

VIEWPOINT

The Continued Rise of Unintentional Ingestion of Edible Cannabis in Toddlers—A Growing Public Health Concern

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A 2-year-old boy presents to the pediatric emergency department (ED) for altered mental status. Prior to arrival, he was with his babysitter in a normal state of health. After questioning, the babysitter mentions rewarding him with a gummy candy for good behavior. The parents admit they have edible cannabis stored in the cupboard that looks exactly like his favorite treats, gummy bears.

Almost a decade after the first states legalized the use of recreational marijuana and cannabis, health care professionals have treated countless cases of children who unintentionally ingested edible cannabis products that were not stored safely. Cannabis is the third most commonly used psychoactive substance worldwide, with use continuously rising in the US adult population.¹ In 2019, 18% of individuals in the US reported having used cannabis products at least once.¹ As use of cannabis continues to be decriminalized and legalized across the US for adults aged 21 years and older, there has been a concurrent increase in unintentional ingestion of cannabis edibles among children, which raises a significant public health concern.¹ The increase in these unintentional ingestions is likely multifactorial given the availability, variety of forms, unregulated packaging, and increased cultural acceptance of cannabis use. Medical cannabis has been legalized in most states, and recreational cannabis is decriminalized in more than half and legal in approximately one-third of states.² At the federal level, however, recreational cannabis remains illegal to possess, use, buy, sell, or cultivate. Regardless of national legislation, cannabis has become a billion-dollar industry, and consumers are able to purchase cannabis products easily online or at dispensaries in states in which cannabis has been legalized for recreational sale.

With legalization and increased access, the use of cannabis edibles has gained increased popularity, rivaling the most common form of consumption: inhalation.¹ Edible cannabis products are manufactured by infusing various food products, such as baked goods, chips, beverages, and candy, with cannabis extract or resin. Cannabis extract contains Δ -9-tetrahydrocannabinol (THC), the psychoactive compound of marijuana. A package of cannabis edibles typically contains multiple doses totaling 300 to 600 mg of THC if ingested in its entirety, a dose that can significantly impair or cause adverse effects in even a habitual cannabis user.³ Some retail edible cannabis products have packaging that is nearly identical to brand packaging of commercially available food products that do not contain THC.³ This "copycat" packaging can result in unintentional ingestions of large doses and inadvertently lead to serious toxic effects, particularly in children.³

Cannabis products are commonly used and stored in homes in which children are present, and education

from health care professionals regarding their safe storage is lacking.⁴ Children are at risk of being drawn to THC-infused products that resemble their favorite snacks or candy. Exploratory ingestions occur commonly in normal infants and toddlers, and inappropriate storage of cannabis edibles further places young children at risk of ingestion and toxic effects. One study⁵ found that the mean (SD) age for unintentional ingestion of cannabis edibles in the pediatric population is 25.2 (18.7) months. From 2004 to 2018, there was a 13-fold increase nationally in encounters involving children younger than 6 years, with the increase in edible cannabis-related exposures being greater than the increase in nonedible cannabis-related exposures.^{5,6} In addition, a retrospective cohort study⁶ of children presenting to a pediatric ED for unintentional ingestion of cannabis edibles found that 87% of intoxications occurred in the home.

Children with THC intoxication can present with neurologic impairment, including lethargy, ataxia, tachycardia, mydriasis, seizures, altered mental status, and hypotonia.⁵ However, given the unpredictability of the dose ingested, patient presentation can vary. Altered mental status in children results in broad differential diagnoses ranging from traumatic to infectious causes. Therefore, acutely altered mental status in children with an undiagnosed cannabis ingestion has led to prolonged hospitalizations with extensive and invasive diagnostic testing, including laboratory studies, lumbar punctures, electroencephalograms, and computed tomographic scans of the head to aid in diagnosis.⁵ Although most patients require routine observation in the ED or inpatient hospital unit, some patients require intensive interventions, including airway support and management, in the pediatric intensive care unit.⁵

Immediate action must be taken to change the current trajectory of unintentional pediatric ingestion of edible cannabis products. Pediatric clinicians are at the forefront of this crisis and, given their intimate relationship with patients and families, play a critical role in this mounting public health dilemma. Standardized screening tools have proven feasible for injury prevention in the outpatient setting for a variety of scenarios and would, in this circumstance, give pediatric health care professionals the opportunity to identify children at risk, intervene through education, and prevent future unintentional ingestions of cannabis edibles and potentially other toxic substances. Most families are willing to discuss cannabis use with health care professionals.⁴ Much like screening for firearm storage safety during a child's annual well visit, a standardized screening tool or reminder added to a child's electronic medical record would allow for the early identification of families with edible cannabis in the home. Firearm safety research has indicated that counseling par-

ents can improve gun safety in the home and that counseling augmented by providing gun safety devices can increase storage safety and prevent harm.⁷ Therefore, it is reasonable to assume that safe storage education regarding cannabis edibles would have similar beneficial effects. After identification, a health care professional would be able to initiate open dialogue to educate families on safe storage and signs of unintentional ingestion and provide contact information for the Poison Control Center (PCC) if an ingestion occurs.

Screening for caregiver cannabis use includes obvious challenges. Because many clinicians have limited education on cannabis, education regarding cannabis law, safe storage, and toxic effects would first need to be provided. In addition, perceived stigma associated with using cannabis, whether it be medical or recreational, could lead to reluctance to answer screening questions honestly. To further complicate the issue, no universal practice guidelines are in place for reporting unintentional ingestions to child protection agencies, which has prompted recent discussions emphasizing the importance of knowing local law, obtaining a thorough social history, and using hospital or clinic resources, including social workers. To counter these barriers, a standardized and

thoughtful approach to screening all families using harm-reduction principles is paramount. Cannabis is not legal at the federal level. Given the possible implications of documentation, a simple "checkbox" reminder to complete screening for caregivers of all infants and young children at every health maintenance visit could be sufficient to prompt clinicians. It is crucial for health care professionals to share the common goal of education and safety to foster a supportive and nonpunitive environment that will ultimately facilitate open and effective discussions.

Caregiver education on safe storage practices, toxic effects, and resources, including the PCC, is the cornerstone for much-needed future studies to demonstrate best methods for prevention. Research that examines perceptions of edible cannabis, effective methods to educate and screen caregivers, and innovative approaches to safe storage for injury prevention is critical and needed immediately. However, these collective methods alone are insufficient to protect vulnerable children, and it is imperative that a multifaceted approach be taken toward protecting children from unintentional cannabis ingestion, including advocacy to change legislation of cannabis, particularly surrounding packaging, doses, and forms of cannabis sold.

ARTICLE INFORMATION

Published Online: October 10, 2022.

doi:10.1001/jamapediatrics.2022.3530

Conflict of Interest Disclosures: None reported.

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