MomsPRN

Session Topic: Cannabis Use During Pregnancy: What's the evidence and Having the Conversation

Facilitator: Marybeth Sutter MD

Faculty Presenter(s): Mara Coyle, MD

Case Presenter(s): Mara Coyle, MD

Date & Time: January 21, 2025, from 12 – 1 pm

PLEASE NOTE: Project ECHO case consultations do not create or otherwise establish a provider-patient relationship between any clinician and any patient whose case is being presented in a project ECHO setting

Care Transformation Collaborative of RI

CARE TRANSFORMATION COLLABORATIVE RHODE ISLAND
pcmh kids patient-centered medical home
ADVANCING INTEGRATED HEALTHCARE

Agenda

Time	Topic	Presenter
12:00 – 12:05 PM	Welcome & Faculty Introduction	Marybeth Sutter, MD
12:05 – 12:25PM	Didactic: Cannabis Use During Pregnancy: What's the evidence and Having the Conversation	Mara Coyle, MD
12:25 – 12:40PM	Case Presentation	Mara Coyle, MD
12:40 – 12:55PM	Q&A and Discussion	
12:55 –1:00PM	Wrap up; Evaluation; Announcements	Susanne Campbell, CTC-RI

Welcome

Please note that the didactic portion of an ECHO session will be recorded for educational and quality improvement. The case presentation portion of an ECHO session will never be recorded.

Remember to never disclose protected health information (PHI), verbally or in writing, to preserve patient confidentiality.

We are participating in an open and welcoming learning environment. Thank you for generously sharing your knowledge and experience so that all can benefit from it!

Project ECHO

CARE TRANSFORMATION COLLABORATIVE RHODE ISLAND

pcmh kids patient-centered medical home

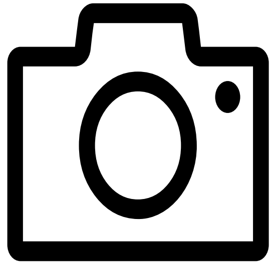
ADVANCING INTEGRATED HEALTHCARE

Video Meeting Etiquette

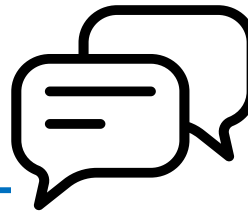
Mute your microphone when not talking.

Limit distractions as best as possible.

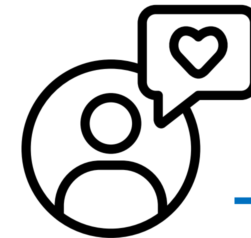
Use reactions & the raise hand feature.



Engage and turn your camera on if you are able.



Use the chat to ask introduce yourself, ask questions and share resources.



Engage - ask questions, offer feedback, provide support.

Mara Coyle, MD

Mara G Coyle, MD, is a Professor of Pediatrics at the Warren Alpert Medical School of Brown University and is Director of Outpatient Clinical Operations in the Department of Neonatology at Women & Infants Hospital in Providence Rhode Island. Dr. Coyle graduated Summa Cum Laude from Boston College where she received her Bachelor of Science degree. She was awarded her medical degree from Brown University as a member of the Dartmouth/Brown Program in Medicine. She completed her pediatric residency at the Children's Hospital of Philadelphia, and her Neonatal Fellowship under the mentorship of William Oh, at Women & Infant's Hospital in Providence Rhode Island. She is currently a staff neonatologist at Women & Infant's Hospital, Chair of the Perinatal Mortality Committee and oversees Women & Infants affiliated community nurseries. Dr. Coyle's research interest involves understanding the optimal treatment strategy for newborns exposed to maternal opiate medications, and she has lectured nationally on this topic.

Cannabis Use During Pregnancy: What's the evidence and Having the Conversation

Mara G. Coyle, MD

Women & Infants Hospital

Women&Infants | A MEMBER OF Care New England

A Major Teaching Affiliate of BROWN Alpert Medical School

Disclosures

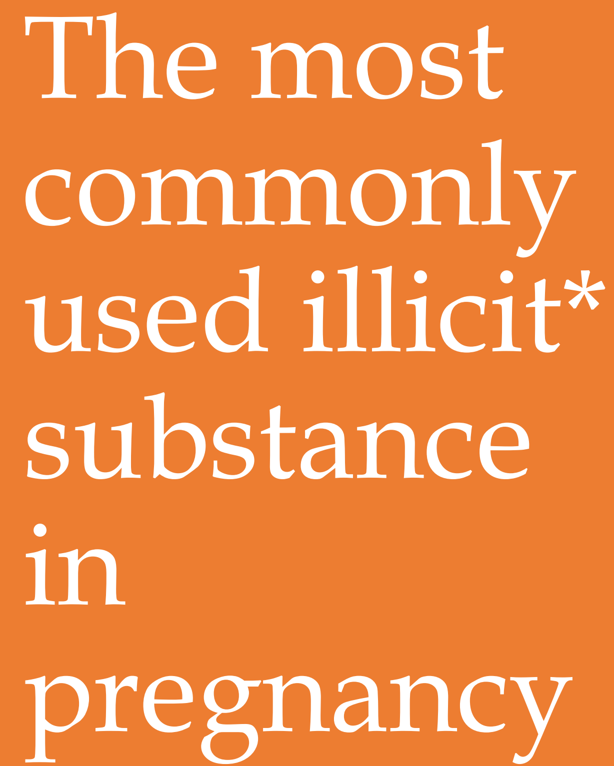
Pregnancy Registry Advisory Committee, Harmony Biosciences Pharmaceuticals (Pitolisant)

