

CANNABIS USE DURING PREGNANCY

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CANNABIS USE DURING PREGNANCY

- On the rise (2-36%)
 - Decriminalized
 - Widely available
 - Destigmatized/seen as safe
- Lack of public and provider education on impact of cannabis use during pregnancy

Are Health Care Providers Caring for Pregnant and Postpartum Women Ready to Confront the Perinatal Cannabis Use Challenge?

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Am J Perinatol

Providers' knowledge about the impacts of cannabis use on health	%
Knowledge of long- and/or short-term impacts of perinatal cannabis use on mom/infant	
Aware of only long-term impacts	9.3
Aware of only short-term impacts	9.3
Not aware of the impacts	34.7
Both long-/short-term impacts	46.7
Level of being comfortable with knowledge about perinatal cannabis use and its health impacts	
Feeling comfortable	10.7
Somewhat comfortable	22.7
Would like some training	66.7

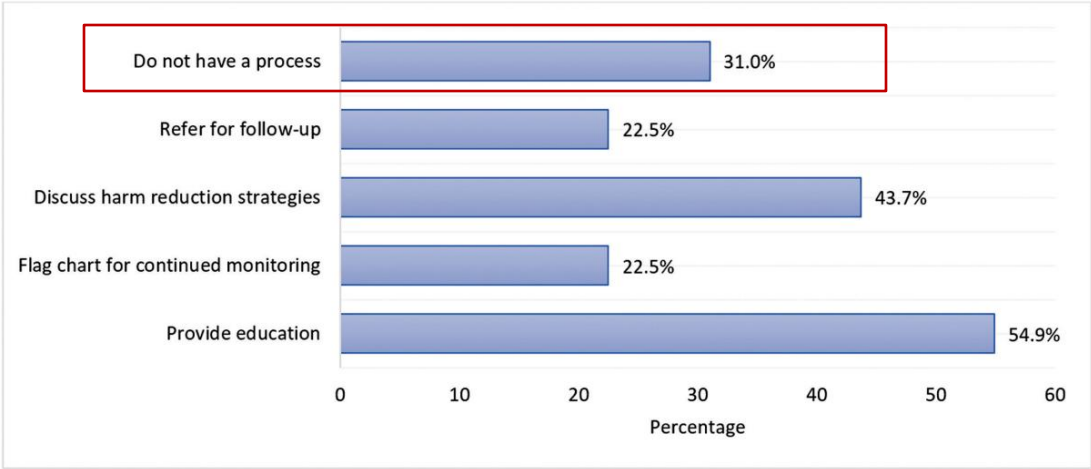


Fig. 1 Providers' follow-up process for positive cannabis screening in pregnant and postpartum women.

