regarding the association between PTSD and the scores 98.75% of the posterior distribution for the PTSD coefficient in predicting GAD-7 scores was above zero and 94.91% for predicting PHQ-9 scores. Discussion: In our sample we found a positive relationship between the GAD-7 and PHQ-9 scores after adjusting for age. A PTSD diagnosis had a very high chance of predicting higher scores in both GAD-7 and PHQ-9 after adjusting for age. This highlights the importance of screening for comorbid diagnoses especially PTSD in patients with anxiety.

Monday May 06

## Relationship between Childhood Trauma and Resilience in a Mexican Population

Marla Lucía González Méndez; Sofía Luna Garza; Glenda Merari Lugo-Ocaña; Sarai Gonzalez; Alfredo Bernardo Cuellar-Barboza

Background: Childhood trauma (CT) has been shown to influence resilience<sup>1</sup> which in turn appears to be a significant factor when assessing post-traumatic symptoms<sup>2</sup>. There is previous evidence evaluating the relationship between CT

and resilience among Hispanic adults living in the United States<sup>3</sup>. However this has not been sufficiently studied in Mexico. Our goal is to investigate how self-reported CT is associated with resilience in the Mexican population. Methods: Subjects from the “Center of Affective Disorders” from a University Hospital in Mexico were recruited as part of a more extensive study of gene expression comparing subjects with and without MDD<sup>4</sup>. Those who answered provided written consent and completed the Spanish versions of the Childhood Trauma Questionnaire Short Form (CTQ-SF)<sup>5</sup> and the Mexican Resilience Scale (RESI-M)<sup>6</sup> approved by the ethical committee. We studied resilience factors: Strength and Self Confidence (SSC) Social Competence (SC) Family Support (FS) Social Support (SS) and Personal Structure (STR) which were contrasted between the groups. Childhood trauma history was categorized as: Emotional Abuse (EA) Physical Abuse (PA) Sexual Abuse (SA) Emotional Neglect (EN) and Physical Neglect (PN). Continuous variables were compared using the Mann-Whitney U test ( $p < 0.05$  for significance). Results: This study included 21 patients (median age 25; IQR=5.25 71.42% female). Of which 61.9% reported abuse or neglect based on CTQ-SF scores. The median score for RESI-M was 140 (IQR=27.5). Patients with abuse history had significantly lower RESI-M scores ( $m=123$  IQR=35.5 vs.  $m=147$  IQR=24.5;  $p=0.020$ ) and lower scores in SSC ( $m=58$  IQR=12.5 vs.  $m=66$  IQR=11.75;  $p=0.030$ ) SC ( $m=23$  IQR=8 vs.  $m=28$  IQR=3.5;  $p=0.008$ ) and FS ( $m=17$  IQR=3.5 vs.  $m=20.5$  IQR=5;  $p=0.005$ ). Patients with a history of EA showed lower scores in FS ( $m=16$  IQR=4.5 vs.  $m=19$  IQR=5.5;  $p=0.015$ ) and STR ( $m=13$  IQR=6.5 vs.  $m=15.5$  IQR=5.5;  $p=0.041$ ). Similarly patients with EN displayed diminished scores in FS ( $m=16.5$  IQR=3.5 vs.  $m=19$  IQR=6;  $p=0.010$ ) and the total RESI-M scale ( $m=121$  IQR=38.75 vs.  $m=145$  IQR=23;  $p=0.030$ ). Conclusion: The findings highlight the significance between history of abuse and neglect and resilience; and that childhood trauma is indeed associated with low resilience in critical factors such as family support. This aligns with what has been mentioned in previous literature. Further research

in a greater study with this population is needed to explore the impact of this association.