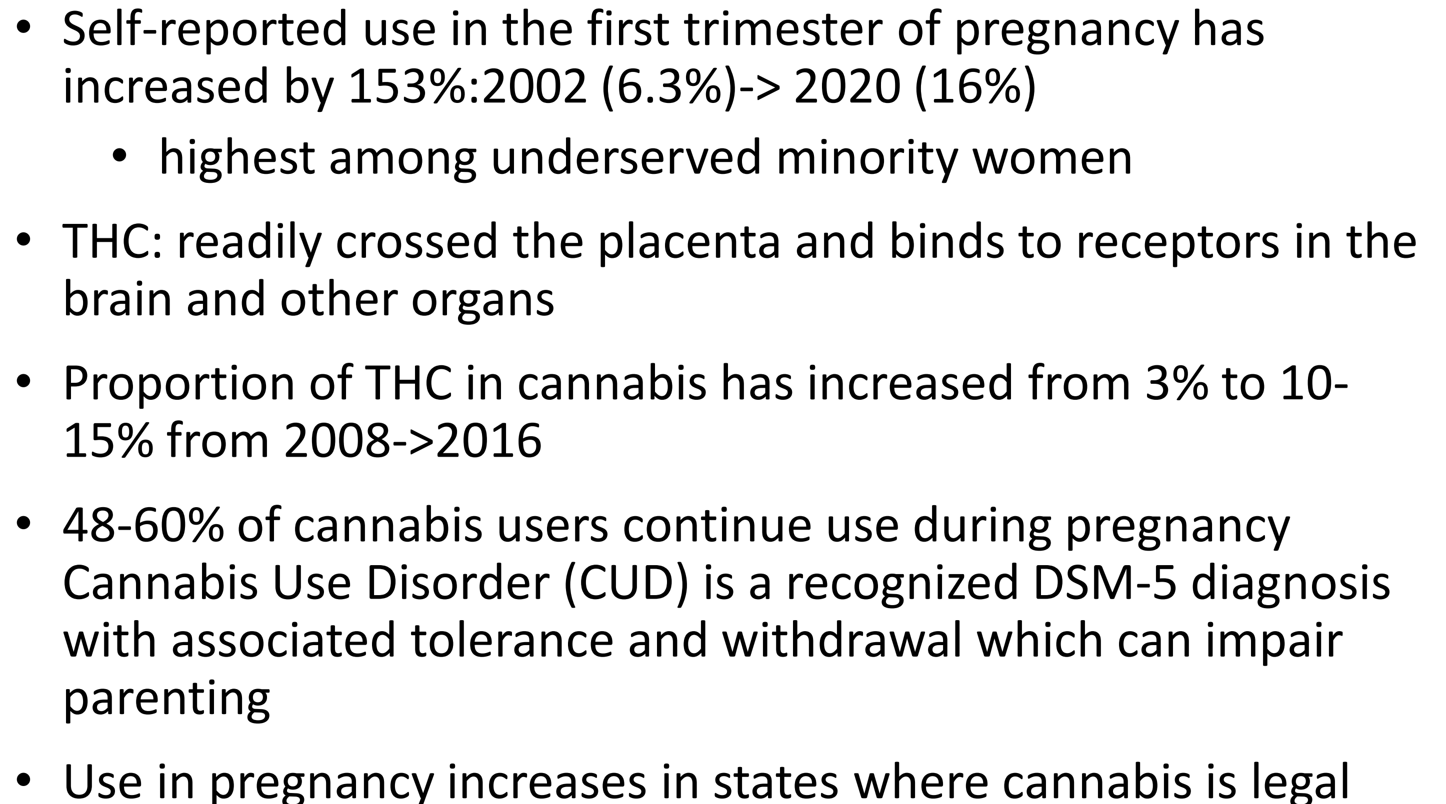
Pregnancy Registry Advisory Committee Pfizer Pharmaceuticals (Rimegepant)

Pregnancy Registry Advisory Committee Pfizer Pharmaceuticals (Cibinqo)

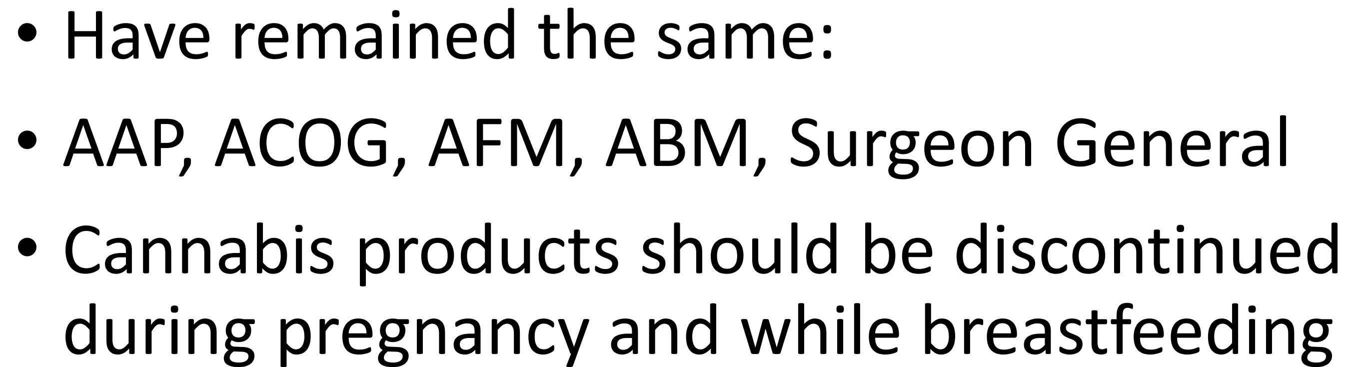
Objectives

- Understand the current perinatal cannabis use and outcomes data
- Understand screening tools and education available
- Learn through case presentation and discussion what providers can do pre and post conception to address perinatal cannabis use.