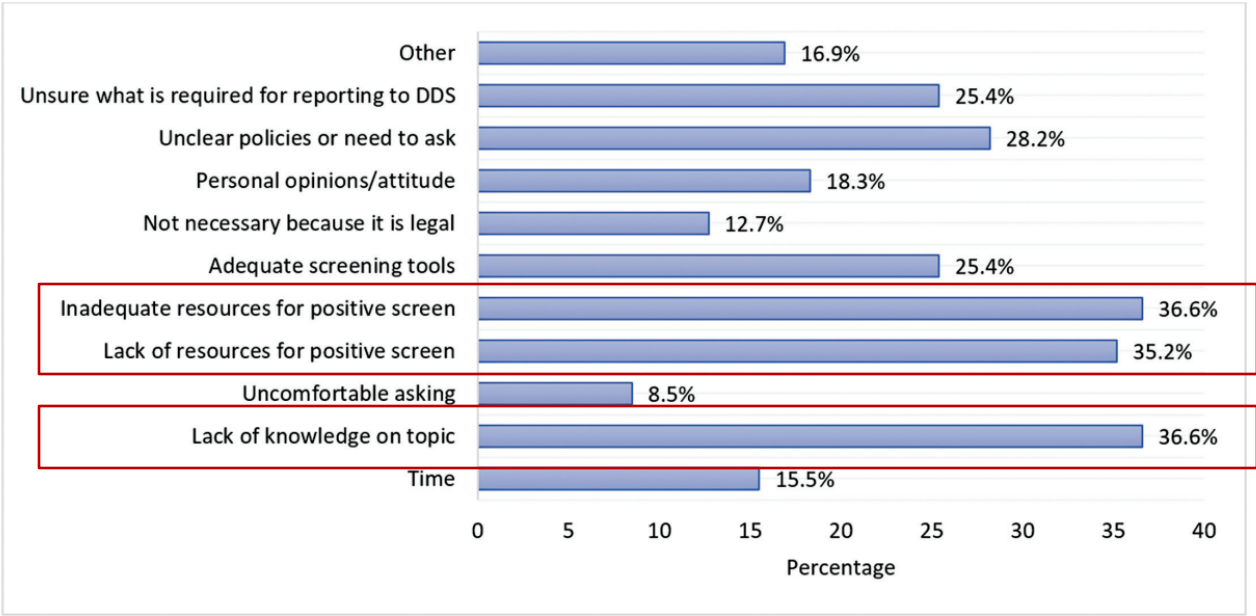


Fig. 2 Barriers related to asking/screening and/or discussing cannabis use and potential harm reduction methods for pregnant and postpartum women.

HOW DO WE IMPROVE MATERNAL HEALTH?

- Education
 - What is cannabis?
 - Terminology
 - Products
 - Cannabis and pregnancy
 - What is it used for in pregnancy?
 - What are public perceptions of cannabis use during pregnancy?
 - What are the effects of cannabis use during pregnancy and breastfeeding?
 - Where can providers turn to for education on the topic?

WHAT IS CANNABIS?

TERMINOLOGY



WHAT IS CANNABIS?

- ***Cannabis*** → genus of plants
 - *C. sativa*
 - *C. indica*
 - *C. ruderalis*
- *Cannabis* contains **cannabinoids** → substances that bind cannabinoid receptors (THC, CBD etc)

CANNABINOIDS

Substances that bind the CB receptors (modulate neurotransmitters including GABA, serotonin, dopamine, norepinephrine, acetylcholine, glutamate)

Endogenous cannabinoids

Phytocannabinoids

Synthetic cannabinoids

CANNABINOIDS

CB 1 receptors

- Centrally located
 - Psychoactive symptoms
 - Regulation of cognition, memory/motor, nociception
 - N/V

CB 2 receptors

- Peripherally located
- Anti-inflammatory effects

WHAT IS CANNABIS?

CANNABINOID PRODUCTS

Regular plant → Maryjane,
MJ, pot, weed, dank, ganja,
holy weed, jazz cigarette

Pressed resin from top of
plant → hashish

Oil from resin → butane
hash oil, dab, budder, earwax

PHYTOCANNABINOIDS

- From the Cannabis plant
- 100+ substances
 - Delta 9-THC
(tetrahydrocannabinol)
 - CBD (cannabidiol)

FARM BILL 2018

* Δ^9 THC is the main
psychoactive cannabinoid
in the cannabis plant



Cannabis plant

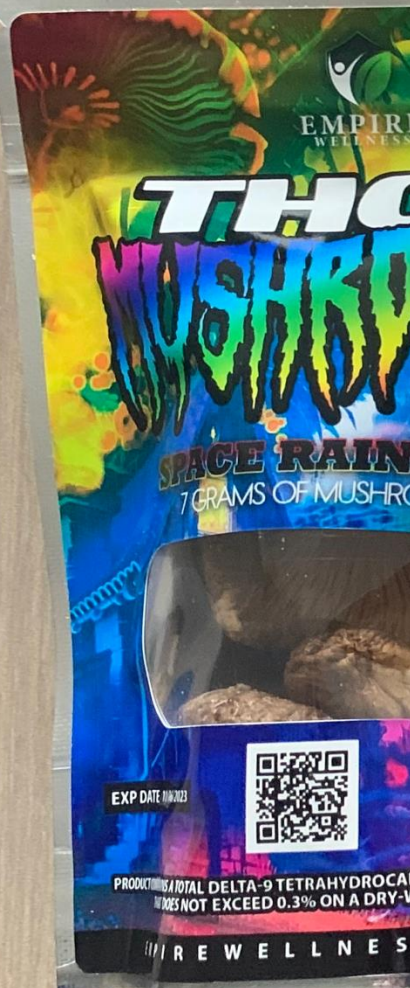
<0.3% Δ^9 THC

>0.3% Δ^9 THC

Hemp

Marijuana

1995 ave 4% THC
2019 ave 15% THC





SYNTHETIC CANNABINOIDS

- 2004 Germany
- Sold as “herbal incense”
- JWH-018 was first isolated structure
- Bind to CB receptors with 100x potency of phytocannabinoids

