WITHIN-PERSON PREDICTORS OF SAME DAY ALCOHOL AND PRESCRIPTION OPIOID USE AMONG YOUTH PRESENTING TO AN URBAN EMERGENCY DEPARTMENT

Statement of purpose To use longitudinal data collected from youth presenting to an urban emergency department to determine predictors of within-person changes in alcohol and prescription opioid same day use frequency.

Methods/Approach Research assistants recruited youth age 14–24 reporting past-six-month substance use into the Flint Youth Injury Study from 11/2009–9/2011 (n=599; 349 violently-injured at baseline). Participants self-administered validated measures of alcohol use severity, cannabis use severity, mental health symptoms, social support/influences, and violent injury at baseline and four biannual follow-ups. In addition, participants completed Time Line Follow Back calendars (baseline: 30-days; follow-ups: 90-days) which allowed ascertainment of same day use of alcohol and prescription opioids. We calculated the prevalence of same day alcohol and prescription opioid at each follow-up, and used negative binomial regression with person-level fixed effects to isolate within-person predictor effects on same-day use frequency.

Results Between 2.0% (baseline) and 5.7% (18-month follow-up) of youth reported same-day use of alcohol and prescription opioids across follow-ups, with 19.9% reporting same-day use in at least one follow-up. Within-person increases in alcohol use severity, cannabis use severity, and depression and anxiety symptoms all corresponded to increases in same day alcohol and prescription opioid use frequency. Increased exposure to positive peer influences, and decreased exposure to delinquent peers, both coincided with lower same day alcohol and prescription opioid use frequency.

Conclusions Same day use of alcohol and prescription opioids is common in this population, and within-person changes are predictable. Interrupting worsening trajectories of substance use severity and mental health symptoms, and enhancing social support and reducing delinquent peer exposures, may reduce same day use frequency.

Significance Co-use of alcohol and prescription opioids dramatically increases acute risks (e.g., overdose) associated with each; understanding within-person predictors of same day use may point to catalysts for behavior change.

Alcohol and substance abuse
Conclusions DUD is prevalent in this population and associated with personal, social, and community exposures. Among those with DUD, diagnosis with multiple drug use disorders was common; network analyses showed several large partial correlations between substances, with cocaine and prescription opioid use disorder co-diagnosis being the most strongly associated.

Significance DUD is linked to a variety of injuries including suicide, partner violence, firearm violence, death by homicide, and violence/injury in general. Understanding the relationship between co-occurring DUDs and associated risk factors allow for targeted intervention strategies.

TBI/Concussion injuries

Statement of purpose Visual and autonomic system disturbances are common sequelae of concussion. Clinical concussion diagnosis currently relies on subjective assessments such as symptom questionnaires such as the Post-Concussion Symptom Inventory (PCSI). Quantification of visual and autonomic dysfunction could provide an objective method of acute diagnosis and subacute identification of ongoing injury.

Methods/Approach We collected objective eye tracking data from three cohorts ages 12–17 years: healthy controls (n=105, mean age: 15.3, 56.2% female), concussed cases seen within 28 days of injury (acute, n=125, mean days since injury:12.5, mean age: 15.4, 46.4% female) and concussed cases seen within 29–90 days of injury (sub-acute, n=94, mean days since injury:53.6, mean age: 15.4, 70.2% female). We compared self-reported symptoms and eye tracking metrics across groups using a series of chi-square analyses and one-way analysis of variance, with Tukey’s range test for post-hoc testing. Bonferroni corrections were used to account for multiple comparisons.

Results Controls reported significantly lower PCSI scores (mean ± SD: 6.0 ± 9.1) than acute cases (31.2 ± 24.7, p < 0.001) and sub-acute cases (31.4 ± 27.8, p < 0.001). A significantly lower proportion of controls experienced symptoms after completing the assessment (10%) than acute cases (55%, p < 0.001) and sub-acute cases (38%, p < 0.001). Six eye tracking metrics related to pupil diameter (left and right pupil size mean and median values, mean and median differences in left and right pupil size), were significantly greater among acute and sub-acute cases compared to controls.

Conclusion Measures of pupil diameter were greater for acute and sub-acute cases compared to healthy controls, suggesting autonomic dysfunction post-injury. No other metrics related to eye movement were discriminatory in this cohort, likely due to the heterogeneity of concussion.

Significance These findings support the quantification of visual and autonomic dysfunction as objective markers of pediatric concussion.

Alcohol and substance abuse

Statement of purpose In 2018, unintentional drug overdose was the leading cause of injury-related deaths among Ohioans. In the same year, drug poisoning was the third leading mechanism of suicide deaths. This session will review the ‘who, when, where, and how’ of overdose deaths from the Ohio Violent Death Reporting System (OH-VDRS) to provide participants with an understanding of the sociodemographic characteristics and related circumstances (e.g., prior suicide attempts, prior mental health or substance use disorder treatment, co-occurring mental health conditions) surrounding overdose deaths.

Methods/Approach Descriptive statistics of 2016–2018 OH-VDRS data assessed sociodemographic characteristics of and circumstances preceding deaths by unintentional and intentional (i.e., suicide) drug overdose among Ohio residents who died in Ohio.

Results Regardless of intent, most drug overdose decedents were Caucasian (unintentional: 84.6% versus intentional: 95.3%) with a high school degree or less (unintentional: 77.4% versus intentional: 62.3%). While unintentional drug overdose decedents were more likely to be male (67.0% and 25–34 years old (27.8%), most intentional drug overdose decedents were female (54.9%) and 45–54 years old (26.3%). Regarding circumstances, a larger proportion of unintentional drug overdose decedents had a substance abuse problem (86.2% versus 27.3%), while a larger proportion of intentional drug overdose decedents had a mental health condition (78.9% versus 43.3%). Toxicology differences were noted; antidepressants, anticonvulsants, antipsychotics, and benzodiazepines were identified as a cause of death in a higher proportion of intentional drug overdose deaths, while cocaine and opioids were identified in more unintentional drug overdose deaths.

Conclusion Examining drug overdose trajectories by intent can better inform interventions by targeting diverse prevention strategies to the appropriate populations.

Significance A better understanding of drug overdose trajectories by intent could provide evidence to guide the data-driven decision making surrounding the development and implementation of evidence-based policies, programs, and interventions.