The most commonly used illicit* substance in pregnancy

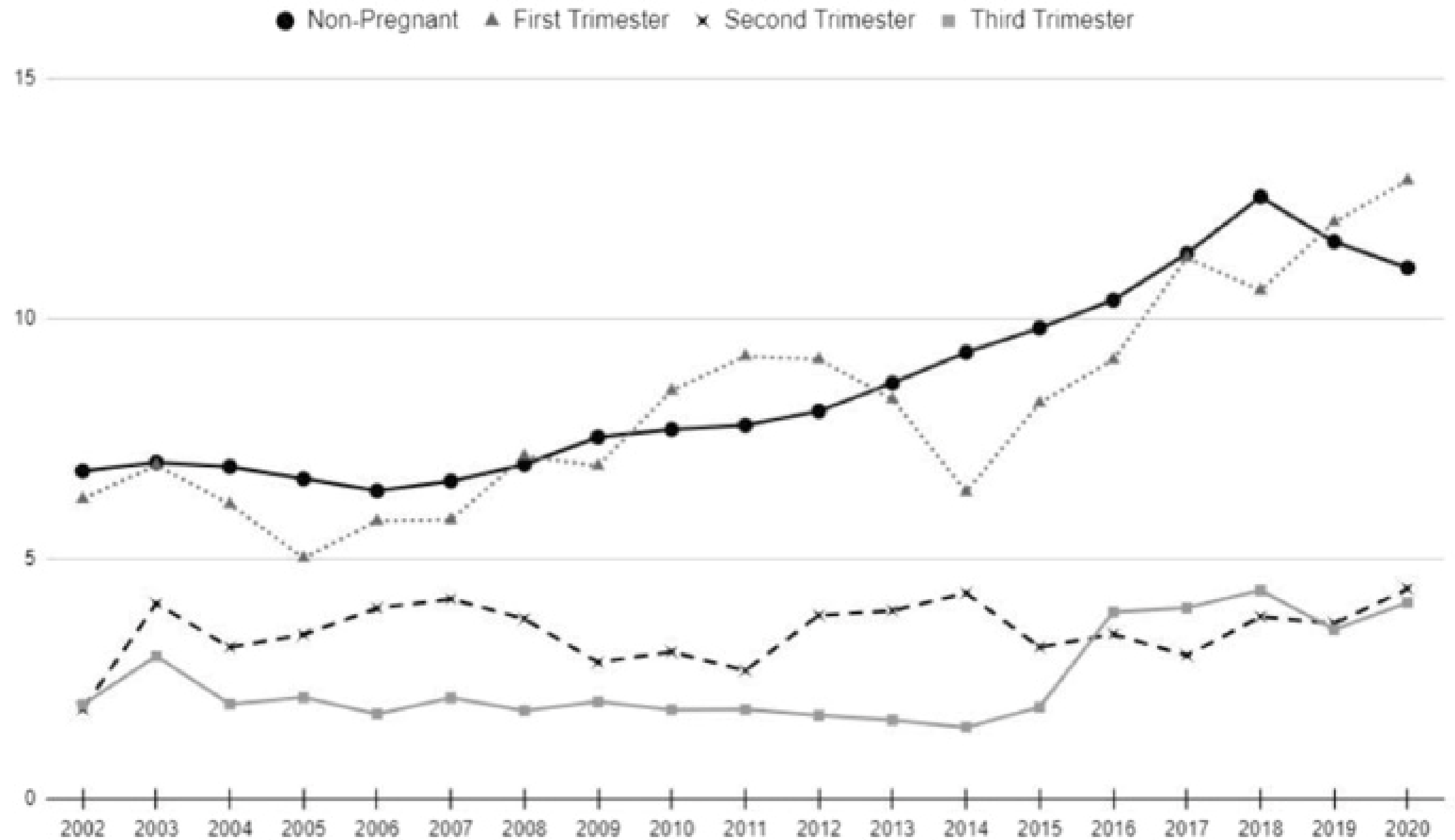

Self-reported use in the first trimester of pregnancy has increased by 153%:2002 (6.3%)-> 2020 (16%)
highest among underserved minority women
THC: readily crossed the placenta and binds to receptors in the brain and other organs
Proportion of THC in cannabis has increased from 3% to 10-15% from 2008->2016
48-60% of cannabis users continue use during pregnancy Cannabis Use Disorder (CUD) is a recognized DSM-5 diagnosis with associated tolerance and withdrawal which can impair parenting
Use in pregnancy increases in states where cannabis is legal

Academy
Recommendations


• Have remained the same:
• AAP, ACOG, AFM, ABM, Surgeon General
• Cannabis products should be discontinued during pregnancy and while breastfeeding

Data Updates

When is it used? *(Hayes J Perinatol 2023)*



Why is it Used?