**Monday May 06**

## **Screen Time Trends in an Outpatient Behavioral Health Clinic**

Claire Franklin M.D.; Alison Schafer

Electronics use has become a prevalent part of everyday life. Electronics may include smartphones tablets videogaming devices television streaming media and computers. Although recently there has been increased interest in the wellness effects of electronics use there is a lack of research in this area focusing on psychiatric patients. In this cross-sectional study we surveyed 85 patients of an outpatient behavioral health clinic ages 13-75 regarding trends in their electronics use and their perceptions of the personal wellness effects of electronics use. Participants were recruited in the clinic and administered an anonymous five-minute survey that consisted of 30 self-report questions designed by the researchers. Participants provided demographic information and estimated daily time spent on social media video/TV viewing and gaming using a multiple-choice scale. The survey also included questions asking participants how electronics use impacts different aspects of their personal wellness such as relationships performance at work/school sleep and attention. Participants responded using a five-point Likert scale. Responses are analyzed to find average time spent on electronics use and mode for Likert-scale questions. Fisher tests were used to compare differences in responses between different demographic groups. The results indicate that users may spend a significant portion of their day on social media and TV/video viewing. Furthermore users may view electronic devices as negatively impacting their wellness in some areas of life (e.g. sleep) while supporting their wellness in others (e.g. social connection). Comparisons between demographic groups

indicate that electronics use trends vary based on age and gender. No significant differences based on age or gender were found with respect to participants' views on the impacts of electronic device use however. The results also indicate that people who spend more time on social media may be more likely to view their electronics use as problematic.

**Monday May 06**

## **The Confluence of Borderline Personality Levetiracetam and Suicide: A Case Report and Literature Review**

Alice Kisteneff M.D.; Keelan O'Connell

Background: Depression and anxiety are well-described comorbid conditions with seizure disorder and its treatment. However personality changes associated with seizure disorder are not typically known to meet criteria for any specific personality disorder. Levetiracetam (LEV) is a first-line antiepileptic drug (AED) commonly used to treat seizure disorder. Treatment with LEV is known to induce mood changes and behavioral problems like aggression agitation emotional lability hostility and irritability (1). We present the case of a 20-year-old active duty man who developed mood character and behavioral changes in the year following a seizure disorder diagnosis and treatment with LEV. During that year he was diagnosed with borderline personality disorder continued taking LEV for seizure disorder and died by suicide three weeks after his third psychiatric hospitalization for suicidal behavior. To determine the extent to which suicide is associated with LEV use in published literature we conducted a literature search. Methods: Our medical librarians helped conduct a database search of Medline Embase Web of Science and PsychInfo. Keywords "levetiracetam" or "Keppra" "suicide" and associated terms and "mood changes" and associated terms were used. A second search was conducted on the same databases using the keywords "levetiracetam" and associated terms "suicide" and associated

terms “mood change” and associated terms and “borderline personality.” Both searches were limited to pieces written in English and regarding human subjects. A manual search for articles and textbooks was also completed. Results: The first search yielded 319 records on Medline 96 on Embase 313 on Web of Science and 150 on PsychInfo. The second search identified only 52 records on Medline and 2 on Embase. A 2021 systematic review of post-marketing published data demonstrated that switching from LEV to another antiepileptic drug significantly improved psychiatric symptoms like irritability anger and aggression (2). A 2023 pharmacovigilance study of suicide related events associated with antiepileptic drugs reported that LEV is associated with increased risk of suicide (3). Articles linking the constellation of symptoms associated with LEV use borderline personality traits and suicide were not found. Conclusion: An increased risk of suicide associated with LEV in patients with seizure disorder is well documented in the literature. Individuals diagnosed with borderline personality disorder may exhibit impulsive suicidal behavior in addition to many of the known adverse psychiatric effects of LEV. To date LEV does not have a Black Box warning related to suicide. Given the high risk of suicide in patients with borderline personality disorder more data are needed to determine the safety of LEV use in patients exhibiting these traits.

