

# Improving Reproductive-Age Patient Education on the Effects of Prenatal Marijuana Exposure

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## Background

- Growing evidence demonstrates multiple long term adverse neuropsychiatric and medical outcomes from prenatal marijuana exposure (PME).
- Marijuana (MJ) is the most widely used illicit drug during pregnancy, with prevalence rate ranging from 3-34% and its use is rapidly growing.
- The concentration of  $\Delta 9$ -tetrahydrocannabinol (THC) in MJ has substantially increased from 4% in 1995 to 14% in 2019 with higher concentrations of up to 23.2% found in MJ sold at dispensaries in some legalized states and up to 75.9% in concentrated recreational products, like dabs.
- Increasing numbers of states are decriminalizing recreational and medical MJ use with only 6 states remaining where neither medical or recreational MJ use is legalized
- Patient perception that MJ is safe and natural to use during pregnancy is growing.
- Clinicians are suboptimally and inconsistently educating patients on the risks of PME. Meanwhile, women are obtaining nonevidence-based information from unreliable resources such as the internet.

## Objective

A Quality Improvement project was completed at the University of Maryland/Sheppard Pratt Psychiatry Residency Program with an aim to: a) characterize barriers to providing patient education on PME; b) create an intervention tool; c) measure intervention effectiveness.