(Constantino-Pettit et al JAMA 2024)

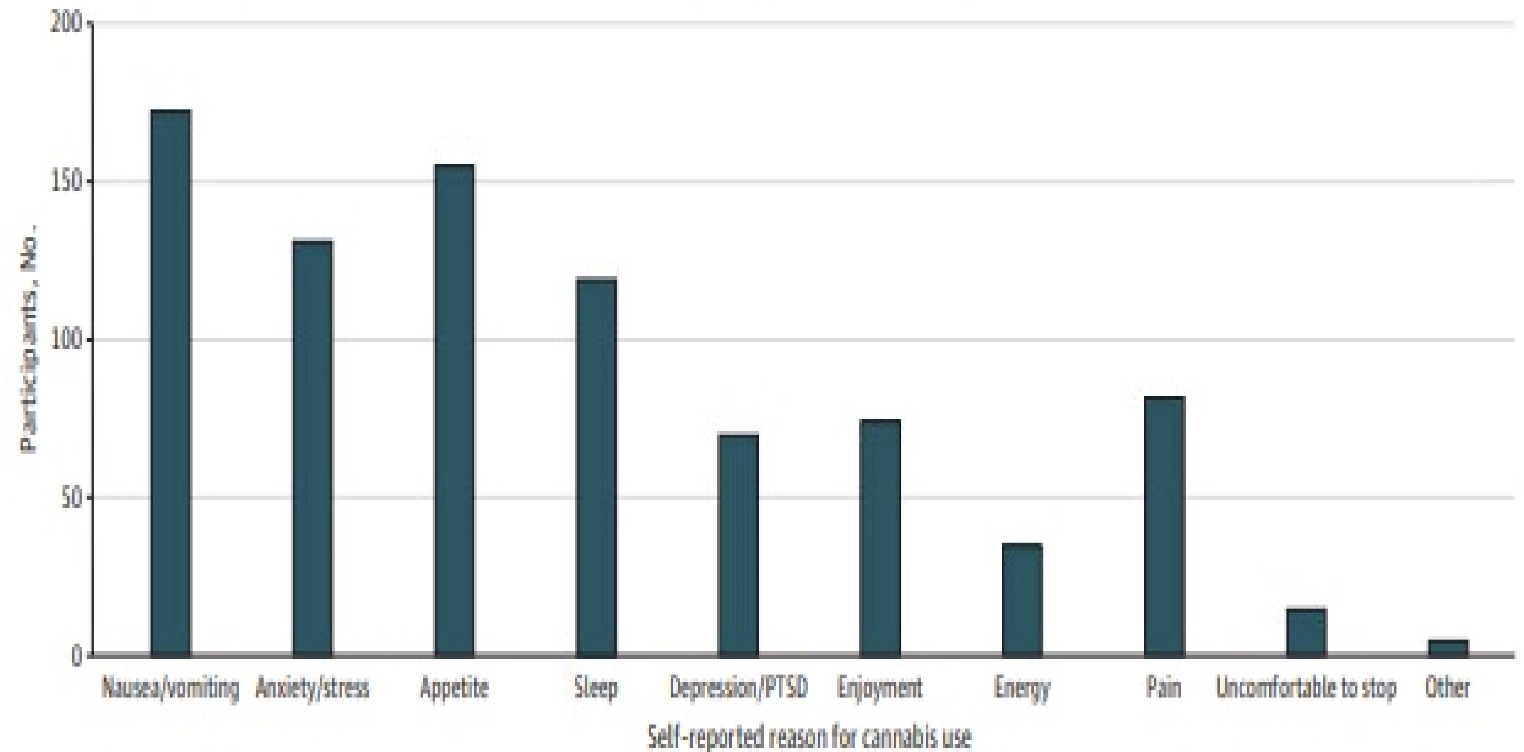
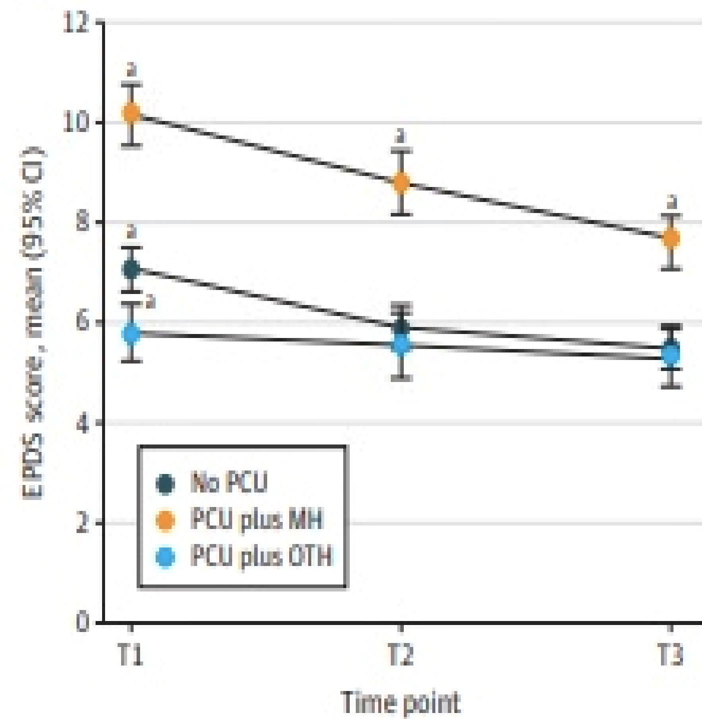
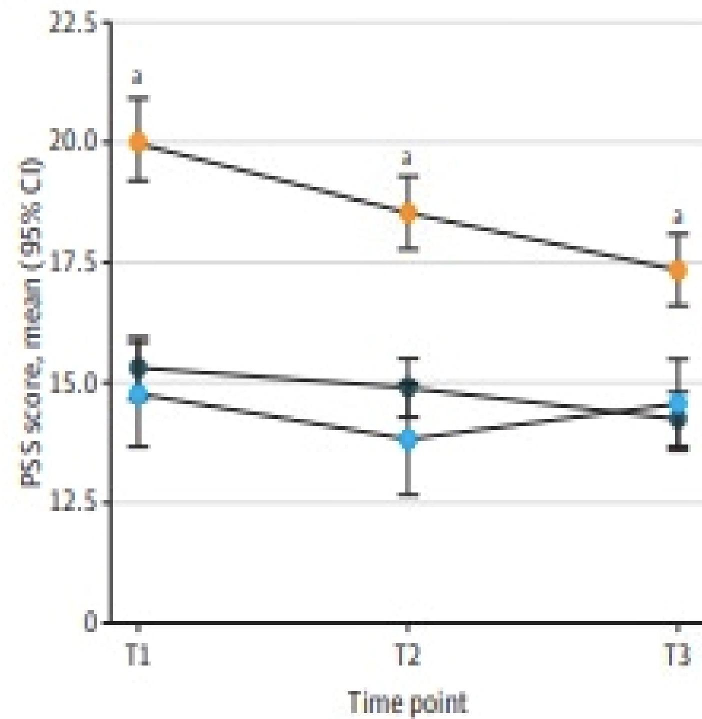