**Monday May 06**

### **The impact of lifetime trauma exposure in psychiatric inpatients**

ALEJANDRA MAYELA MARTINEZ GARZA; Sofía Luna Garza; Rodrigo Huereca Lucio; Erasmo Saucedo

Background: Trauma exposure (TE) can have profound and enduring effects on an individual's mental health shaping clinical outcomes and influencing the course of psychiatric disorders. Whether TE is a single isolated event or a

prolonged chronic experience its impact can reverberate throughout a person's life in various ways. Patients with TE especially those with a higher number of traumatic events during childhood tend to have more severe and complex manifestations of any disorder that could be seen during psychiatric hospitalization. Our aim was to find the association between TE and characteristics of psychiatric inpatients. Methods: Retrospective observational and descriptive study of patients admitted in a psychiatric hospital from 2015 to 2022 was conducted. The protocol was approved by the ethics and research committee of the Hospital Universitario Dr. José Eleuterio Gonzalez” in Monterrey Nuevo León México. Retrospective investigation was carried out of patients admitted between July 2015 and May 2022. We collected sociodemographic clinical data and history of TE categorized in family violence (FV) physical (PA) emotional (EA) and sexual abuse (SA). For the statistical analysis we compared patients with and without TE using the Student's T test for quantitative variables and using chi square for qualitative variables. Results: A total of 1446 patients were included of which 208 reported TE. This group consisted mostly of women (84.6%) overall and in all trauma subgroups with significant differences. The mean age was lower (25.02±9.133) compared to those without TE (29.91±13.80; p<.001). Patients with TE showed greater substance abuse (86 (41.3%) 364 (29.4%); p=.001) mainly patients with PA (35 (43.8%) 415 (30.4%); p=.018) and SA (76 (40.0%) 374 (29.8%); p=.005). Suicide risk was more prevalent in patients with TE (182 (87.5%) 795 (64.2%); p<.001) and in all subgroups: PA (72 (90%) 905 (66.3%); p<.001) SA (167 (87.9%) 810 (64.5%); p<.001) EA (90 (90.9%) 887 (65.9%); p<.001) and FV (128 (79.0%) 849 (66.1%); p=.001). The main diagnoses were depressive disorders for patients with EA PA and FV and personality disorders in patients with SA. Patients with previous hospitalization show higher TE (99 (47.6%) 495(40.0%); p=.040). Hospitalization days were longer in patients with FV (32.35±20.44 27.95±17.25; p=.009) and shorter in patients with SA 18.78±1.36 27.94±17.46; p=.006). Conclusion: This research underscores the significant and enduring impact of lifetime



trauma events on psychiatric patients influencing their demographic characteristics psychiatric diagnoses and healthcare utilization patterns. No founding"

**Monday May 06**

### **The influence of Combat Exposure and Moral Injury on Indicators of Mental Health and Well-Being During Transition from Military to Civilian Life.**

Natascha Richardson; Walter Sowden Ph.D.

Background: During service military members are at risk of experiencing moral injury (MI). Thousands of service members transition out of the military each year with estimates of 1 in 4 having experienced MI. The transition process to civilian life is challenging and complex with the vulnerability of veterans' mental health being particularly acute during this time. Few studies have examined the effects of transition on mental health longitudinally and fewer consider the role MI plays. The current study set out to examine the temporal relationship of MI on transitioning soldiers' mental health using a pre-/post-separation design. Methods: We collected data from 285 U.S. Army soldiers undergoing the transition to civilian life. Surveys were administered 6 months prior to and 6 months post-separation. Surveys encompassed measures of mental health and well-being including depression (PHQ9) anxiety (GAD7) PTSD (PCL-5) somatic symptoms (PHQ15) alcohol misuse (AUDIT-C) loneliness (UCLA) and life satisfaction (SWL). The Deployment Risk and Resilience Inventory-2 Combat Experiences (DRRI-2-CE) and the Moral Injury Events Scale (MIES) were also included. Factor analyses produced a single factor measure for combat exposure (CE) and a bifactorial structure for moral injury yielding Self-Directed Moral Injury (SDMI) and Other-Directed Moral Injury (ODMI). The sample was primarily composed of service members aged 22 to 40

