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CORRESPONDENCE

Edible Cannabis Legalization and Unintentional Poisonings in Children

TO THE EDITOR:

Unintentional cannabis poisoning in children may be a consequence of legalizing cannabis for adult use, although the effect of legalization with or without the sale of cannabis edibles on cases of ingestion in children is unclear.¹⁻³ In October 2018, Canada legalized the sale of dried cannabis flower to adults for nonmedical use.⁴ Starting in January 2020, the sale of edible products (e.g., gummies, chocolates, and baked goods) with tetrahydrocannabinol (THC) was approved.⁴ Although all provinces were required to allow the sale of cannabis flower, each province could choose to restrict sales of edibles. Alberta, British Columbia, and Ontario (combined population, 24.3 million) allowed the sale of a wide variety of edibles starting in January 2020. In contrast, Quebec (population, 8.6 million) prohibited the sale of edibles, which provides an opportunity to study the contribution of edibles to changes in poisonings in children after legalization of cannabis.

We conducted a population-based study examining the association between legalization and unintentional cannabis poisonings in children by analyzing data on all hospitalizations in children 0 to 9 years of age in Alberta, British Columbia, Ontario, and Quebec (86% of the Canadian population). We compared hospitalization rates over three periods: before legalization (January 2015 through September 2018); the first period of legalization, when the sale of only dried cannabis flower was legalized in all provinces (October 2018 through December 2019); and the second period of legalization, when edibles were permitted in Alberta, British Columbia, and Ontario (exposed provinces) but prohibited in Quebec (control province) (January 2020

through September 2021). Details of our methods are provided in the [Supplementary Appendix](#), available with the full text of this letter at NEJM.org.

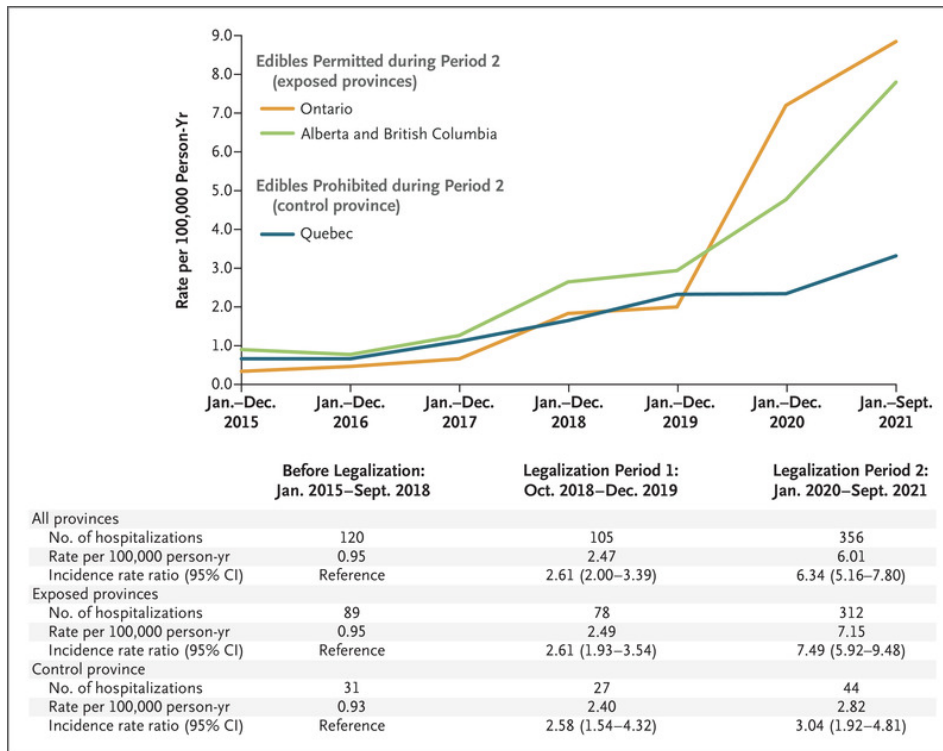


Figure 1. Changes in Rates of Hospitalization for Unintentional Cannabis Poisoning in Children 0 to 9 Years of Age in Four Canadian Provinces, 2015–2021.

During the 7-year study period, there were 581 hospitalizations for cannabis poisoning in children (53.9% in boys; mean age, 3.6 years). Details on the representativeness of our study population and the generalizability of our findings are provided in Table S1 in the [Supplementary Appendix](#). Before legalization, hospitalization rates were similar across provinces (0.95 per 100,000 person-years in exposed provinces vs. 0.93 per 100,000 person-years in the control province ([Figure 1](#))). Hospitalization rates in the exposed and control provinces during the first period of legalization were 2.6 times as high as those before legalization. During the second period of legalization, the hospitalization rate in exposed provinces (7.15 per 100,000 person-years) was 7.5 times as high as before legalization (incidence rate ratio, 7.49; 95% confidence interval [CI], 5.92 to 9.48), whereas the hospitalization rate in the control province (2.82 per 100,000 person-years) was 3.0 times as high as before legalization (incidence rate ratio, 3.04; 95% CI, 1.92 to 4.81) but was similar to the rate during the first period of legalization (incidence rate ratio, 1.18; 95% CI, 0.73 to 1.90).

Our data indicate that legalization was associated with marked increases in hospitalizations for cannabis poisoning in children. Most of the increase occurred after legalization of cannabis edibles and despite strict regulations aimed at reducing poisonings in children, including a maximum of 10 mg of THC per edible package (10 times less than allowed in some U.S. regions), requirements for plain and child-resistant packaging, and consumer education campaigns.⁵ Our findings suggest that restrictions on the sale of visually attractive and palatable cannabis edible products are key policy considerations for the prevention of cannabis poisonings among children in the United States and other countries considering legalization.

Daniel T. Myran, M.D., M.P.H.

University of Ottawa, Ottawa, ON, Canada

dmyran@ohri.ca

Peter Tanuseputro, M.D., M.H.Sc.

Ottawa Hospital Research Institute, Ottawa, ON, Canada

Nathalie Auger, M.D.

University of Montreal Hospital Centre, Montreal, QC, Canada

Lauren Konikoff, M.A.

Robert Talarico, M.Sc.

Ottawa Hospital Research Institute, Ottawa, ON, Canada

Yaron Finkelstein, M.D.

Hospital for Sick Children, Toronto, ON, Canada

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[Disclosure forms](#) provided by the authors are available with the full text of this letter at

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5 References