Figure 2. Measures of Depression and Stress Across Trimesters





A, Depression was measured with the Edinburgh Postnatal Depression Scale (EPDS). B, Stress was measured with the Perceived Stress Scale (PSS). MH indicates mental health; OTH, other; PCU, prenatal cannabis use; T, trimester.

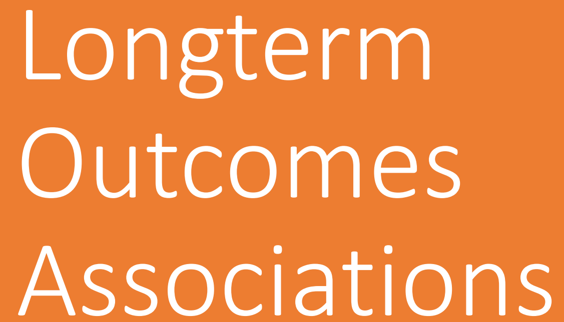
[a] Denotes significant differences in group means at the $P < .05$ level.

Maternal and Birth Outcomes

(Luke, 2022; Bailey 2020; Habersham, 2024, Crosland 2024, Metz 2023)

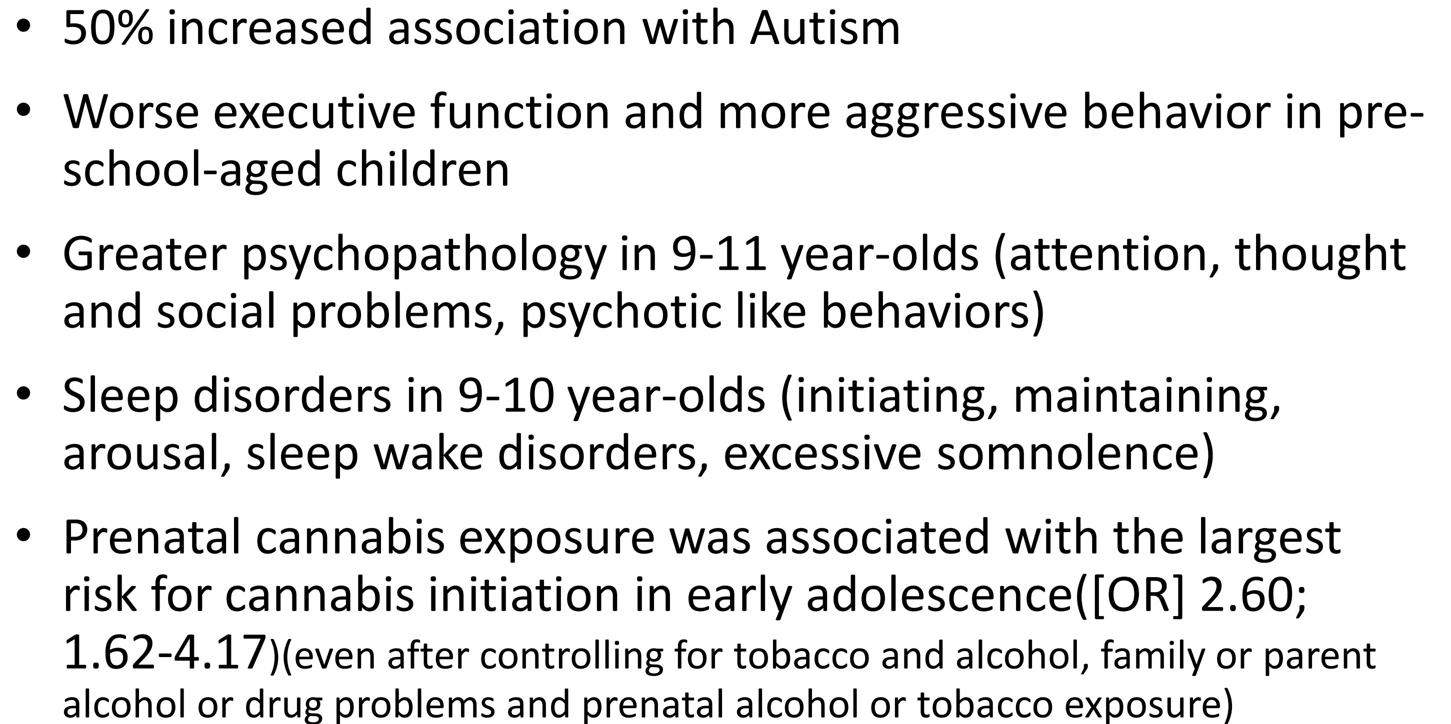
- Compared to non-users, cannabis in pregnancy is associated with lower
  - Birth weight
  - Gestational age at delivery
  - APGAR scores
- And increased
  - preterm birth
  - NICU admissions
  - Cesarean deliveries and GDM in mothers
  - Fetal death (6-fold risk)
  - When combining cannabis and nicotine: infant/neonatal death was increased greater than with single exposure