URINE DRUG SCREEN (UDS)



Things that turn UDS positive for marijuana

- Cannabis plant
- Delta 9 THC products
- Delta 8 THC products

Things that don't turn UDS positive for marijuana

- Pure CBD
- Synthetic cannabinoids

Things that may turn UDS positive for marijuana

- Delta 10 THC, THC O, THCV, THC P, HHC
- Second hand smoke (rarely, need very high exposure)

Immunoassay drug screen for “marijuana”

- Common method of UDS screens
- Screening for Delta 9-THC metabolite 11-nor-9-carboxy-delta-9-THC (THC-COOH)
- Stays positive 2-3 weeks
- Positive screen does NOT equal acute intoxication

Confirmation testing with GCMS for THC-COOH

- Not done at every hospital
- Highly specific

**CANNABIS IN
PREGNANCY
WHAT IS IT USED FOR IN
PREGNANCY?**

WHAT IS CANNABIS
USED FOR IN
PREGNANCY?

Fun

Anxiety

Insomnia

Chronic pain

Hyperemesis


PMID: 30234728

PMID: 37480292

CANNABIS IN PREGNANCY
WHAT ARE PUBLIC
PERCEPTIONS OF CANNABIS
USE DURING PREGNANCY?

IS CANNABIS A DRUG?

- ~70% women believe cannabis is little to no harm during pregnancy (use 1-2 per week)
- Perceived as safe because it is a plant not a drug
 - BUT a drug is substance that has a physiological effect when ingested or otherwise introduced into the body
- Perceived as safe because is legal
 - Legal means permitted by law, it does not mean safe (think alcohol, tobacco)

► [Womens Health Issues](#). Author manuscript; available in PMC: 2017 Jul 1.
Published in final edited form as: Womens Health Issues. 2016 May 4;26(4):452–459. doi:
[10.1016/j.whi.2016.03.010](https://doi.org/10.1016/j.whi.2016.03.010) 

Pregnant women’s access to information about perinatal marijuana use: A qualitative study

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PMCID: PMC4958505 NIHMSID: NIHMS774556 PMID: [27131908](#)

“I know people who were pregnant; some smoked [marijuana]; some didn’t. I mean their kids are fine. ... I heard it helps with nausea, I heard it just helps calm them down and that was just something they did before [becoming pregnant] so they just kept going. And like I said, they didn’t say it really affected the baby in any way, but like everybody’s bodies are different, so what may not have affected that person may affect someone else. So I just don’t want to take that risk whether or not it can affect my child, I just would rather not take the risk.”

“I could not tell you one thing that happens to you when you smoke marijuana while your pregnancy.... I mean, I know what cigarettes and alcohol does. ...And I’m not even a drinker so I don’t even need to know that. But it would be nice to know that there is an effect [from using marijuana during pregnancy] and what might happen.”

Another woman described the type of resources that she might have found helpful pertaining to marijuana use in pregnancy:

“‘If you need help you need to talk, here’s a number, we can help you.’ Give [women] every option possible to quit. And every like helping mechanism that will help them quit, something to help cope so they won’t want to [use marijuana]. And provide them with information about what it does to their child.”

Domain	Question
Information seeking	<i>Where do women get information about marijuana use during pregnancy?</i>
Information quality	<i>How do you figure out whether this information is good or not?</i>
Health care provider communication	<i>Have you talked to anyone else about your marijuana use, such as a nurse, social work or anyone else here at [health care facility]? [If yes] How did you feel about that communication?</i>
Obstetric care provider communication	<i>Have any obstetric provider(s) asked or talked about marijuana use with you since that first visit? [If yes] How did you feel about that communication?</i>

DISPENSARY RECOMMENDATIONS

► [Obstet Gynecol.](#) Author manuscript; available in PMC: 2019 Jun 1.

