Ohio Society of Addiction Medicine Annual Meeting
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Scientific Poster Abstracts

#1

Isabelle Ely, BS
Case Study
MS4: Wright State University Boonshoft School of Medicine

The Interplay of Addiction with Physical and Mental Health: A Case Report of Inhalant Use Disorder, Asthma, and Depression

Purpose: Illustrate the complexity of the interaction of physical health, mental health and substance use disorder

Inhalant use disorder, according to the DSM-5, is a problematic pattern of use of a hydrocarbon-based inhalant substance leading to clinically significant impairment or distress. The disorder extending into adulthood is associated with multiple mental disorders and negative consequences, including suicidal ideation (SI) with attempts and higher rates of mood and anxiety disorders. Similarly, albuterol inhaler overuse is associated with lower mental and physical functioning; these patients are at an increased risk for clinical depression.

Complex medical histories often illustrate the interplay between mental illness, physical illness, and substance use to create patient problems, as well as the difficulty in clarifying a diagnosis when many factors are actively influencing one another. This report presents a case that exhibits this complexity; a 51-year-old male admitted to the state psychiatric hospital after presenting with depression and SI after greatly increased use of compressed air inhalant, with a longstanding history of asthma, depression, and inhalant use, among other substances.

This case highlights the importance of relying on objective medical findings to confirm subjective patient complaints to drive indicated, appropriate treatment, as well as being on the alert and screening for SUD that avoids detection on drug screen. This case shows that although broader consideration of the patient can complicate reaching a single, straightforward diagnosis, this approach is necessary to understand the patient and provide proper treatment and patient education.

Utilizing a holistic approach to patient diagnosis and treatment ensures that vital care informing factors are not missed, and that essential patient motivators, triggers, and protectors are considered. Awareness of the many aspects of a patient, including physical and mental health, as well as social factors, is vital to providing patient-centered care.

#2
Patil Balozian, MD
Case Study
PGY4: Saint Vincent Charity Medical Center

Drug Induced Pancreatitis: Meth, Cannabis, or Meth laced Cannabis?

Drug-induced pancreatitis (DIP) is a rare entity with a 0.1 to 2% incidence of acute pancreatitis cases. Methamphetamine is a synthetic serotoninergic psychotropic drug used as a stimulant. It has infrequently been observed to cause pancreatic and hepatic damage due to its keen vasoconstrictive properties. Moreover, cannabis in its recreational form has also been linked with drug-induced pancreatitis. We report a 36-year-old previously healthy female who presented with findings of acute pancreatitis with subsequent thorough investigations revealing a drug-induced etiology.

The patient is a 36-year-old previously healthy female who presented with diffuse, sudden in onset abdominal pain, radiating to the back, aggravated with food without alleviating factors of three days duration. She also reported nausea on the first day of her pain along with a single episode of nonbilious vomiting. She denied previous similar episodes. Social history was remarkable for smoking marijuana since her teenage years unremarkable for alcohol and tobacco use. She reported resorting to street, methamphetamine laced marijuana, the past month. The patient was vitally stable with a physical exam remarkable for epigastric tenderness with negative peritoneal signs. Laboratory tests showed elevated lipase, amylase, and CRP with normal liver function tests, hematocrit, BUN, bilirubin, triglycerides, and phosphocalcium balances. Urine toxicology was positive for methamphetamines and cannabis. Ultrasound was done corroborating the absence of obstruction. Computed tomography (CT) abdomen was subsequently performed showing irregular contour of the pancreatic margins, blurring of peripancreatic fat planes, soft-tissue stranding, and trace-free fluid at the pancreatic body and tail without bile duct dilatation. Serological survey for mumps virus, cytomegalovirus (CMV), epstein barr virus (EBV), and human immunodeficiency virus (HIV) was negative. Anti-nuclear antibodies (ANA), neutrophil anti-cytoplasmic antibody (ANCA), and serum Ig G4 were also negative. She was diagnosed with mild acute pancreatitis with the culprit agent being methamphetamine-laced cannabis. The patient was followed up three months after agent cessation with marked symptomatic improvement and unremarkable lab work.

This case highlights that methamphetamines might also be the precipitating cause of pancreatitis. DIP is often challenging let alone the possibility of identifying one potential drug versus another.

