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# Is Marijuana Safe to Use While Pregnant or Breastfeeding?

## INCREASING RATES OF MARIJUANA USE DURING PREGNANCY

To date, there are no marijuana-derived medications that are FDA-approved for treating conditions associated with pregnancy, including nausea. However, marijuana is the illicit drug most commonly used by pregnant women, with rates doubling since 2002.<sup>1</sup>

- Pregnant women report marijuana use predominantly to self-treat depression, anxiety, stress, pain, nausea, and vomiting;<sup>2,3</sup> it is most commonly used during the first trimester<sup>1,4</sup> and by women with severe nausea.<sup>5,6</sup>
- About 7 percent of pregnant women self-report marijuana use—with rates as high as 10 percent among women ages 18–25. Rates based on urine toxicology are even higher, with 19 percent of pregnant women ages 18–25 screening positive for marijuana use.<sup>7</sup>

## THE ENDOCANNABINOID SYSTEM

Marijuana contains hundreds of chemicals including  $\Delta$ -9-tetrahydrocannabinol (THC) and other cannabinoids. THC, the main psychoactive component of marijuana and the one that makes people high, is linked to most of the effects people commonly associate with marijuana.

- THC works by interacting with a signaling system found throughout the brain and other areas of the body known as the endocannabinoid (ECB) system.
- The ECB system is involved in regulating pain, nausea, and appetite, among others. It also plays a key role in pregnancy (implantation and placenta maintenance) and in prenatal brain development.
- Because THC disrupts the normal functioning of the ECB system, it may have lasting effects on prenatal development.

## HEALTH EFFECTS

The health effects of marijuana exposure during pregnancy and breastfeeding are not certain. In studies with people, it can be challenging to disentangle the multiple risk and protective factors that affect fetal and newborn outcomes. Exposure to other drugs (see “Role of Poly-Drug Use,”) and factors such as nutrition, prenatal care, family support, and stress among others can be important influences on the health of the baby. Moreover, many studies rely on self-reported measures of marijuana consumption, which frequently underestimate use.

Additional research is needed on the health effects associated with marijuana exposure during pregnancy and breastfeeding, particularly studies examining the effects of the marijuana products used by women today, the patterns by which they are used, and their co-use with other substances. However, what we do know already urges caution, since the endocannabinoid system guides neural development, and cannabinoids consumed during pregnancy can get into the fetal brain.<sup>8–10</sup> Current research on marijuana indicates that:

- THC crosses the placenta, enters the fetal brain, and is transferred to newborns through breastmilk.<sup>11,12</sup>
- In animals, moderate concentrations of THC, when administered to mothers while pregnant or nursing, may have long-lasting effects on offspring, including increasing stress responsivity, abnormal patterns of social interaction, and later preference for other substances.<sup>13,14</sup>



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- Prenatal marijuana exposure is associated with lower birth weight.<sup>15</sup>
- Marijuana use during pregnancy is linked to a higher likelihood of an infant's being placed in neonatal intensive care,<sup>16</sup> increased startle and tremors, altered sleep patterns, and preterm birth.<sup>17-20</sup> Further research is needed to determine if these associations persist when confounding factors are considered.<sup>21-23</sup>
- Prenatal marijuana exposure is associated with neurocognitive vulnerabilities in children and adolescents,<sup>19</sup> including decreased executive function (problem solving, sustained attention and short-term memory);<sup>24-26</sup> behavioral problems (impulsivity and hyperactivity);<sup>27</sup> lower academic achievement;<sup>28,29</sup> and higher levels of self-reported depressive symptoms.<sup>30</sup>

Additional research is critical to fully understand how marijuana use during pregnancy and breastfeeding affects the mother, developing fetus, and child.

## ROLE OF POLY-DRUG USE

Disentangling the developmental effects of prenatal marijuana exposure from exposure to other substances is difficult because many women who use marijuana during pregnancy are also using other substances (tobacco, alcohol, and other drugs).<sup>21,23,24</sup> Prenatal poly-substance exposure has been found by numerous studies to cause harmful effects in infants.

- Use of tobacco and marijuana by pregnant women is associated with lower birth weight, small size for gestational age, small head circumference, and other birth defects in their infants.<sup>16,31</sup>
- Children of women who chronically use multiple drugs are more likely to suffer from a substance use disorder by early adulthood compared to children of women who do not use multiple drugs.<sup>32</sup>
- Because THC disrupts the normal functioning of the ECB system, it may have lasting effects on prenatal development.

## PERCEPTION OF SAFETY

Pregnant women are more likely to cease using marijuana if they perceive it to be harmful, but multiple factors such as state legalization, social acceptability, and misconceptions about health risks are increasing the perception that marijuana is safe.<sup>21,33,34</sup>

- Women report a need for resources and communication with healthcare providers about the risks of prenatal marijuana use. When women do not receive resources or advice from health care providers, they may interpret this as an indication that marijuana is safe.<sup>34</sup>
- In a study of Colorado marijuana dispensaries, 70 percent of dispensaries recommended marijuana products to treat nausea in the first trimester. Only 1 in 3 dispensaries encouraged discussion with a healthcare provider without first being asked by the caller.<sup>35</sup>

## ADDITIONAL INFORMATION

If you or someone you care about is pregnant and using a drug such as marijuana or has a substance use disorder:

- Ask your healthcare provider about the risks and treatment options.
- Find treatment services in your area through [SAMHSA's treatment locator](#) and [HRSA's Find a Health Center](#).
- Visit NIDA's webpages for more information: [Marijuana Research Report](#) and [Substance Use While Pregnant and Breastfeeding](#).

## RECOMMENDATIONS FOR HEALTH CARE PROVIDERS<sup>21,36</sup>

- Screen for substance use. Women should be screened for substance use before and throughout pregnancy.
- Encourage pregnant women who use marijuana to discontinue its use. Refer them to appropriate resources to help with cessation, if necessary.
- Pregnant women who are using marijuana to treat nausea and vomiting or for another medical condition during pregnancy should be counseled about the lack of safety data and efficacy data in pregnant women and the possible adverse effects of THC on the developing fetus. Refer them to their OB/GYN for alternative treatments that have pregnancy-specific safety data.
- Recommend that women avoid using marijuana while lactating. Marijuana is passed to the child in breast milk and may have adverse effects on early neurodevelopment.
- Provide counseling, but do not withdraw lactation or other medical support.



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