(69.5%) the majority of whom were male (75.8%) and white (71.6%). Results: Our analyses disclosed key patterns. Specifically SDMI was significantly associated with changes in a range of mental health indicators post-separation. SDMI was related to increases in depression ( $B = .198$   $p = .021$ ) anxiety ( $B = .193$   $p = .017$ ) somatic symptoms ( $B = .233$   $p = .002$ ) and alcohol misuse ( $B = .086$   $p = .013$ ). Notably neither CE nor ODMI was significantly associated with changes to these or any other indicators of mental health and well-being that were collected (e.g. PTSD loneliness or life satisfaction). Conclusion: This research makes a valuable contribution to the study of transitioning veterans' mental health. MI specifically self-directed MI was associated with significant changes in mental health indicators related to depression anxiety somatization and alcohol misuse. These findings indicate that SDMI rather than CE or ODMI is a key driver of changes in multiple facets of mental health and well-being during the military-to-civilian transition. These results may allow for more effective care for members transitioning out of service. Disclosure: The views expressed in this presentation are those of the author and do not necessarily reflect the official policy of the Department of Defense Department of the Army U.S. Army Medical Department or the U.S. Government.

**Monday May 06**

### **Understanding university students' perspectives towards digital tools for mental health support: a cross-country study**

Chiara Alessandra Capogrosso

Objectives. Poor mental health of university students is a growing concern for public health. Indeed higher education settings are likely to exacerbate students' vulnerability to psychological distress. Though organisational and individual barriers often prevent university students from seeking mental health support. Digital technologies are recognised as effective in

managing psychological distress and as a source of health-related information thus representing useful options to address mental health needs in terms of accessibility and cost-effectiveness. Despite the usefulness of digital tools for assessing and managing psychological distress little is known about university students' experiences and perspectives towards such interventions. We therefore aimed to address this evidence gap by directly interviewing university students. **Methods.** Data were from the qualitative component of "the CAMPUS study" longitudinally assessing mental health of students at the University of Milano-Bicocca (Italy) and the University of Surrey (UK). We conducted in-depth interviews and thematically analysed the transcripts including cross-cultural comparison between Italy and the UK. **Results.** An explanatory model was derived from five themes identified across 33 interviews. Students perceived that social media apps and podcasts could deliver relevant mental health content ranging from primary to tertiary prevention. Wide availability and anonymity were perceived as advantages that make tools suitable for preventive interventions to reduce mental health stigma and as an extension of standard treatment. These goals can be hindered by some disadvantages namely lower efficacy as compared to face-to-face contact lack of personalization and problematic engagement. Individual and cultural specificities might influence awareness and perspectives on the use of digital technologies for mental health support. **Conclusions.** Although considering some specific features digital tools could be a useful instrument to support mental health needs of students. Since personal contact remains crucial digital tools should be integrated with face-to-face interventions through a multi-modal approach. This research received no specific grant from any funding agency commercial or not-for-profit sectors.

## Unlocking the power of MDMA in psychiatry: Unveiling safety adverse effects and relevant drug interactions

Abidemi Onabadejo M.D.; Sandesh Pokhrel; Pooja Chaudhary M.D.;M.P.H.; Harshini Ramessh Thetheyji