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[10.1097/AOG.0000000000002619](https://doi.org/10.1097/AOG.0000000000002619) [↗](#)

Recommendations From Cannabis Dispensaries About First Trimester Cannabis Use

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¹, [Robert M Silver](#)³, [Torri D Metz](#)^{1,4}

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PMCID: PMC5970054 NIHMSID: NIHMS

This cross-sectional study of cannabis dispensary recommendations used a telephone survey approach. The study was approved by the Institutional Review Board at the University of California, San Francisco (number 17-0637).. Minor deception (eg posing as a pregnant caller) was deemed necessary to obtain an accurate assessment of how cannabis dispensaries advise pregnant women.

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Box 1. Phone Script.

“Hi, I’m eight weeks pregnant and feeling really nauseated. Are there any products that are recommended for morning sickness?”

RESULTS

69% (277/400) recommended cannabis for morning sickness

35.7% (99/400) endorsed safety of cannabis in pregnancy

4.7% reported risk of fetal harm

81.5% recommended discussion with a health care provider BUT only

31.8% made the recommendation without prompting

or chronic pain from a

- a. If only maternal risks are addressed, ask: Is it also safe for my baby?
b. If only fetal risks are addressed, ask: Is it also safe for me?

Before closing call

Should I talk to my doctor about this (if no recommendation previously made to discuss with health care provider)?

Responses regarding speaking with a health care provider

- “I think that would be a smart choice. Try for someone that is liberal or pro-cannabis. The others are not fully educated on the benefits of cannabis and will tell you to stay away. But always check with a medical professional.”
- “I do think you should talk to your doctor at your discretion about it. I know there are some doctors that might be really uncomfortable with that. I do think that it’s a medical professional’s responsibility to be open to talking with their patient”
- “The doctor will probably just tell you that ‘marijuana is bad for kids and will just try pushing pills on you.’ Maybe you have a progressive doctor that won’t lie to you. All the studies done back in the day were just propaganda.”
- “Google it first. Then if you feel apprehensive about it you could ask.”
- “Most of them out here tell them not to smoke weed. Even the cancer doctors. It’s so messed up. I don’t know how the baby doctors work, if they’re chill or not. Just don’t go stoned when you talk to them.”
- “No because they will test you when the baby is born and can get child protective services involved, that’s just the unfortunate honest truth.”
- “In the state of Colorado you’re protected so it’s not something you have to bring to their attention...they’re not gonna call CPS [child protective services] like they would’ve 10 years ago if you have MJ in your system.”

Why is the product recommended or not recommended?

- “All the products say it’s not recommended for pregnant women use, they just don’t know what it could do to the fetus there’s not enough studies out there. it is a drug, so probably not the best thing for you when you’re pregnant”
- “Technically with you being pregnant, I don’t think you’re supposed to be consuming that but if I were to suggest something, I suggest something high in THC.”
- “Legally cannot provide a recommendation”
- “Need a doctor’s recommendation first”
- “Edibles wouldn’t hurt the child, they’d be going through your digestional [digestive] tract”
- “They’ve been doing studies, as long as you’re not heavily harshly smoking like the smoke I think that’s the only way it could physically damage the baby, cause you’re inhaling smoke”

CANNABIS IN PREGNANCY

WHAT ARE THE EFFECTS OF CANNABIS USE DURING PREGNANCY AND BREASTFEEDING?

LIMITATIONS IN CANNABIS STUDIES

- Illegal substance
- Challenges defining cognitive effects
- Multiple confounding social factors
 - Polysubstance use
 - Socioeconomic status
 - Education level
 - Intimate partner violence

POTENTIAL EFFECTS OF CANNABIS IN PREGNANCY

What does the endocannabinoid system do in utero?

- Fetus develops CBI receptors at 14 wks
- Plays a role in neuro development

What does exogenous cannabinoids do in utero?

- Interfere with 5-HT balance
- Interfere with neuronal migration and proliferation
- Diminish placental blood flow, perfusion and fetal oxygen
- Not teratogenic

CANNABINOIDS IN PREGNANCY: MATERNAL HEALTH

PMID: 37480292
PMID: 27048634

PMID: 19858757
PMID: 30234728

Possible increased risk (evidence is mixed):

