Substance Use: 169-173

169.

Substance Abuse Visits to the Emergency Department: S.A.V.E.D.
April Lee, MD1; Virteeka Sinha, MD2; Edward McCabe, DO, FSAHM3; Barry Hahn, MD1; Yvonne Giunta, MD1; Jennifer Morrison, MD1; Carmen Torrado-Jule, MD1
1Staten Island University Hospital; 2SUNY Downstate Medical Center

Purpose: Adolescent alcohol and substance use, and its morbidities and mortalities, is a significant public health problem. Youth Risk Behavior Survey (NYC, 2009) data revealed that Staten Island youth had the highest percentage (37%) of alcohol use among the five boroughs of NYC. In an effort to determine factors leading to the initiation of alcohol/substance abuse, the objectives of this study were to quantify the prevalence of alcohol-/substance-related visits among 13-20 year olds to Staten Island University Hospital Emergency Department (ED), and to identify variables associated with these visits.

Methods: Retrospective data from patients 13-20 y/o was collected from ED visits between 1/1/2012 and 12/31/2012 (n = 7680). 149 ED visits contained diagnosis codes for the initial review criteria. 42 visits were excluded due to no evidence of alcohol or substance use (SA) by ICD-9 codes. The remaining 107 visits revealed ICD-9 codes consistent with SA and were eligible for the study. Variables reviewed included age, gender, ethnicity, month of ED visit, type of SA, injuries as a result of SA, chronic illness history, pre-existing mental health condition history, medications, tobacco use, zip code, and insurance status. The proportion of SA-related visits to the ED during the study period was calculated. To aid variable analysis, a control group of patients, 13-20 y/o, who visited the ED during the same time period with a non-SA-related diagnosis was randomly selected (n = 214). The primary objective of the statistical analysis was to determine whether any significant differences exist between SA-related visits and non-SA-related visits on certain demographic and clinical factors. Summary statistics (i.e. percentages and frequencies) were calculated. Either the Chi-Square or the Fisher’s Exact test were used to determine if any significant differences exist between cases and controls. Statistically significant results had a p value of <0.05.

Results: Alcohol-related visits were the most common (42.0%). Opioid-related visits were second (17.7%); marijuana-related visits third (12.1%). Tobacco use and diagnosis of depression or anxiety were significantly more prevalent among SA-related visits compared to non-SA-related visits (p<0.0001). Among SA-related visits, 9.4% were 13-14 y/o, 31.8% were 15-17 y/o, and 58.9% were 18-20 y/o. Among non-SA-related visits, 25% were 13-14 y/o, 32.1% were 15-17 y/o, and 42.9% were 18-20 y/o. These age group differences were significant (p=0.002). The majority of SA-related visits were male (58.9%) compared with non-SA-related visits where the majority were female (52.8%). This difference was marginally significant (p=0.048). Chronic illness was not more prevalent among SA-related visits (p>0.05). Month of ED visit also did not appear to be associated with type of ED visit (p>0.05).

Conclusions: Our data, consistent with national data, revealed more than 40% of substance-related ED visits involved alcohol. This data also confirms the growing opioid abuse problem seen globally, nationally and, significantly, on Staten Island. Our findings suggest that there are identifiable, at-risk
populations to whom support should be provided during the emergency room visit. The results of this study support the use of early identification and prevention strategies targeting these high-risk groups.

**Sources of Support:** None

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**170.**

**Use of a Medically Supervised Injection Facility Among Drug-Injecting Street Youth**

Scott Evan Hadland, MD, MPH; Kora Debeck, PhD; Thomas Kerr, PhD; Paul Nguyen, PhD; Sabina Dobrer, MA; Julio S. Montaner, MD; Evan Wood, MD, PhD

*1 Boston Children's Hospital; 2 Simon Fraser University; 3 University of British Columbia; 4 St. Paul's Hospital*

**Purpose:** Medically supervised injecting facilities (SIFs) provide a sanctioned space for drug users to inject pre-obtained illicit substances and are associated with reductions in overdose mortality and human immunodeficiency virus (HIV) risk behavior among adults. However, little is known about SIF use among youth. We therefore aimed to identify factors associated with use of the Vancouver SIF, the first and only such facility in North America, among actively injecting street youth.

**Methods:** From September 2005 to May 2012, longitudinal data were collected from the At-Risk Youth Study (ARYS), a prospective cohort of street youth in Vancouver, Canada. Youth were recruited through street-based outreach and snowball sampling, and provided informed consent. Inclusion criteria were age 14-26 years and illicit drug use (other than marijuana) in the preceding 30 days. At baseline and semiannually, participants completed an interviewer-administered questionnaire. The sample was limited to youth who reported injection drug use at baseline or during follow-up. The primary outcome was self-reported use of the Vancouver SIF in the preceding 6 months at any visit. Analyses employed generalized estimating equation (GEE) logistic regression to identify sociodemographic and drug-related predictor variables associated with SIF use, adjusting for potential confounders through multivariate modeling.

