

Study identifies overdose risk factors in youth with substance use disorders

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A team of Massachusetts General Hospital (MGH) investigators has identified factors that may increase the risk of drug overdose in adolescents and young adults. In their report published online in the *Journal of Clinical Psychiatry*, the researchers describe finding that more than a quarter of those seeking treatment at Addiction Recovery Management Service, an MGH-based outpatient substance-use-disorder treatment program for youth ages 14 to 26, had a history of at least one overdose. Factors associated with increased overdose risk were disorders involving the use of alcohol, cocaine or amphetamines and histories of depression, anxiety or eating disorders.

"Very little research exists on [risk factors](#) associated with overdose in young people presenting for [substance use disorder](#) treatment," says lead and corresponding author Amy Yule, MD, of Addiction Recovery Management Service and the MGH Division of Child Psychiatry. "In addition to screening for substance-specific risk factors, it is important that providers systematically screen young patients for overdose histories and for psychiatric factors that may increase overdose risk."

Most studies of overdose risk among individuals with substance use disorders have focused on adults, and the few that specifically studied young people only assessed substance-related risk factors and not psychiatric symptoms. Yule notes that, since substance use patterns are known to differ between youth and adults, and since brain regions important to decision making do not fully mature until the 20s, it is important to investigate whether risk factors differ between the two age

groups.

The research team conducted a retrospective analysis of deidentified data from intake assessments conducted at Addiction Recovery Management Service from January 2012 through June 2013. These comprehensive assessments include details of both substance use and psychiatric histories and are conducted by social workers, psychologists and psychiatrists with additional training in addiction medicine.

Of the 200 patients whose data were collected, 58 had a history of at least one overdose - defined as substance use associated with significant impairment in the level of consciousness or an ingestion of any substance with the intent of self-harm that was reported as a suicide attempt. Among those with an overdose history, 62 percent (36 patients) had unintentional overdoses only, 31 percent (18 patients) had intentional overdose only, and 7 percent (4 patients) had a history of both intentional and unintentional overdose; 24 patients had histories of more than one overdose.

Patients with two or more substance use disorders were more than three times as likely to have a history of overdose, compared to [patients](#) with a single substance use disorder. The best substance-associated predictors of an overdose were alcohol use disorder, cocaine use disorder and amphetamine use disorder; psychiatric conditions associated with overdose history were eating disorders, depression and anxiety disorders. Patients with a history of intentional overdose were more likely than those with unintentional overdose to have a history of self-harming behavior and inpatient psychiatric treatment.

Yule notes that, since the association of eating disorders with overdose risk has never been reported previously, it needs to be replicated in future studies, but assessing for eating disorders and other psychiatric risk factors in youth with substance use disorders is essential. The lack

of an association between opioid use and overdose history in this study could reflect the fact that opioid use usually begins at later ages than does use of [substances](#) such as cannabis and alcohol, which are more common among adolescents. In addition, she adds, the presence of fentanyl, which significantly increases overdose risk, was much lower in Massachusetts at the time this study's data were collected.

"It's going to be helpful to assess overdose risk among young people with substance use disorders over a longer period of time and to examine whether treatment mitigates the risk for subsequent overdose," says Yule, an instructor in Psychiatry at Harvard Medical School (HMS). "While the opioid epidemic has raised public awareness of the importance of increased access to evidence-based treatment for substance use disorders, our findings support the importance of considering all substances of misuse - both opioids and non-opioids - when assessing overdose risk."

Study senior author Timothy Wilens, MD, chief of Child and Adolescent Psychiatry at MGH and associate professor of Psychiatry at HMS adds, "The striking prevalence of overdose history in treatment-seeking [young people](#) reflects how common [overdose](#) unfortunately is among those with substance use disorders, no matter the age."

More information: Amy M. Yule et al, Risk Factors for Overdose in Treatment-Seeking Youth With Substance Use Disorders, *The Journal of Clinical Psychiatry* (2018). [DOI: 10.4088/JCP.17m11678](https://doi.org/10.4088/JCP.17m11678)

Provided by Massachusetts General Hospital

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