Use during first trimester only was NOT associated with some of these outcomes

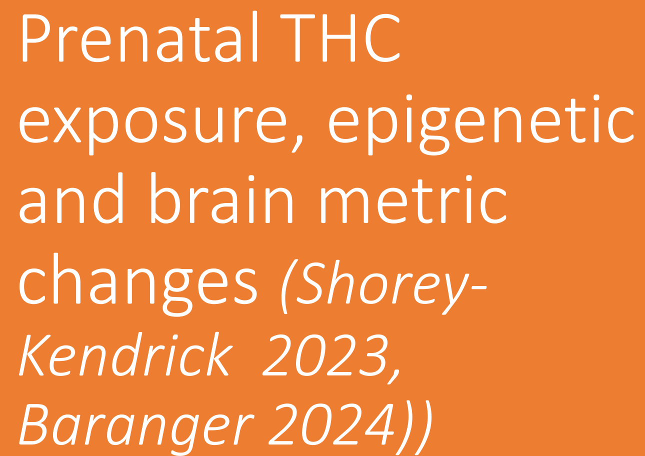


Longterm Outcomes Associations

(Corsi 2020; Winiger 2020; Baranger 2022 *Miller 2023*;Kiem 2024)



- 50% increased association with Autism
- Worse executive function and more aggressive behavior in pre-school-aged children
- Greater psychopathology in 9-11 year-olds (attention, thought and social problems, psychotic like behaviors)
- Sleep disorders in 9-10 year-olds (initiating, maintaining, arousal, sleep wake disorders, excessive somnolence)
- Prenatal cannabis exposure was associated with the largest risk for cannabis initiation in early adolescence([OR] 2.60; 1.62-4.17)(even after controlling for tobacco and alcohol, family or parent alcohol or drug problems and prenatal alcohol or tobacco exposure)



Prenatal THC exposure, epigenetic and brain metric changes *(Shorey-Kendrick 2023, Baranger 2024))*

- Studied the offspring epigenome in non-human primates (change in gene expression without modifying DNA) after edible consumption
- Prenatal THC exposure altered placental and fetal tissue epigenome in areas observed in patients with Autism spectrum disorder as well as anxiety-related behavior
- 9-10 and 11-12yo were assessed via functional MRI, after prenatal exposure and found focal changes in brain metrics linked to externalizing traits, particularly attention problems

Impact of Paternal Cannabis Use *(Murphy 2018, Slotkin 2020, Schrott, 2021)*

- Compared to non-users, lower sperm concentrations noted in cannabis users
- Pre-conception exposure is associated with widespread DNA methylation in sperm
- Changes diminish with abstinence
- Functional roles of genes are involved in early neurodevelopment, eg: autism
- Whether these changes are passed on to the next generation is unclear
- Adverse impacts of drug exposure on brain development are not limited to effects mediated by the embryonic or fetal chemical environment, but rather that vulnerability is engendered by exposures occurring prior to conception, involving the father as well as the mother.

Screening and
Education

Screening Tools

- Cannabis Use Disorder Identification Test-Revised (CUDIT-R) 8 questions
  - sensitivity 91%, specificity 90%
- Drug Abuse Screening Test (DAST-10)
  - 100% sensitivity, 77% specificity
- National Institute on Drug Abuse (NIDA) Single-Question Screening Test . (How many times in the past year have you used marijuana?(never, less than monthly, monthly, weekly, daily/almost daily)
  - Monthly or more : 71% sensitivity, 92% specificity
  - Predictive value 34%

Education: a good starting point *(Frank 2022)*

- WEED: Practice Mnemonic for Addressing Cannabis Use in Pregnancy
- **W**elcome questions about cannabis use
- **E**xplore alternatives to cannabis for common pregnancy ailments, such as anxiety and nausea (for which there is extensive safety and efficacy data)
- **E**xplain the potential risks of cannabis use
- **D**eliver a harm-reduction message by recommending a decrease in the dose and frequency for patients who are not able or willing to remain abstinent during pregnancy

Resources

For Providers

- RI MomsPRN partners with Women's Behavioral Health at Women & Infants to provide free psychiatric consultation
- PediPRN partners with Bradley Hospital for children/adolescents
  - *Empower providers to effectively manage their perinatal patients' behavioral health and substance use concerns by providing treatment guidance..and/or information and referral for additional supports*

For Patients

- Peer recovery coaches
  - Anchor Recovery
  - Family Visiting
  - VNA of Care New England
- Marijuana Anonymous

All patients should be:

Women&Infants | A MEMBER OF Care New England

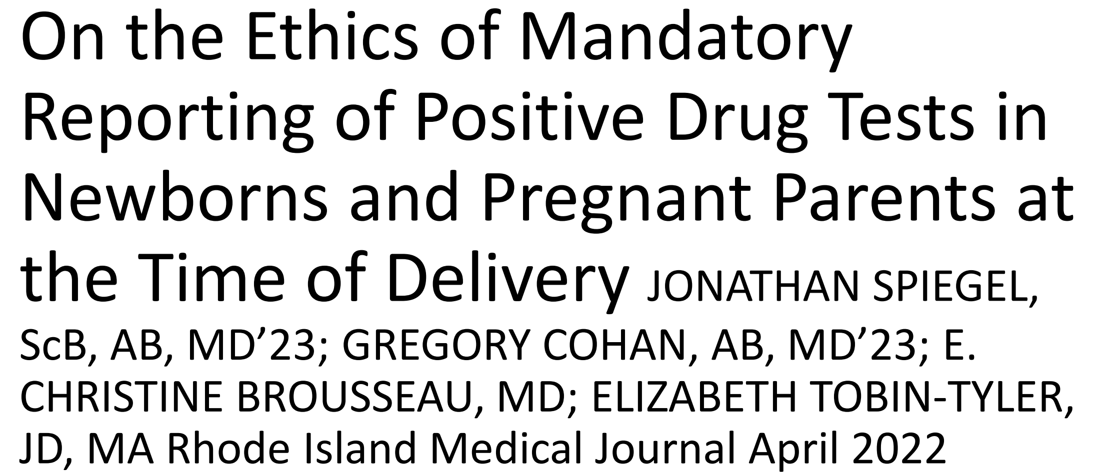
- Informed of potential risks
- Informed that ACOG, AAP and ABM recommend against cannabis use in pregnancy and lactation
- Verbally screened for cannabis use
- Who screen positive should be re-educated
- Who re-screen positive should be asked to submit a drug test
- Given the opportunity to stop using cannabis
- Allowed to exercise autonomy

WHAT YOU SHOULD KNOW IN PREGNANCY

5. Using cannabis (also commonly referred to as marijuana) in any form (vape pen, edibles, joints, tinctures) during or after pregnancy may be harmful for your baby because tetrahydrocannabinol (THC), the chemical that makes you feel "high," is passed to your baby through the placenta and breast milk.

6. Babies who are breastfed by a parent who is using cannabis may have increased risk of developmental delay or difficulties paying attention later in life. It is recommended to refrain from using cannabis products while you are pregnant and breastfeeding. Choosing to use cannabis while breastfeeding is a choice that should be discussed with your prenatal provider.

7. Using non-prescribed substances, tobacco, and/or alcohol will not prevent you or your baby from receiving care. Your providers respect you and are here to help you.


On the Ethics of Mandatory Reporting of Positive Drug Tests in Newborns and Pregnant Parents at the Time of Delivery
JONATHAN SPIEGEL, ScB, AB, MD'23; GREGORY COHAN, AB, MD'23; E. CHRISTINE BROUSSEAU, MD; ELIZABETH TOBIN-TYLER, JD, MA Rhode Island Medical Journal April 2022

Message to Patients

- A better understanding of why women are using cannabis during pregnancy may enable a conversation of alternative therapies for which there is extensive safety and efficacy data
- Advice from medical professionals should be consistent: pregnant and lactating women should avoid cannabis use, and parents caring for developing children should be advised to maintain abstinence
- Treatment programs should be available, accessible and gender and culturally specific
- The purpose of screening is to educate and allow for treatment not to punish or prosecute

- 28-year-old G1 female presents to W&I at 38 weeks for IOL due to growth restriction
- Unremarkable medical prenatal history, labs, routine PNC
- Growth restriction diagnosed at 24 weeks
- Social history: married couple, FOB cannabis grower; maternal use of cannabis throughout pregnancy to help relieve anxiety
- Mother plans to nurse
- I am asked to meet with the couple regarding cannabis use as they were in the labor room undergoing induction

Case Study

- Discussed impact of growth restriction on newborn care (temperature, glucose, feeding, breathing) and indications for need for admission to NICU
- As the consultation occurred during labor, educating on effects of cannabis exposure during pregnancy while mentioned in general, was not the focus as this was not discussed prenatally
- Discussed knowledge regarding breastfeeding and cannabis
- Parents clear that they had no intention of changing their beliefs regarding cannabis and safety, and that cannabis use to treat anxiety was preferred over “any chemicals” (ie: SSRI)

- Fetal distress requiring operative birth and newborn resuscitation
- Baby admitted to NICU
- Parents requested I not care for the baby
- Social work consultation: discussed referral to DCYF; mother shared her frustration with only learning about effects of cannabis at time of delivery
- Baby discharged home breastfeeding with MOB hoping to decrease use, and a referral to the Behavioral Health Program
- Other feedback from families: I used cannabis with my first child and he is fine; I know where I get my weed and I don’t have to worry; its natural; my friend said it helped her

Key points

- Timeliness of education: different providers
- Alternative treatments for mental health/N+V
- Safety of pharmaceuticals vs natural products (cannabis)
- Past use history with other deliveries
- Associating long-term morbidities with fetal exposure
- Supporting autonomy
- Mandated reporting: more harm than good