**Results:** Of 414 actively drug-injecting youth, 33.8% were female and 22.9% were Aboriginal. Mean age was 22.8 years (standard deviation, 2.7 years). During the study period, 42.3% of youth used the Vancouver SIF at least once. SIF use was reported at 37.5% of the 1,018 study observations at which youth reported injecting. Of all SIF-using youth, 51.4% went to the facility at least once weekly, 44.5% used it for at least one-quarter of all injections, and 22.4% reported receiving information about safe injection practices they did not already know. Only 2.9% of SIF users reported feeling the facility was not youth-friendly. When not using the SIF, 37.1% reported primarily injecting on the street, in a public bathroom, or in a park. In adjusted analyses, youth using the SIF were significantly more likely to have lived or spent time weekly in the Downtown Eastside neighborhood surrounding the SIF (adjusted odds ratio [AOR], 3.29; 95% confidence interval [CI], 2.38-4.54), to have injected in public (AOR, 2.08; 95% CI, 1.53-2.84), or to have engaged in high frequency drug injection, including daily injection of heroin (AOR, 2.36; 95% CI, 1.72-3.24), cocaine (AOR, 2.44; 95% CI, 1.34-4.45), or crystal methamphetamine (AOR, 1.62; 95% CI, 1.13-2.31).
Conclusions: This is the first study of SIF use among street youth in North America, and showed that the facility attracted high-frequency injecting users most at risk of blood-borne infection and fatal overdose, as well as those that contribute to public drug use. SIFs, particularly when located near where youth spend time, offer a crucial point of contact with onsite addiction treatment services and public health messaging for high-risk youth.

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171.

DrugCocktails.ca: A Website for Youth and Health Care Professionals (HCPs) Focusing on Interactions between Prescription Drugs and Substances of Abuse

Dean Elbe, RPh1; Sabrina Gill, BScN1; Darcy Santor, PhD2; Mark Norris, MD3; Sandra Whitehouse, MD4
1BC Children's Hospital; 2University of Ottawa; 3Children's Hospital of Eastern Ontario; 4BC Children's Hospital

Purpose: Adolescents often engage in recreational substance use and those with chronic health conditions are no exception. These adolescents are often prescribed medications that can interact with recreational drugs, increasing morbidity. A risk reduction strategy was conceived in Cocktails (2002), a book for youth detailing potential interactions between recreational and prescription drugs and was well received by HCPs and youth. A youth friendly online version, with added evidence and detail for HCPs was developed to increase access, improve patient/HCP communication and knowledge translation. The purpose of the study was to create a web based application that provides youth and HCPs information on interactions between prescription medications and substances of abuse, and evaluate the utility, ease of use and user satisfaction using data from a pilot study targeting youth and HCPs.

Methods: An extensive literature search on prescription drug interactions with 10 classes of recreational substances was undertaken. Cocktails was revised, expanded and transformed into a web-based resource with separate versions for youth and HCPs. A pilot study surveying the utility, usability and satisfaction with the site was undertaken with a cohort of youth and HCPs in a tertiary care children’s hospital in Canada. Website analytic and satisfaction data were analyzed using descriptive statistics. User feedback was solicited in order to improve the final design and content of the website.

Results: Website content review and development occurred over a 3 year period. A working beta-version was used for the pilot study. A total of 45 youth and 45 HCPs completed analyzable surveys. High rates of ease of use (youth 84.5%, HCPs 86.7%) and satisfaction (youth 84.4%, HCPs 91.2%) were reported by survey respondents. Most stated they would use the website again (youth 82.2%, HCPs 100%) or recommend the website to a friend or colleague (youth 82.2%, HCPs 97.8%). HCPs (55.6%) were more likely than youth (26.7%) to suggest modifications to the website. Suggestions for
improvement dealt mainly with interface design, improving search engine functionality and deployment of the resource as an application for mobile devices.

Conclusions: Overall, youth and HCPs found the website easy to use and were satisfied with the interface and information provided. The website offers a framework for development of similar content using web-based platforms.

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172.

Blood Pressure and Tobacco Exposure among Rural Adolescents
Luz Huntington Moskos, PhD, RN1; Anne Turner Henson, PhD, RN2; Marti Rice, PhD, RN2
1University of Kentucky; 2University of Alabama Birmingham

Purpose: Hypertension, a major public health challenge, is the most prevalent precursor to cardiovascular disease in the United States. Among adolescents, the prevalence rate of hypertension is approximately 3% and the rates of single measurement blood pressure elevation may be as high as 37%. Longitudinal data and systematic reviews of research provide evidence that blood pressure elevations in childhood track through adolescence and into adulthood. Pre-hypertension is predictive of hypertension in adolescents, with progression between these blood pressure categories at approximately 7% per year. Tobacco use and exposure is a major cardiovascular risk factor and a cause of heart disease in adults. Further, rural communities have higher tobacco use prevalence and fewer community policies restricting tobacco use than their urban counterparts. Little is known about the effects of tobacco exposure on blood pressure in rural adolescents. The purpose was to examine the influence of tobacco exposure on blood pressure in rural adolescents ages 15-18 while controlling for age, gender, parental history of hypertension, socioeconomic status, pubertal status and weight status.

