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84. Severe outcomes following pediatric cannabis intoxications: a prospective cohort study of an international toxicology surveillance registry

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Background: An increasing number of states and jurisdictions have legalized or decriminalized recreational cannabis for adult use. The subsequent availability and marketing of recreational cannabis following legalization has led to a parallel increase in rates and severity of pediatric intoxications. We explore predictors of severe outcomes (i.e., intensive care unit [ICU] admission or in-hospital death) in children and adolescents who presented to the Emergency Department (ED) with cannabis intoxication.

Methods: In this prospective cohort study, we collected data on all pediatric patients (0–18 years) who presented with cannabis intoxication from August 2017 through June 2020 to participating sites in the Toxicology Investigators Consortium (ToxIC), a multi-center registry of intoxicated patients who received a bedside consultation by a medical toxicologist. In cases that involved polypharmacy exposure, patients were included if the medical toxicology team determined that cannabis was a significant contributing agent. We collected relevant demographic, clinical, management, disposition, and outcome data. We conducted a multivariable logistic regression analysis to explore predictors of severe outcome. The primary outcome was a composite severe outcome endpoint, defined as ICU admission or in-hospital death. Covariates included sociodemographic and exposure characteristics.

Results: One hundred and thirty-eight pediatric patients presented to a participating ED with cannabis intoxication and were consulted at the bedside by medical toxicologists. There were 75 males (54%), and the median age was 14.0 years (IQR 3.7–16.0). Among all patients, 52 (38%) were admitted to ICU and/or died during hospital stay; the remaining 86 did not meet these criteria. In the multivariable logistic regression model, polypharmacy ingestion (aOR =10.5, 95% CI: 3.2–34.3; $p < 0.001$) and cannabis edibles ingestion (aOR =4.1, 95% CI: 1.6–10.7; $p = 0.003$) were independent predictors of severe outcome.

Conclusions: Pediatric patients who presented to ED with cannabis intoxication and also had polypharmacy intoxication or have ingested cannabis edibles had 10.5- and 4.1- higher odds of severe outcome, respectively, than those without these characteristics. Prevention efforts should target these risk factors to mitigate poor outcomes in pediatric patients with cannabis intoxications.

