IMPACT OF MARIJUANA

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In the United States, marijuana is the most-used illicit drug among females of reproductive age and during pregnancy.[1,2] The high prevalence is in part due to the legalization of marijuana, resulting in its availability and perceived safety. Existing research suggests that marijuana use can adversely affect female reproductive health, and that because its main active ingredient, Δ–9-tetrahydrocannabinol (THC), can cross the placenta and is found in breast milk, there is also concern about harm to the developing fetus and offspring. Public health initiatives have advised those who are attempting to conceive or who are pregnant and lactating to abstain from using marijuana, but because the available safety data and literature are limited, most patients continue to use it. With growing public endorsement of the potential benefits of marijuana, it is important for health care providers to effectively counsel patients regarding its effects on fertility and future offspring.

Pregnancy & Lactation

Marijuana use can affect fertility and reproductive health by impacting ovulation and menstrual regularity.

There is sufficient evidence for the Surgeon General,[3] American College of Obstetricians and Gynecologists (ACOG),[4] and the American Academy of Pediatrics (AAP)[5] to recommend that females who are trying to conceive, who are pregnant, or who are lactating should abstain from the use of THC.

According to the CDC, approximately 1 in 20 females self-report the use of marijuana during pregnancy, but this is likely an underestimate.[6]

Prenatal marijuana use is associated with an increased risk of fetal growth restriction, low birth weight, preterm birth, and neonatal intensive care unit admissions.

Exposure to marijuana during pregnancy and through breastfeeding can be associated with impaired offspring cognitive development.

FREQUENTLY ASKED QUESTIONS

How is cannabidiol (CBD) different from THC?

- Unlike THC, CBD is mainly from the hemp plant and appears to have effects including antiseizure, antioxidant, neuroprotective, anti-inflammatory, analgesic, antitumor, antipsychotic, and antianxiety properties.
- Pure CBD does not exhibit any effects indicative of abuse or dependence potential and there are no significant adverse effects identified; those reported mostly include nausea, diarrhea, mood change, fatigue, and irritability.
- Because CBD is primarily marketed and sold as a supplement, its safety and purity are not regulated by the FDA. Thus, the CBD available for purchase may or may not have active ingredients at the dose listed on the label and can contain other elements such as pesticides, heavy metals, bacteria, and fungus that are not listed.
- CBD products sold outside of state-licensed marijuana dispensaries are not carefully regulated and can claim to contain CBD when in reality they do not and may include THC despite being advertised as pure CBD.

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FREQUENTLY ASKED QUESTIONS

Is CBD safe to use during pregnancy?

- The FDA strongly advises against the use of CBD during pregnancy or while breastfeeding.

How quickly is THC metabolized and eliminated?

- In an average user, depending on the mode of THC delivery, approximately 80% to 90% is excreted in urine or feces within a 5-day window.[7]
- In heavy, chronic THC users it may still be detectable up to 30 days after last use.

What perceived benefits do patients have about marijuana use during pregnancy?

- The most common perceived benefit of marijuana use during pregnancy is for self-treatment of nausea or hyperemesis, but it is also used for depression, anxiety, stress, pain, and sleep.

Is there any amount of marijuana proven to be safe during pregnancy?

- At this time, there is no amount of marijuana in any form that is known to be safe to use during pregnancy or while lactating.

Is marijuana effective against nausea and vomiting during pregnancy?

- Although marijuana use is more prevalent in pregnant females with symptoms of nausea and vomiting, its effectiveness as an antiemetic during pregnancy is unknown.

Does marijuana affect female fertility?

- Available evidence suggests that marijuana use can adversely impact sex hormones, ovulation, and menstrual cyclicity. Females who use marijuana, specifically chronic usage and at higher amounts of THC, can delay ovulation by several days or even result in anovulation.

Are the effects of marijuana on female fertility permanent?

- Although marijuana adversely impacts fertility, existing literature suggests this is not permanent. In females, if marijuana use is stopped, ovulation and regular menstrual cyclicity often resume but may take several months.

Can marijuana use preconception and during pregnancy result in pregnancy loss or stillbirth?

- There is no significant association between marijuana use preconception or during pregnancy and miscarriage or stillbirth.

How does prenatal marijuana exposure affect the pregnancy and fetus?

- The available literature suggests that prenatal marijuana use is associated with fetal growth restriction, preterm birth, low birth weight, and neonatal intensive care unit admissions.

Can secondhand marijuana exposure have adverse effects on fertility and pregnancy?

- Passive or secondhand exposure to marijuana may have potential effects on fertility, fetal outcomes, and infant development, so it should be avoided.

Can prenatal marijuana use cause fetal anomalies?

- Although prenatal marijuana use has been described as being associated with fetal structural abnormalities, in particular ventricular septal defect, and abnormal facies similar to fetal alcohol spectrum disorder, the evidence supports that it is not significantly associated with birth defects.

How can cannabinoid hyperemesis syndrome (CHS) be distinguished from hyperemesis gravidarum and treated?

- Although it can be difficult to distinguish between the two, CHS occurs in patients with a history of chronic THC use with a classic presentation of compulsive bathing behaviors, intractable nausea and vomiting, abdominal pain, and severe nausea unresponsive to antiemetics.
- Unlike hyperemesis gravidarum, episodes last 24 to 48 hours at a time and recur if marijuana use is continued but will often resolve following marijuana cessation of up to 2 weeks.

What methods are available to test for maternal marijuana use?

- Maternal methods for testing include blood, urine, and hair. These methods can be affected by body mass index as well as frequency, timing, and mode of THC delivery.
- Currently, synthetic or designer cannabinoids are not detected by routine urine drug screening.
- Infant methods of testing include meconium and umbilical cord homogenate testing.

Can prenatal marijuana use affect longer-term outcomes in offspring?

- The available evidence has described an effect of prenatal and postnatal marijuana exposure on offspring neurological development, including trembling and a high-pitched cry in babies, decreased fine motor skills and abnormal social behavior in infants, problem-solving skills and memory, symptoms of depression and anxiety, decreased attention span in school-aged children, and a predisposition toward delinquent behavior and vulnerability to drug addiction, including marijuana.
- A recent study demonstrated a significant association between maternal marijuana use and the incidence of autism spectrum disorder as well as an increased, but not significant, incidence of intellectual disability and learning disorders in offspring.[8]

Is it safe to breastfeed and use marijuana?

- Both ACOG4 and AAP5 recommend abstaining from marijuana use when breastfeeding.
- THC is excreted and concentrated in breast milk. The concentration of THC present is variable based on the amount and frequency of maternal use.
- Pumping and dumping between feeds is not likely to significantly decrease the infant's exposure to THC.

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