**Background:** The treatment for PTSD presents ongoing challenges in psychiatry with a need for innovative and efficient treatment options. As of 2017 the FDA has designated 34-methylenedioxymethamphetamine (MDMA) assisted psychotherapy as a Breakthrough Therapy for the treatment of PTSD. This was based on a phase 2 clinical trial that showed a reduction in Clinician-Administered PTSD Scale (CAPS-IV) scores after MDMA was administered with psychotherapy in a randomized double-blind dose response trial. Subsequently the first phase 3 clinical trial showed further promise of the efficacy and safety of MDMA assisted psychotherapy for PTSD. Currently the second phase 3 clinical trial is awaiting publication with potential FDA approval of the first psychedelic-assisted psychotherapy on the horizon. This introduces questions about the safety of MDMA in the acute short term sub-acute and long-term. Additionally providers need to understand potential interactions with other established treatments and which patients are appropriate for this therapy. This review aims to encompass pertinent literature to address these concerns and assess the risks and possible safety guidelines that may be implemented. **Methods:** Articles were retrieved from PubMed using keywords MDMA adverse reactions interactions and long-term adverse reactions. Articles older than 10 years were excluded from the results. Focus on randomized control trials and meta-analysis were emphasized for PTSD treatment in adults. **Results:** The analysis resulted in over 40 articles meeting the criteria. Generally articles detailed short-term effects of MDMA including elevated pulse blood pressure body temperature jaw tightness nausea feeling cold dizziness anorexia and irritability with treatment doses of MDMA within the range of 75mg-125mg. During a phase 2 clinical trial one incidence of increased premature

ventricular contractions in a participant required hospitalization for monitoring and resolved spontaneously. Longer term effects included headaches fatigue anxiety low mood and rarely depression and SI. Importantly MDMA is a cytochrome P450 2D6 inhibitor which may lead to potentially significant drug interactions with medications such as SNRIs/SSRIs adrenergic agents and antipsychotics. Significantly the exact risk for serotonin syndrome is unclear.

Conclusion: This literature review sought to further evaluate acute subacute and long-term adverse reactions of MDMA as well as outline relevant drug interactions that may present in clinical practice. Overall no significant life threatening acute or chronic adverse reactions were elucidated. Drug- drug interactions were reviewed with an unclear risk factor for serotonin syndrome with conjunctive use of MDMA and serotonergic medications. Potentially guidelines for a washout period or other interventions may be needed to mitigate this risk.

**Monday May 06**

### **Unravelling Developmental Trauma Disorder: A Commentary and Critical Analysis of Current Literature**

Rithvic Jupudi BA; Katarina Bojkovic; Anthony Schinelli; Brooke Jennings; Robert Bossarte

**BACKGROUND** Violent crime has gained significant recent media attention and with discourse in professional and public circles regarding the role of mental illness in the perpetration of these crimes differing a deeper discussion of the predisposing factors for violence perpetration or victimization is merited. We believe the examination of risk factors for psychiatric illness such as antecedents to violence early exposure to traumatic events and related stress is of particular importance. Research suggests that up to 90% of youth involved with the U.S. criminal justice system have

histories of significant complex trauma. Therefore a broader consideration of early exposure to stressors as a foundation for trauma-informed models of care is needed. **METHODS** We conducted a literature review using key terms including “violence mental illness/health juvenile guns trauma developmental trauma disorder and risk factors”. Studies outside of the USA and beyond 15 years old were excluded. We identified 52 PubMed indexed articles included in the final analysis. **RESULTS** In 2005 Van Der Kolk and colleagues proposed the inclusion of Developmental Trauma Disorder (DTD) in the DSM-V after observation that repeated childhood trauma presents with a complex sequela of disorders. DTD was defined as “triggered dysregulation in response to traumatic reminders stimulus generalization and the anticipatory organization of behavior to prevent the recurrence of the trauma effects.” Victims displayed similar manifestations including self-destructive impulsive behavior and depression in adulthood. Patients often feel incapable of regulating their emotions likely due to depressed dopaminergic and serotonergic centers of the brain involved in learning and stress management along with executive functions such as judgment due to constant stress. In 2021 the APA recognized that traumatized children may not fit into characteristic PTSD potentially leading to misdiagnoses of ADHD and ODD. **CONCLUSIONS** Ample evidence suggests childhood trauma may place children at risk for violence later in life. Along with the 6-prong approach to trauma informed care released by the CDC our review suggests a need for innovative scalable treatment options for low resource settings. Peer support has been a successful component of substance abuse treatments with improvements in self-efficacy and other attributes. These models may be a part of the solution for treatment strategies targeting members of this population. Our future direction is to consider the use of digital mental health intervention (DHMI) platforms for use in low resource settings and youth who may be reluctant to engage in psychiatric care. Overall we call for action by those in the field to help examine consequences of traumatic exposure at key

developmental stages and how these consequences may differ from current understandings of complex or comorbid PTSD.