#3
Patricia Arnold, MD
Research
PGY5: The Ohio State University Wexner Medical Center

Racism as a Deterrent to Treatment for Black Patients with Opioid Use Disorder

Purpose of Study

Experiences of racism in the medical setting are common among Black patients and may be linked to disparate outcomes. However, little is known about the prevalence of experiences of racial discrimination by healthcare workers among Black patients seeking opioid addiction treatment, or how these experiences might influence Black patients' expectations of care.

Methods

Participants are Black adults (n=104) recruited consecutively from two university addiction treatment facilities in Columbus, Ohio. All participants completed validated surveys assessing perceptions of prior racial discrimination in the medical setting. Participants were also asked a series of questions about their expectations of care regarding racial discrimination and addiction treatment. Descriptive analyses were used to characterize sample demographics, perceived racial discrimination and expectations of care. Spearman's correlations assessed relationships between racial discrimination and expectations of care.

Results Summary

Seventy-seven percent (n = 80) of participants reported prior experiences of racial discrimination during healthcare. Racial discrimination in the medical setting was associated with worse expectations regarding racial discrimination in addiction treatment including delays in care seeking due to concern for discrimination, projected non-adherence and fears of discrimination-precipitated relapse.

Conclusions

Black patients seeking opioid addiction treatment reported experiencing racial discrimination by healthcare workers which may be associated with expectations of further discriminatory treatment when seeking opioid addiction treatment. Strategies to eliminate and mitigate experiences of racial discrimination may improve opioid addiction treatment receptivity and engagement.

#4
Ashley Cantu- Weinstein, BA
Research
MS3: Case Western Reserve University School of Medicine

Understanding the Impact of Parental Substance Use Disorders on High School Students

Purpose

School personnel often take on ancillary responsibilities that extend beyond their role as educational professionals, including supporting students who have parents suffering from substance use disorders (SUDs). Our objectives were to use the experience of these school personnel to better understand how healthcare professionals can support school personnel and affected adolescent students.

Methods

We recruited 21 school staff from public and private high schools throughout Cleveland, OH. Interested personnel were then screened and scheduled to participate in either a public urban, public suburban, private, or mixed school virtual focus group. An iterative, content analytical process was used to generate codes, categories, and ultimately themes from each of the four focus groups. Final results were grouped into major and minor themes with subsequent comparison between school typologies.

Results

Two categories arose from analysis of major themes: (1) school personnel's perceptions of students experiencing parental substance SUDs and (2) school personnel's personal experiences with these students. Major themes included extreme shifts in adolescent behavior, adolescents' need for trusted adults, adolescents' expression of familial shame, school personnel's desire for evidence-based SUD resources, and feelings of helplessness related to students' home situations. Minor themes included forced maturity and normalization of substance use. The overarching comparison between typologies revealed difficulty connecting students whose parents have SUDs with appropriate resources.

Conclusion

Enhanced communication between school personnel and mental health providers, in addition to wider utilization of school-based mental health resources, is needed to recognize and address the gaps in care for youth impacted by familial SUDs and for the school personnel who support them.

#5
Ailis Dooner, BA
Case Study
MS4: Case Western Reserve University School of Medicine

Naltrexone-Precipitated Withdrawal in a Patient with an Intrathecal Opioid Pump

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Purpose of the study

We describe a case of precipitated opioid withdrawal caused by naltrexone initiation in a patient with an intrathecal morphine pump during a medical detoxification from alcohol and benzodiazepines.

Methods

A 62-year-old woman with a history of alcohol use disorder, benzodiazepine use disorder, substance-induced mood disorder, and chronic low back pain managed by an intrathecal morphine pump presented to an inpatient chemical dependency unit for alcohol and benzodiazepine detoxification. For alcohol withdrawal, she was treated with a scheduled phenobarbital taper. On the day of her planned discharge, she expressed interest in extended-release naltrexone for MAT and was thus trialed on oral naltrexone 50 mg. She soon after went into precipitated opioid withdrawal (COWS up to 20), with relatively prompt response to medications including oxycodone 10 mg and lorazepam 2 mg. After discharge, quantitative pain panel urine toxicology resulted, revealing the presence of morphine at 1,135 ng/ml.