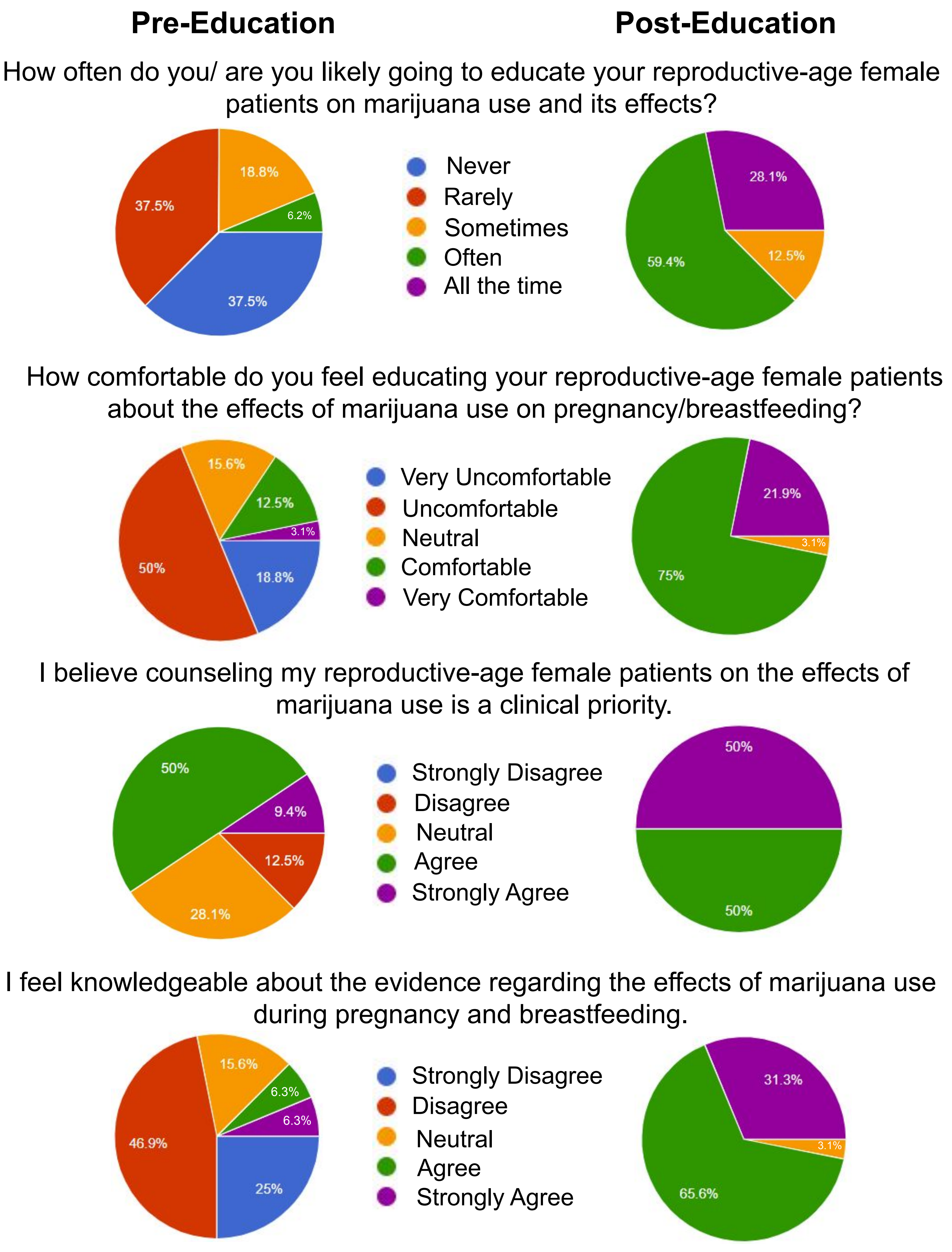
## Methods

- Participants (n=32): Psychiatry residents at the University of Maryland/Sheppard Pratt Psychiatry Residency Program. 53 residents invited to participate voluntarily. 32 residents completed survey (response rate: 60.3%).
- Intervention: A comprehensive provider educational handout was created based on clinical literature review on how to discuss PME with reproductive-age female patients.
- Survey: A cross-sectional survey was distributed online. All responses were anonymous. Outcome measures were rated on a five-point Likert scale to assess provider approach, comfort, attitude/belief, and knowledge about the topic. Survey was completed before and after reviewing the handout.
- Data Analysis: All survey results were included, organized and compared.

## References

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## Results



- 75% of participants reported never/ rarely educating patients on the effects of PME despite 71.9% screening for marijuana use all the time, often, sometimes.
- Pre-education: 68.8% reported feeling uncomfortable educating patients; 12.5% disagreed and 28.1% felt neutral that this topic is a clinical priority; 1.3% of participants reported feeling knowledgeable about the evidence.
- Post-education: 100% agreed this topic should be addressed. 96.9% reported feeling comfortable and knowledgeable to engage in educating women on PME.

## Discussion

- Psychiatrists should be prepared to discuss the effects of PME with patients given the current and evolving social and legal context. An evidence-based handout is a time-efficient, cost-effective intervention targeting all identified barriers in providing patient education: absence of education, provider discomfort in educating patients, lack of evidence-based knowledge, provider belief this topic is not a clinical priority.
- Patient education on the effects of PME is important for primary prevention. By improving patient health literacy, psychiatrists can empower patients to make informed decisions about prenatal marijuana use, thus reducing the risk of subsequent medical and neuropsychiatric vulnerabilities in their children that could have downstream negative effects.
- Limitation/Next steps: Our project was a small study piloted in one psychiatry residency program and results may not be generalizable although findings are consistent with prior studies. Important future directions for study include: exploring whether other medical specialties that work with reproductive-age females share similar results, investigating if patient education about PME translates to patient behavioral changes, and further characterizing women's attitudes regarding PME given increasing legalization.

## Patient Counseling

- Use nonjudgmental and non-punitive language.
- There is no safe amount of MJ use during pregnancy and breastfeeding.
- THC interacts with the Endogenous Cannabinoid System (ECS) which is important for neurodevelopment.
- MJ (inhaled, vaporized or edible) passes to the fetus via the placenta and remains in baby's fat stores for extended time.
- Medical risk of PME: increased risk of fetal growth restriction, stillbirth, preterm birth and lower birth weight.
- Neuropsychiatric risk of PME: decreased academic function, memory and learning problems, reduced cognition, inattention, increased behavioral problems, increased depressive symptoms, sleep disturbances, and higher likelihood of early tobacco and MJ use. These findings can persist into adolescence and young adulthood.
- MJ passes into breast milk and remains for extended periods of time. Pumping and dumping is ineffective.
- MJ in any form at home should be locked away from children and poison control should be called if children ingest.
- Secondhand MJ smoke is also unsafe and increases the risk of sudden infant death syndrome.
- MJ can impair driving and the ability to safely care for children.