

Marijuana is extremely dangerous to the fetus in the womb, study finds

By [Sandee LaMotte](#), CNN

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(CNN) — Using marijuana during pregnancy is linked to poor fetal development, low infant birth weight, dangerously early deliveries and even death, according to a new meta-analysis of research.

“The most striking finding is the increased risk of perinatal mortality — death either during the pregnancy or shortly after the pregnancy,” said obstetrician and lead study author Dr. Jamie Lo, an associate professor of obstetrics, gynecology and urology in the School of Medicine at Oregon Health & Science University in Portland.



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“Prior work we’ve done shows prenatal cannabis use impacts fetal lung function and development, reducing the baby’s lung volume,” Lo said. “We’ve also found that there is significantly decreased blood flow and oxygen availability in the placenta. These are the likely underlying mechanisms driving some of our findings.”

The placenta is a critical link between the mother and the developing fetus, delivering oxygen, nutrients and hormones necessary for growth. When that link is damaged, both the mother and the fetus are at risk.

A false sense of safety

Despite the potential harms to the baby both before and after birth, use of marijuana during pregnancy is rising. A 2019 analysis of over 450,000 pregnant American women ages 12 to 44 by the National Institute on Drug Abuse found cannabis use more than doubled between 2002 and 2017.

The majority of marijuana use occurred during the first three months of pregnancy, the study found, and it was predominantly recreational rather than medical.

“There is a mistaken perception that because marijuana is natural and plant-based, it’s not harmful,” Lo said. “I remind my patients that opium and heroin are also plant-based. Tobacco is a plant, and alcohol is also made from plants.”

Using alcohol during pregnancy causes fetal alcohol syndrome. Smoking damages a fetus’s developing lungs and brain — it is also a cause of SIDS, or sudden infant death syndrome, according to the US Centers for Disease Control and Prevention.

Taking opioids, such as fentanyl, heroin or cocaine, are well-known causes of birth defects, poor fetal development and stillbirth, plus there’s a high risk the baby will be born addicted and have to undergo withdrawal.



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These medical outcomes are known despite the lack of gold-standard clinical trials asking pregnant women to drink alcohol, smoke tobacco, take heroin, cocaine, oxycodone or fentanyl and then compare the outcomes to pregnant women who abstained. Such research, of course, would be grossly unethical.

Thus, because a randomized clinical trial of the impact of cannabis on a fetus will never occur, scientists focus on the outcome of self-reported use by pregnant mothers.

“This systematic review is unique in that we only reviewed studies in which cannabis was used during pregnancy,” Lo said. “Prior work has included studies which also looked at cannabis use along with other substances such as nicotine or alcohol.”

Quality of evidence is rising as more studies are done

The new research, published Monday in [JAMA Pediatrics](#), analyzed 51 studies with over 21 million participants.

Use of marijuana during pregnancy was linked to a 52% higher risk of preterm delivery before 37 weeks — full term is 40 weeks of gestation — and a 75% higher risk of low birth weight, which is less than 2,500 grams, or roughly 5.5 pounds at delivery, the study found.

Only six studies looked at the impact of cannabis on mortality. Those studies found a 29% higher risk of infant death associated with the use of marijuana during pregnancy.



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The new meta-analysis used the [GRADE](#) (grading of recommendations assessment, development, and evaluation) approach to rating the quality of each study. In a prior analysis [published in 2024](#), Lo and her team rated available studies as very low or low certainty, which means the evidence in the studies was limited and the findings not reliable.

Just a year later, existing evidence was upgraded to low to moderate certainty. A moderate grade indicates researchers are reasonably confident in using that information for decision-making but recognize that future research might refine conclusions or recommendations.

“Research is evolving quickly in this area,” said Brianna Moore, assistant professor of epidemiology at the Colorado School of Public Health Anschutz Medical Campus in Aurora. She was not involved in the new study.

“This review found that as more studies are conducted with consistent results, there is more certainty that there is an association between prenatal exposure to cannabis and adverse birth outcomes,” Moore said in an email.



Smoking weed can restrict oxygen delivery to the fetus via the placenta, experts say. Peter Dazeley/The Image Bank RF/Getty Images

‘There’s no clear public health messaging’

In addition to believing that marijuana is safe because it’s natural, expectant parents are also getting mixed messages about the health harms of cannabis.

“Perceptions of safety are compounded by the increased availability and legalization of cannabis,” Lo said. “In addition, health care providers are poor at counseling due to confusion over conflicting studies. Therefore, there’s no clear public health messaging.

“We’re trying to change that by updating systematic reviews and producing peer-reviewed clinician briefs to help guide clinical counseling and management.”

Historically it has been difficult to investigate cannabis use because weed has been illegal — and still is — in many states, while any studies that were undertaken had to follow strict federal regulations.



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Modern research into the potential harms of cannabis is still in its infancy. Older studies, often done in the 1980s when marijuana was much less potent, may not reflect today's reality, experts say.

Research over the last decade has linked marijuana use to cognitive decline and dementia, complications during elective surgery, and an increased risk of some cancers. Weed users are nearly 25% more likely to need emergency care and hospitalization, according to a 2022 study.

Any level of marijuana use may raise the risk of stroke by 42% and heart attack by 25%, even if there is no prior history of heart disease and the person has never smoked or vaped tobacco. Weed has also been linked to cardiac arrhythmias such as atrial fibrillation; myocarditis — an inflammation of the heart muscle — spasms of the heart's arteries and a higher risk of heart failure.



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Young people who use marijuana are more likely to develop long-lasting mental disorders, including depression, social anxiety and schizophrenia, and drop out of school, the CDC said. Studies show overuse of marijuana by youth with mood disorders leads to a rise in self-harm, suicide attempts and death.

Daily use by adolescents and adults can result in another unpleasant side effect: uncontrollable vomiting, according to a 2021 study. And a 2020 study found children born to marijuana users had more psychotic-like behaviors and more attention, social and sleep problems, as well as weaker cognitive abilities.

"Ideally, it's best not to be exposed to THC, which is the psychoactive ingredient of cannabis, no matter what form you're using," Lo said.