Results Summary

Initial negative urine toxicology, patient report (that her morphine pump had been malfunctioning), and recent pharmacy fill of naltrexone prior to admission suggested the absence of morphine in this patient's system. However, this example reveals that initial urine toxicology and patient report alone are not reliable enough to safely inform a decision to start naltrexone. The screening urine toxicology in this case utilized the standard clinical cutoff level that should have been adequately sensitive for detection of opiates (300 ng/mL)1,2, indicating that this was indeed a false negative result. Despite patient report, a potential contraindication for naltrexone was the PDMP showing a recently filled prescription for intrathecal morphine.

Guidelines recommend that, prior to naltrexone initiation, a minimum period of ~10 days sans opioids should elapse (with variation in this time frame based on whether a short- or long-acting opioid was used)3,4,5. The American Society of Addiction Medicine suggests the utility of a naloxone challenge when the status of a patient's physical opioid dependence is unclear and lists positive opioid testing as a contraindication to naltrexone5. Notably, however, the SAMHSA advises, citing recent research6,7, that in patients who successfully undergo a naloxone challenge, opioid-positive urine toxicology does not absolutely preclude the use of extended release naltrexone3.

Conclusion

When starting naltrexone in a patient with an intrathecal opioid pump, a standardized practice algorithm to confirm the functional status of the pump prior to the initiation of therapy could be an invaluable safeguard to prevent unnecessary patient suffering. Such an algorithm could include confirmatory quantitative urine toxicology, coordination with the morphine prescriber, and a naloxone challenge prior to naltrexone initiation.

#6
Megan Deaner, MSW, MPHc, LISWS
Research
Psychiatric Counselor: The Ohio State University Wexner Medical Center East

Unintentional Drug Overdose Mortality in Years of Life Lost Among Adolescents and Young People in the US From 2015-2019

Purpose of Study

Unintentional drug overdose has become a grave and sustained public health burden in the US.1 The US Centers for Disease Control and Prevention (CDC) defines unintentional drug overdose as occurring "…when no harm is intended."2(p1) and inclusive of "…overdoses resulting from drug misuse, drug abuse, and taking too much of a drug for medical reasons."2(p1) Adult decedents have been the focus of most overdose mortality reports, despite the fact that adolescents (aged 10-19 years) and young people (aged 10-24 years) are increasingly dying of unintentional drug overdose.3 This troubling trend requires further study, given that adolescents and young people are deprived of many more years of work, community life, and family life than are older individuals dying of unintentional drug overdose.

Methods

This cross-sectional retrospective study involved summary-level death records from January 1, 2015, to December 31, 2019, obtained from the CDC's Wide-Ranging Online Data for Epidemiologic Research (CDC WONDER) mortality file.5 YLL were calculated as standard life expectancy minus age at death. Male and female life expectancy at each individual age was determined from the 2017 Social Security Administration Period Life Table. Information on race and ethnicity was not gathered to protect the privacy of the individuals in the database. Decedents were identified by the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision codes X40-X44. The Ohio State University Wexner Medical Center institutional review board approved this study and granted a waiver of patient consent owing to the use of deidentified patient data. This study followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guidelines.

Results Summary

A total of 3296 adolescents (aged 10-19 years) died of unintentional drug overdose in the US between 2015 and 2019 (Figure). The mean (SD) age at death for adolescent unintentional drug overdose decedents was 15.1 (2.7) years. Male adolescents outnumbered female adolescents in incident deaths (2267 [68.8%] vs 1029 [31.2%]) and YLL (133 023.64 vs 65 548.28). Annual total YLL due to unintentional drug overdose was stably elevated with a mean (SD) 39 714.38 (2689.63) annual YLL (Table). Adolescents experienced a total of 187 077.92 YLL during the study period.

A total of 21 689 young people (aged 10-24 years) died of unintentional drug overdose (Figure). The mean (SD) age at death for young people who died of unintentional drug overdose was 17.6 (4.1) years. Male young people outnumbered female young people in incident deaths (15 604 [71.9%] vs 6085 [28.1%]) and YLL (861 576.42 vs 365 647.16) (Table). Young people experienced a total of 1 227 223.58 YLL during the 5-year period of study.