Gestational diabetes

HTN

Pre-eclampsia

Anemia

CANNABINOIDS IN PREGNANCY: FETAL AND NEWBORN HEALTH

PMID: 37480292
PMID: 27048634

PMID: 19858757
PMID: 30234728

Impedes fetal brain development

No definite birth defects

Decreased birth weight

Increased risk preterm birth

Increased risk of NICU stay

CANNABINOIDS IN PREGNANCY: CHILDHOOD EFFECTS

PMID: 37480292
PMID: 27048634

PMID: 19858757
PMID: 30234728

Increased aggression, attention deficits

Increased impulsivity

Deficits in verbal reasoning and short term memory

Lower scores on tests with visual problem solving, visual/motor coordination, visual analysis

Confounding data on long term performance in school

SUMMARY OF EFFECTS OF CANNABINOID USE DURING PREGNANCY FROM CURRENT LITERATURE

May increase maternal risk of HTN, gestational DM, pre-eclampsia, and anemia

Associated with increased risk of low birth weight, preterm birth, stays in the NICU

Likely impacts neuro development and may lead to behavioral disturbances and neurocognitive delays

CANNABINOIDS AND BREASTFEEDING?

- Delta-9 THC is lipophilic
- ~2.5% of inhaled cannabis can be detected in breastmilk
 - Depending on maternal use, this can be enough to cause sx's in infant
- Peak conc in breastmilk is ~2 hrs after maternal exposure
- Infants can test positive on UDS from breastfeeding
- No definitive data on short or long term effects
- Unclear clinical significance for acute or long term effects

PMID: 30234728

PMID: 37480292

PMID: 29630019

PMID: 38695182

Case Reports

> [Breastfeed Med.](#) 2024 Jun;19(6):490-493. doi: 10.1089/bfm.2024.0047.

Epub 2024 Mar 12.

Association of Cannabis with Apneic Episodes in a Breastfed Infant: A Case Study

[Emily F Kaplan](#)¹, [Courtney N Link](#)¹, [Scott Schmalzried](#)², [Amanda Rosenblatt](#)³, [Ann Kellams](#)³,
[Eliza Holland](#)⁴

Affiliations + expand

PMID: 38469628 DOI: [10.1089/bfm.2024.0047](#)

SUMMARY OF EFFECTS OF CANNABINOID ON BREASTFEEDING

THC crosses into breastmilk

Infants can get THC in system from feeding on
breastmilk

Clinical significance is unknown

**CANNABIS IN PREGNANCY
WHERE CAN PROVIDERS
TURN TO FOR EDUCATION
ON THE TOPIC?**

AMERICAN OF OBSTETRIC AND GYNECOLOGY (ACOG) RECOMMENDS



What are the potential health effects of using marijuana during my pregnancy?

Marijuana use during pregnancy can be harmful to your baby's health.¹ The chemicals in marijuana (in particular, tetrahydrocannabinol or THC) pass through your system to your baby and may harm your baby's development.²

Although more research is needed to better understand how marijuana may affect you and your baby during pregnancy, it is recommended that you do not use marijuana.^{3,4}

- Some research shows that using marijuana while you are pregnant can cause health problems in newborns, including lower birth weight and abnormal neurological development.¹
- Breathing marijuana smoke can also be bad for you and your baby. Secondhand marijuana smoke contains many of the same toxic and cancer-causing chemicals found in tobacco smoke.⁵ THC, the psychoactive or mind-altering compound in marijuana, may also be passed to infants through secondhand smoke.⁶

Fast Facts

- Using marijuana during pregnancy may affect your baby's development and put you at risk of pregnancy complications.¹
- Marijuana may be bad for your baby no matter how you use it—this includes smoking, vaping, dabbing, eating or drinking, and applying creams or lotions to the skin.
- The potential health effects of using cannabidiol (CBD) products during pregnancy are currently unknown.
- If you are using marijuana and are pregnant, planning to become pregnant, or are breastfeeding, talk to your doctor.

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FINAL CONCLUSIONS

Cannabis use continues to increase and the market for novel products is growing

Many people may think that cannabis use is safe due to its legality and due to lack of reliable information

Cannabinoids can cause low birth weight, increased preterm birth, neurocognitive and behavioral changes

Cannabinoids do cross into breastmilk but the clinical significance is not known

Current recommendations from ACOG and CDC are to screen all pregnant and breastfeeding women for cannabinoid use, and counsel abstinence due to potential/unknown risk

Patients want more information on the effects of cannabis during pregnancy

Providers want more education on how to talk to patients about cannabis use in pregnancy

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