**Monday May 06**

### **Wellness When it Counts: Cultivating Resilient Psychiatrists Through a Patient Suicide Curriculum**

Kellen Andersen; Brooke Gertz; Sara Bharwani; Nicholas DiStefano; Jyotsna Ranga

Suicide is among the top 10 leading causes of death for all age groups in the U.S. About 25% of patients who die by suicide have seen their behavioral health provider in the previous month. One in three residents experiences a patient suicide. Despite the common occurrence formal training in the management of patient suicide is lacking. Psychiatrists have leadership roles that include informing the family supporting staff communicating with the proper officials and accurately documenting events in the medical record. Despite the important role of psychiatrists they are not taught how to manage a patient suicide. This study examines whether a multi-pronged curriculum in the residency prepares residents and attending psychiatrists to better deal with this adverse event. The first part of the curriculum was an initial presentation during orientation week that introduced the patient suicide protocol with a resource brochure that included a flow chart of steps to take following a patient suicide and information about what to expect from the residency program such as scheduled check-ins from leadership. Second a psychological first aid training course was provided in November 2021 in which residents revise and practice coping skills to navigate difficult situations in their professional lives. The last step was a Schwartz Center Rounds in February 2022 focused on supporting experienced clinicians who shared their stories of loss and resilience. An Epic smart phrase accompanied the curriculum to guide documentation following patient suicide. The effectiveness of the

intervention was assessed by a Qualtrics survey administered before and after the curriculum. The objective was to improve resident confidence in managing patient suicide measured by a series of questions that describe resident comfort level to address various aspects of patient suicide such as accessing help following medicolegal processes disseminating information and documenting correctly. Results from the pre-curriculum survey of 27 residents revealed that although 74.1% of residents believed that patient suicide is common 14.81% of residents were “not at all confident” to manage the clinical situation and 29.63% of the residents were only “a little confident.” No one identified as “very confident” to address documentation medicolegal processes or root cause analysis related to patient suicide. After curriculum implementation residents reported significant improvement in all areas except sharing the news with patient family and staff. The effect sizes were largest for resident confidence in chart documentation and medicolegal processes following patient suicide. By developing a model for teaching the management of patient suicide we will prepare our learners to handle this event when it occurs either in training or in their psychiatry careers.

**Monday May 06**

### **Where History Meets Modern: Hydrotherapies**

Andrew Lotfalla; Mary-Anne Hennen M.D.

Introduction: Prior to the introduction of psychotropic medications psychiatric treatment primarily relied on nonpharmacological therapies notably hydrotherapies. Despite the historical controversies surrounding these treatments their relevance persists as they inform contemporary approaches. It is important to define two specific terms in the context of modern water-based therapies: hydrotherapy which utilizes water in various forms for health promotion and balneotherapy a traditional practice employing