Conclusion

Over the 5-year period of this cross-sectional study, adolescents experienced nearly 200 000 YLL, and young people amassed greater than 1.25 million YLL. Male adolescents and young people accounted for substantially greater unintentional drug overdose mortality (YLL and incident deaths) than female adolescents and young people. Although limited by death records potentially undercounting overdoses and a cross-sectional design insensitive to temporal relations between risk factors and deaths, our findings represent an unacceptable preventable mortality burden for adolescents and young people in the US. Prior research has identified polysubstance use, psychiatric comorbidity, and unstable housing as relevant risk factors for unintentional drug overdose in this age cohort.6 Our findings suggest that further resources are needed to mitigate these factors. The present study should inform future mortality reviews among adolescents and young people, as well as ecologic interventions involving family, school, and community, in unintentional drug overdose prevention and substance use treatment.

#7
Daniel Brook, PhD
Research
MS3: The Ohio State University College of Medicine

The Relationship Between Opioid Agonist Therapy and Hepatitis C Virus Antibody Seroprevalence Among People Who Inject Drugs in Southern Appalachian Ohio in 2019

Purpose

The United States is experiencing a hepatitis C virus (HCV) epidemic among people who inject drugs (PWID), especially in rural Appalachia. Opioid agonist therapy (OAT), including maintenance therapy with buprenorphine (BMT) or methadone (MMT), may prevent HCV infection by reducing injection drug use. Syringe service programs (SSP) in conjunction with OAT may enhance HCV prevention. We assessed the relationship between OAT use and HCV antibody seroprevalence among rural PWID.

Methods

We conducted a cross-sectional respondent-driven sampling survey of 186 PWID in Appalachian Ohio from March to October 2019. HCV prevalence was determined with the OraQuick rapid antibody test. We defined current OAT as self-reported OAT in the past 30 days; we defined prior OAT as self-reported OAT any time before the past 30 days. We fit three adjusted modified negative binomial regression models to assess the relationship between HCV antibody seroprevalence and 1) recency of BMT use; 2) recency of MMT use; and 3) any BMT versus any MMT use. We examined the effect measure modification between OAT and HCV seroprevalence by participants' use of an SSP.

Results

Eighty-two percent of participants were HCV antibody positive (n=153). Nearly 2/3 (64%; n=119) of participants had a history of BMT, while only 19% (n=36) had a history of MMT. Among participants who did not primarily use an SSP, those currently using BMT had a higher adjusted prevalence of HCV antibody positivity than those with no BMT history (adjusted prevalence ratio=1.5 [95% confidence interval=1.1, 2.0]). We found no differences in the prevalence of HCV antibody seroprevalence by type of OAT or by the recency of MMT.

Conclusions

Rural PWID who are not retained in OAT and do not use SSPs may represent a particularly high-risk group for HCV. PWID in OAT should be counseled on accessing SSPs.

#8
Leon Brodsky, BS
Research
MS1: The Ohio State University College of Medicine

PTSD Comorbidities in Patients Undergoing ECT for Major Depressive Disorder: A National Study Across the United States

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Currently, PTSD is not recognized as an indication for ECT. However, several small studies indicate promise with this treatment modality. This study aims to assess if there are a sizable number of patients treated with ECT for comorbid major depressive disorder (MDD) with PTSD, to evaluate differences in PTSD comorbidity rates as well as demographics between MDD patients who were treated with ECT versus those who were not.

Patient data was obtained from the Nationwide Inpatient Sample with MDD. There were 918,709 patients with MDD who were not treated with ECT, 11.6% of these patients had PTSD comorbidity, with a mean age of 40.4 years (SD=13.6), 68.6% of patients were females; while those without comorbidity had a mean age of 45.4 years(SD=16.9) and 54.5% were females. Of the 26,155 patients treated with ECT, 10.3% had PTSD comorbidity, with a mean age of 45.9 years (SD=13.2) and 75.4% were females.

Those without PTSD comorbidity had a mean age of 58.3 years (SD= 16.6) and 62.5% were females. There were no significant differences in the comorbidity rates when comparing ECT and non-ECT patients.