Methods: A convenience sample of 148 adolescents ages 15-18 was recruited from two rural high schools (88 female and 60 male, all Caucasian). Adolescents were measured for blood pressure, weight status (BMI, waist circumference), and tobacco exposure (self-report, salivary cotinine). Self-report measures of tobacco exposure included the Uptake Continuum and Peer and Family Smoking Index.

Results: 25% of adolescent males and 11.4% of adolescent females had elevated systolic blood pressures. A fifth of the sample (22%) had elevated salivary cotinine levels indicative of tobacco use and secondhand smoke exposure. Ten percent of participants were current tobacco users and nearly half of the participants (47.6%) stated that their family members (i.e., parents, stepparents, guardians and/or siblings) smoked cigarettes. Salivary cotinine levels were significantly associated with smoking exposure by family members ($X^2 = 10.81, p = .001$), though not with smoking exposure by peers ($X^2 = 1.21, p = .271$). Age, gender, waist circumference and salivary cotinine contributed to 36.4% of the variance in systolic blood pressure and 19.1% of the variance in diastolic blood pressure.
Conclusions: A combination of tobacco exposure and waist circumference are risk factors for elevated blood pressure in rural adolescents. In addition to the tobacco and obesity indicators, older male adolescents were more likely to exhibit high blood pressure. Elevated blood pressure and tobacco exposure put rural adolescents at risk for cardiovascular disease and premature death as they become adults. Public health measures to reduce tobacco exposure and obesity among rural adolescents are of critical importance.

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173.

Adolescent Mothers: The Effect of Children on Substance Use Treatment Outcomes
Rebekah J. Savage, MD; Nefertiti Durant, MD, MPH, FSAHM; Brendan Clark, PhD; Karen Cropsey, PhD
University of Alabama at Birmingham

Purpose: Adolescent motherhood is correlated with negative health and social outcomes for both the mother and the child. Few research studies have explored the impact of adolescent and young adult motherhood on substance abuse treatment and recovery. The aim of this study was to identify characteristics associated with successful completion of a substance abuse program by adolescents and young adults with children.

Methods: Data were from female adolescents and young adults in the Treatment Accountability for Safer Communities (TASC) program, a case management criminal justice diversion program for substance users that is an alternative to incarceration and involves drug rehabilitation placement. Variables included demographics (i.e. race, marital status, employment, education, insurance status), criminal history, substance dependence diagnosis, and program outcome (categorized as positive/indeterminate versus negative). Chi square analyses for categorical data and ANOVAs for continuous variables were used to determine univariate associations between variables. A binary logistic regression analysis was completed to determine the characteristics associated with adolescent and young adult women with children.

Results: A total of 874 adolescents and young adult women 21 years of age and under (range 15-21) were analyzed; 271 had children (31%). The mean age of the group was 19.7 years. Of those with children, 33 (12.1%) lost custody and 26 (9.6%) were involved in a current child protective services court case. Univariate analysis showed adolescent and young adult mothers to be more likely to have negative treatment program outcomes (e.g. not completing the program, etc.) than non-mothers (39.9% vs 26.5%, p<0.01). There was no difference in type of substance dependence between mothers and non-mothers. Multivariate analysis showed mothers to be more likely than non-mothers to be non-white (p<0.01, OR 3.0), have current or past marriage (p<0.01), have Medicaid (p <0.01, OR 12.2), and live with their spouse and children (p<0.01, OR 15.9). Adolescents and young adults in substance use treatment who had completed more than a high school education were less likely to be mothers.
(p<0.01, OR 3.4). There was no difference in treatment program outcome between adolescent mothers and non-mothers when accounting for other variables including race, living situation, education, and insurance status.

**Conclusions:** Adolescents and young adult women who have children and are involved in the criminal justice system have negative substance abuse treatment outcomes (e.g. failure to complete the program) more often than adolescents and young adult women without children. However, these differences did not remain significant when taking socioeconomic factors such as living situation, employment, and education into account. Future research needs to be conducted to explore optimal strategies to address economic, educational and social challenges for adolescent and young adult mothers receiving treatment for substance dependence in the correction system. As well, studies are needed to assess the children of adolescent and young adult substance users and develop sustainable educational and youth development programs that engage the parent and the child longitudinally.

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