natural thermal mineral waters and clays for therapeutic benefits [iii]. Methods: This poster conducts a comprehensive literature review examining the physiological impacts of water in its various forms on the nervous system. It explores the evidence supporting different water-based psychiatric treatments. The review employed PubMed using key terms such as hydrotherapy "balneotherapy" "water" "mental health" "psychiatry" "depression" and "anxiety." Results: Various forms of hydrotherapy including flotation therapy cold water exposure or immersion aquarium therapy and water-based exercise have demonstrated effectiveness in mental health treatment. Flotation therapy effectively alleviates stress sleep disorders anxiety and depression [iii iv]. Cold water exposure or immersion shows promise in slowing heart rate inducing calmness reducing panic and moderating emotional responses offering potential therapeutic benefits for conditions such as borderline personality disorder and emotional dysregulation [v vi]. Aquarium therapy promotes mental and physical well-being offering relief from stress insomnia pain and anxiety [vii]. It also benefits individuals with behavioral and stimulation disturbances [viii]. Water-based exercise enhances both physical and mental health improving depressive symptoms aerobic capacity and muscular strength [ix]. Balneotherapy has been found effective in treating depression stress fatigue insomnia and other mental health conditions [ii x]. Discussion: Comprehending the effects of water on the human nervous system is vital in appreciating the efficacy of these treatments. Factors like temperature and buoyancy are influential variables that can inhibit nociceptors while cold water activates the reticular activating system and modulates neurotransmission in the mesolimbic system. Hydrotherapies exhibit potential in ameliorating psychiatric symptoms including depression anxiety sleep disorders self-esteem and overall well-being. Nevertheless like all therapeutic approaches water therapies have practical limitations such as structural barriers and health culture considerations. Financial accessibility and societal stigma pose potential challenges. Further research is warranted to explore these limitations comprehensively and

expand our understanding of hydrotherapies contributing to the advancement of knowledge in this field and unveiling new implications for hydrotherapy."

**Monday May 06**

### **Women's Psychosocial Challenges Following Perinatal Loss in Pakistan and the Need for Supportive Interpregnancy Care**

Armaan Rowther MD PhD

Miscarriage and stillbirth are major causes of preventable morbidity and mortality and associated with negative psychological outcomes including depression anxiety complicated grief and post-traumatic stress<sup>1</sup> and resulting distress or trauma can have lasting adverse effects on the mother and her subsequent pregnancies.<sup>2</sup> Of the 2 million stillbirths occurring each year 98% are in low- and middle-income countries (LMICs) and one-third are in South Asia with among the highest rates of miscarriage and stillbirth in Pakistan.<sup>3</sup> To better understand the specific needs of women with psychological distress in subsequent pregnancies we aimed to retrospectively explore the postpartum experiences of women in Pakistan who lost a prior pregnancy to miscarriage or stillbirth subsequently conceived and also endorsed symptoms of anxiety in their current pregnancy. We conducted in-depth interviews with 18 anxious pregnant married women drawn at Holy Family Hospital (HFH) in Rawalpindi from September to June 2022 and we analyzed interview transcripts using an indicative thematic framework. The mean age of the women was 28 (range 19–39 years) and about one-third lived in nuclear families while the remainder practiced “joint family” or patrilocal residence with members of their susral (husbands’ parents and family). The average number of prior pregnancies per woman was about 4 (range 1 to 8) and the cumulative number of pregnancy losses across



the entire cohort was 44 (29 miscarriages and 15 stillbirths) with two women having 5 or more past losses. Self-recrimination for the pregnancy loss was common often enmeshed in stories attributing the pregnancy loss to inappropriate diet or lack of precautions against travel heavy chores or other physically demanding tasks. Spirituality appeared in women's accounts of miscarriage and stillbirth in one of two ways: either as consolatory beliefs about fate and God's ultimate power over the outcome of their pregnancy or as suspicions of evil eye a phenomenon of harm that results from another's envy. Women described significant emotional and psychological distress after the loss including uncontrollable anger deep anguish persistent negative thoughts fear irritation tearfulness loss of motivation nightmares and ruminations on guilt or traumatic memories. In the aftermath of the pregnancy loss women described specific responses by family and providers as contributing to their distress. Chief among them was delaying or withholding information about and exposure to the deceased fetus. In many cases reactions by family and others to the pregnancy loss were more explicitly stigmatizing perceived by women as reinforcing notions of personal blame or accountability for their pregnancy loss. Our findings point to natural targets for preventative psychosocial interventions and the need for development and implementation of postpartum and supportive interpregnancy care after perinatal loss.