#9
Zevidah Vickery, MD, MSCI
Research
PGY7: MetroHealth Medical Center Recovery Services

Comparison of HCV screening, testing and treatment at two MAT Clinics: A Quality Improvement Project

Purpose of the Study

Ohio ranks 9th in the United States for rates of acute Hepatitis C Virus (HCV) and 8th in the US for chronic HCV. Of patients with chronic HCV, 20-30% will develop cirrhosis, and of those with cirrhosis, 1-4% per year develop Hepatocellular Carcinoma (HCC) and 2-5% per year develop End Stage Liver Disease (ESLD)(1). This HCV epidemic has been fueled by injection drug use (2). There has been a dramatic increase in HCV cases since 2010 among white, rural, 20-39 year olds representing the same demographic, and indeed the same individuals, who comprise the opioid epidemic. The epidemiology of HCV has changed along with the opioid epidemic, which introduced less expensive injection drugs to people previously using prescription opiates in tablet form. People who inject drugs (PWID) represent the majority of new HCV infections (approximately 2/3 of new HCV cases) and are the largest group of individuals already infected, but PWID are less likely to access HCV treatment.(3)

National guidelines now consider injection drug use as an indication for treatment (4). Using a public health approach HCV treatment is transmission reduction. While historical rates of treating PWID for HCV are low (<5%), treated patients with SUD have similar rates of response as patients without SUD (5). Controlling the HCV epidemic must involve strategies to reach, and treat, PWID.(6) Highly effective direct-acting anti-viral medications (DAA) have changed the landscape of HCV treatment. There are no interactions between these DAAs and medications for SUD, and patients on MAT have lower rates of HCV reinfection than patients not on MAT (5). HCV treatment by non-specialists has been shown to be acceptable, safe and effective. By simplifying access to care through integration of HCV treatment into addiction medicine services, many of the treatment barriers patients with SUD experience can be overcome.(7-9)

We propose a new program at MetroHealth Medical Center's Recovery Services (MHRS) in Cleveland, OH, which is comprised of community-based MAT programs at two locations, Broadway and Parma clinics. We will test anyone who presents for substance use treatment for HCV and offer treatment to those with serologic evidence of active HCV infection (a positive HCV viral load).

Methods

Our plan is to identify and outreach 70% of the patients with untreated HCV (as indicated by a positive HCV viral load) who are active in the MHRS program (have received services between 04/1/2022 and 08/1/2022). We will offer them treatment with glecaprevir/pibrentasvir (Mayvret©, AbbVie, 2022) or sofosbuvir/velpatasvir (Epclusa®, Gilead Sciences, 2022), determined by patient preference, insurance coverage and pharmacy availability. We will compare our two sites' for both their rates of HCV treatment being offered and patient acceptance of DAA therapy. We will educate MHRS providers and staff to implement a new HCV workflow that helps to identify patients eligible for DAA therapy in MHRS and support them to treatment completion. Our QI team includes MHRS prescribers, nurses, medical assistants, counselors, patient navigators and MetroHealth's specialty pharmacists.

Conclusions/Interpretation

Both our MAT sites have between 28-34% of their patients with chronic, untreated HCV who will be offered treatment as proposed in this QI. Increased treatment access will help prevent HCV transmission and help patients avoid long-term complications of cirrhosis, HCC and ESLD.

This data has also allowed us to identify a discrepancy between our two sites in the proportion of MAT patients who have had HCV screening performed (90.5% had HCV testing at Broadway and 71.6% had HCV testing at Parma). This presents an opportunity for an additional QI Project to improve the rates of HCV screening at both sites.

#10
Ajitpaul Basra MD
Research
PGY3: MetroHealth Medical Center

Quality Assurance Project, Management of dual diagnosis patients in an inpatient psychiatric unit

Oftentimes, patients admitted to inpatient psychiatric units have a primary organic psychiatric diagnosis and also meet criteria for a substance use disorder. Unfortunately, at times treatment plans focus on the primary diagnosis and the substance use disorder is overlooked. The purpose of this quality assurance project is to analyze all of the patients that were admitted to Metro Health's inpatient psychiatric unit that also had a substance use disorder listed in their EMR, with the intent to determine whether that substance use disorder was addressed and or treated during their inpatient stay.

We were able to identify 87 patients from 06/01/21 to 06/30/22 that were admitted and/or cared for by the department of psychiatry that had a substance use disorder listed in their EMR. This project intends to analyze these patients and the treatment they received with the goal of identifying if their substance use disorder was addressed and if MAT therapy was offered or started.

We will also categorize patients by demographic information available in the EMR such as age, race, gender and socioeconomic status with the goal of bringing awareness to some of our most vulnerable patient populations.