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Treatment History among Patients with Recurrent Opioid Overdoses: A Multicenter Study

Amanda Sutphin, BSHCA, EMT-P; Paul M. Wax, MD, FACMT; Rachel Culbreth, PhD, MPH; Alyssa M. Falise, PhD, MSPH; Jeffrey Brent, MD, PhD, FACMT, FACCT; Kim Aldy, DO, MS, MBA; Sharan Campleman, PhD, MPH, DABT

Background & Introduction: Non-fatal overdoses are a major risk factor for a subsequent fatal overdose.[1] Providing emergency medical treatment for patients experiencing a non-fatal overdose is a critical opportunity to initiate treatment engagement and linkage to subsequent care.[2,3] This study sought to examine self-reported prior addiction treatment among patients with recurrent overdoses presenting to emergency departments (EDs) after a non-fatal opioid overdose.

Methods: The Toxicology Investigators Consortium (ToxIC) Drug Overdose Toxico-Surveillance (DOTS) program prospectively enrolled patients with severe and/or life-threatening opioid or stimulant overdoses presenting at one of 17 US sites between 2022 and 2024. The present analysis focuses only on those who presented after a clinically suspected opioid overdose. DOTS data collection included chart reviews, structured patient interviews, and comprehensive state-of-the-art qualitative and quantitative toxicology testing. Patients self-reported past 3-month medication for opioid use disorder (MOUD) treatment (e.g., buprenorphine, methadone, naltrexone, or other) and past 3-month adjunct behavioral addiction treatment (e.g., inpatient/outpatient therapy, group counseling, psychiatric care, 12-step programs, peer recovery support). Patients also reported the number of previous opioid overdoses in their lifetime that required naloxone. A composite measure of past 3-month MOUD and/or adjunct behavioral addiction treatment was utilized in addition to examining each variable separately. Statistical analyses consisted of bivariate statistical tests and logistic regression for determining sociodemographic and patient history characteristics associated with previously receiving addiction treatment among those who presented as a clinical opioid overdose with a history of prior opioid overdoses. All patients provided written informed consent, and central and site IRBs approved this study.

Results: We enrolled 997 patients; 689 of them presented clinically as an opioid overdose, and 560 completed the interview questions of interest. Almost half (49%; 272/560) of patients reported at least one prior overdose requiring naloxone, and most of these reported two or more (79%; 214/272). Among the total sample (n = 560), 11% reported ever receiving behavioral addiction treatment without MOUD in the past 3 months, 9% received MOUD without behavioral addiction treatment, and 14% received both. Patients with a higher frequency of past opioid overdoses were more likely to report receiving both MOUD and behavioral addiction treatment ($P < 0.001$). Those with a history of two or more overdoses had more than three times the prevalence of past 3-month MOUD and behavioral addiction treatment compared to those with no overdose history (23% vs. 7%, respectively). Among those with past 3-month MOUD treatment (n = 127), 52% reported buprenorphine and 43% reported methadone. More than half of those with buprenorphine (55%; 36/66) also received behavioral addiction treatment, and 67% (37/66) of those with methadone received some type of behavioral addiction treatment.

In the multivariable model, patients who identified as Black (compared to non-Hispanic White) were less likely to report receiving any behavioral addiction treatment or MOUD in the past 3 months (aOR: 0.90; 95% CI: 0.82, 0.98) after adjusting for age, gender, number of prior overdoses, and site location. Those with one prior overdose (aOR: 1.23; 95% CI: 1.09, 1.40) and two or more prior overdoses (aOR: 1.27; 95% CI: 1.17, 1.37) were more likely to report receiving either MOUD or behavioral addiction treatment services in the past 3 months. Patients in the West (aOR: 0.81; 95% CI: 0.73, 0.90) and Midwest (aOR: 0.80; 95% CI: 0.73, 0.88) were also less likely to report receiving any MOUD or behavioral addiction treatment services in the past 3 months compared to those in the Northeast, after adjusting for all other covariates.

Conclusion & Discussion: Only a third of patients presenting to EDs with opioid overdoses reported receiving any addiction-related behavioral therapy and/or MOUD in the prior three months. Black patients and those presenting in the Western and Midwestern sites were less likely to have received these interventions. Nearly half of patients presenting to the ED after a non-fatal overdose have previously experienced one or more overdoses. Patients who reported two or more overdoses were more likely to have attended addiction treatment services in the past, including inpatient/outpatient therapy, MOUD, and psychiatric care. More frequent initiation of behavioral interventions and MOUD would likely reduce the recurrent overdose risk. ED-based linkage to care and MOUD initiation programs should consider unsuccessful patient treatment histories for those with multiple past overdoses. Qualitative studies are warranted to further elucidate the reasons for unsuccessful treatment attempts among patients with recurrent overdoses in order to tailor individualized treatment and MOUD.