

Marijuana Use and Pregnancy:

Use during pregnancy and breastfeeding can harm fetal development and long-term cognition

Takeaways:

- The rate of marijuana use in pregnant people is increasing as legalization and availability expand and lead to more people viewing it as safe.
- Maternal marijuana use is linked to adverse birth outcomes as well as mood and attention deficit disorders; these outcomes may inhibit children's development and success later in life.
- Recommendations for healthcare providers and public health educators: engage patients in non-judgemental discussions about marijuana use, and discourage use before, and during pregnancy and while breastfeeding.
- Recommendations for policymakers: fund research investigating the impacts of marijuana use and perception of use in pregnancy.

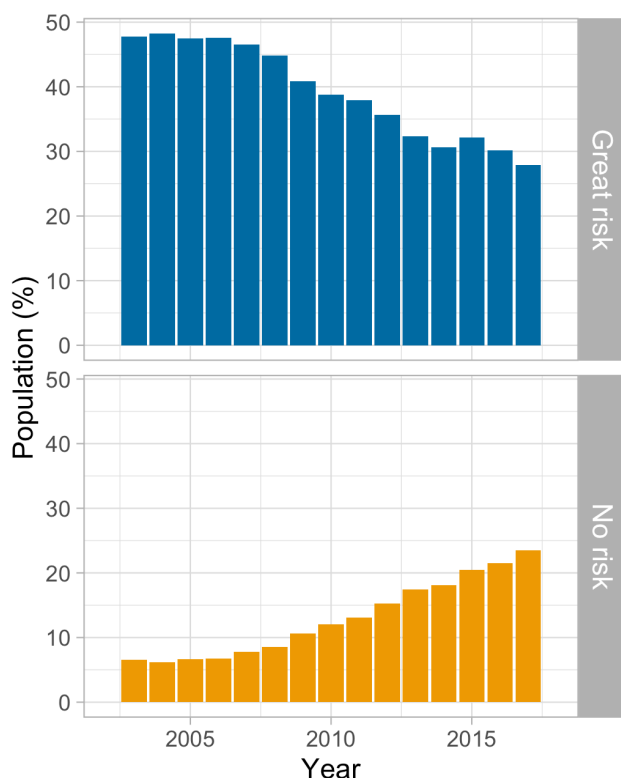


Figure 1. Perceived risk of weekly marijuana use among nationally representative sample of U.S. adults and adolescents ages 12 and older.⁵

More people are using cannabis while pregnant:

Marijuana is legal for medical use in 38 states and recreational use in 18 states as of February, 2022.¹ Legalizing and decriminalizing marijuana has potential benefits, ranging from decreasing incarceration rates^{2,3} to increasing access for cancer patients.⁴ However, increased legal access to marijuana and a rising perception of the drug as safe⁵ (figure 1) have led to higher rates of use among pregnant people.⁶ Despite medical experts discouraging use in pregnancy,⁷⁻⁹ other people have recommended marijuana for treatment of pregnancy-related symptoms; for example, a number of dispensaries recommend marijuana for treatment of first-trimester nausea.¹⁰

The percentage of pregnant people who report using marijuana nearly doubled from 2.85% in 2002 to 4.98% in 2016.⁶

Marijuana users are more likely to give birth early and to underweight infants:

Studies conducted in the United States and Canada have found an association between marijuana use during pregnancy and increased risk of low-birth-weight babies and preterm births.^{11, 12} Animal studies on marijuana exposure during pregnancy provide useful information that supports findings from human studies. Such studies remove lifestyle factors, such as tobacco use, that might contribute to differences observed in babies exposed to marijuana during pregnancy.⁷ Rodent studies have shown that birth weight decreased nearly 10% for offspring whose mothers were exposed to THC (the main psychoactive component in marijuana).¹³ Combining the results of animal studies with studies on babies who were exposed to marijuana during pregnancy provides compelling evidence that use during pregnancy can lead to worse birth outcomes.

Children may experience long-term effects from marijuana exposure during pregnancy:

Studies of children exposed to marijuana during pregnancy have shown long-term neurological and psychological impacts. Children who are exposed to marijuana during pregnancy, as compared to their non-exposed peers, demonstrate increased

levels of anxiety and depression;¹³ deficits in sustained attention, short-term memory, and comprehension of language;¹³ increased levels of impulsivity and hyperactivity;¹³ and worse academic performance in adolescence.¹³ These findings are supported by animal studies. Rats exposed to THC during pregnancy have more symptoms of anxiety and worse memory and learning abilities.¹³ These neurological and psychological differences may hinder children's success later in life.

Medical experts discourage marijuana use while breastfeeding:

The Academy of Breastfeeding Medicine and the American College of Obstetricians and Gynecologists discourage women from breastfeeding if they are actively using marijuana.^{7, 14} It is hard to determine the effects of maternal marijuana use on breastfed infants, as these infants were likely also exposed to marijuana during pregnancy. However, examination of infant stool indicates that THC is likely absorbed and processed by infants.¹⁴ A study on breast milk samples provided by marijuana users found that THC was detectable in samples days after last use.¹⁵ Further research is needed to develop more informed guidelines.

The American College of Obstetricians and Gynecologists,⁷ American Academy of Pediatrics,⁸ and the Surgeon General⁹ discourage people from using marijuana if they are pregnant or considering becoming pregnant.

Future Directions:

Despite clear guidelines from experts, pregnant people report receiving little information from their healthcare providers about the effects of marijuana on their pregnancy and their child's development after birth - even though they would like this information.¹⁶ Providers may not engage in these discussions because they receive little training on the subject, and are therefore unable to educate their patients. The issue of marijuana use in pregnancy is relatively new and is not yet incorporated into many school and professional training curricula. Public health professionals and clinicians should advocate for its inclusion.

Furthermore, while guidelines exist based on the evidence collected so far, new, large-scale studies are needed to provide strong evidence demonstrating the effects of marijuana use during pregnancy. It is difficult to study the effects of marijuana use in pregnancy in humans because of lifestyle factors that can bias results, such as use of multiple substances (alcohol, cigarettes, etc.), poverty, and food insecurity.^{11, 17} Additional large-scale studies on marijuana use in pregnancy would help differentiate the effects of lifestyle factors from that of marijuana, and inform updated guidelines.

Recommendations:

Healthcare Providers and Public Health Educators:

- Engage patients in non-judgemental discussions about marijuana use in their prenatal and perinatal visits, and provide information about how marijuana may affect pregnancy and childhood development.
- Per ACOG, AAP, ABM, CDC, and the Surgeon General guidelines, discourage patients from using marijuana before and during pregnancy and during breastfeeding.

Public Health and Healthcare Professional Associations:

- Disseminate information about harms of marijuana use on birth outcomes and childhood development to health practitioners, public health workers, dispensaries, and communities at large.
- When crafting health recommendations and guidance for marijuana use around pregnancy, consider expanding the focus to include addressing public perception of safety.
- Advocate for updating training curricula to include discussion of the effects of marijuana use on pregnancy.

Policy Makers:

- Be aware of the potential harms of marijuana use during pregnancy and ensure information about the potential harms is posted in dispensaries.
- Fund research on the impacts of marijuana use and perception of use in pregnancy so that health professionals are fully equipped with information to advise patients and protect public health.

Learn More & Stay in Touch:

This brochure is produced by the CIPHERS project. CIPHERS is affiliated with the Duke University School of Medicine and is funded by the John Templeton Foundation.

Visit our website for more information about the project, to view additional materials on reproductive health and marijuana use, or to request a presentation from the CIPHERS team: <https://sites.duke.edu/ciphers/>

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