References

- "Paternal Δ9-Tetrahydrocannabinol Exposure Prior to Mating Elicits Deficits in Cholinergic Synaptic Function in the Offspring". Theodore A Slotkin, Samantha Skavicus, Edward D Levin, Frederic J Seidler.
  Toxicological Sciences doi:10.1093/toxsci/kfaa004.
- Habersham LL, Hurd YL, Nomura Y. The longitudinal assessment of prenatal cannabis use on neonatal outcomes. https://doi.org/10.1038/s41372-024-02027-w
- Young-Wolff KC et al Prenatal Cannabis Use and Maternal Pregnancy Outcomes https://jamanetwork.com/journals/jama/fullarticle/10.1001/jamainternmed.2024.3270?utm_campaign=articlePDF%26utm_medium=articlePDFlink%26utm_source=articlePDF%26utm_content=jamainternmed.2024.3270
- Murphy SK et al. Cannabinoid exposure and altered DNA methylation in rat and human sperm. https://www.tandfonline.com/loi/kepi20
- Lo JO, Hedges JC, Girardi G. Impact of cannabinoids on pregnancy, reproductive health, and offspring outcomes. https://doi.org/10.1016/j.ajog.2022.05.056
- Bhatia D Rosenberg S, Rees R, Brooks-Russel A. Perinatal Cannabis Use and Cannabis use during Breastfeeding: the Role of Health Care Workers. DOI https://doi.org/10.1055/a-2145-7775.ISSN 0735-1631.
- Luke S, Hobbs AJ, Smith M, Riddell C, Murphy P, Agborsangaya C, et al. (2022) Cannabis use in pregnancy and maternal and infant outcomes: A Canadian cross-jurisdictional population-based cohort study. PLoS ONE 17(11): e0276824. https://doi.org/10.1371/journal.pone.0276824
- Miller AP et al. Characteristics Associated with Cannabis Use initiation by Late Childhood and Early Adolescence in the Adolescent Brain Cognitive Development (ABCD) Study. June 26, 2023. doi:10.1001/jamapediatrics.2023.1801
- Corsi DJ et al. Maternal cannabis use in pregnancy and child neurodevelopmental outcomes. Nature Medicine | VOL 26 **1536** | October 2020 | 1536–1540 | www.nature.com/naturemedicine
- Mims et al. Surgery-related Considerations in treating People who use Cannabis: a Review. *JAMA Otolaryngol Head Neck Surg.* Published online August 22, 2024. doi:10.1001/jamaoto.2024.2545
- https://doi.org/10.1038/s41591-020-1002-5

References

- Baranger DA et al Association of Mental Health Burden With Prenatal Cannabis Exposure From Childhood to Early Adolescence: Longitudinal Findings From the Adolescent Brain Cognitive Development (ABCD) Study September 12, 2022. doi:10.1001/jamapediatrics.2022.3191
- Marchand G et al. Birth Outcomes of Neonates Exposed to Marijuana in Utero A Systematic Review and Meta-analysis. JAMA Network Open. 2022;5(1):e2145653. doi:10.1001/jamanetworkopen.2021.45653
- Wymore EM et al. Persistence of Δ-9-Tetrahydrocannabinol in Human Breast Milk March 8, 2021. doi:10.1001/jamapediatrics.2020.6098
- Shorey-Kendrick *et al. Clinical Epigenetics (2023) 15:104* https://doi.org/10.1186/s13148-023-01519-4
- *Gedin F et al. Placebo Response and Media Attention in Randomized Clinical Trials Assessing Cannabis-Based Therapies for Pain. JAMA Network Open.* 2022;5(11):e2243848. doi:10.1001/jamanetworkopen.2022.43848
- Hayes S, Delker E Bandoli G. The Prevalence of cannabis use reported among pregnant individuals in the United States is increasing. J of Perinatology (2023) 43:387–389; https://doi.org/10.1038/s41372-022-01550-y
- Roberts SCM, Zaugg C, Biggs MA. Association of Mandatory Warning Signs for Cannabis Use During Pregnancy With Cannabis Use Beliefs and Behaviors. JAMA Network Open. 2023;6(6):e2317138.doi:10.1001/jamanetworkopen.2023.17138
- Crosland BA et al. Risk of Adverse Outcomes after Combined Prenatal Cannabis and Nicotine Exposure*. JAMA Network Open.* 2024;7(5):e2410151. doi:10.1001/jamanetworkopen.2024.10151
- *Metz TD et al. Cannabis Exposure and Adverse Pregnancy Outcomes Related to Placental Function. JAMA*. 2023;330(22):2191-2199. doi:10.1001/jama.2023.21146
- Frank CJ, Morrison L. Cannabis use during pregnancy. Letters to the editor. *Am Fam Physician.* 2022;160(4):364-365
- Schrott et al. Refraining from use diminishes cannabis-associated epigenetic changes in human sperm. Environ. Epigen. 2021,7(1),1-10. DOI: https://doi.org/10.1093/eep/dvab009

Questions? And Contact information

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Evaluation & CME

- Please provide us your feedback!
- Evaluation/Credit Request Form : https://www.surveymonkey.com/r/MomsPRNECHOeval
- Anyone requesting CME credits or SW CEU credits, or a certificate of participation must fill out the evaluation.
- All participants that signed up to be "full" participants, must complete the evaluation to be counted for attendance.
- Certificates will be emailed ~30 days from today's ECHO® session.

Application for CME credit has been filed with the American Academy of Family Physicians. Determination of credit is pending.

Application for SW CEU credit has been filed with the NASW RI Chapter. Determination of credit is pending.

ADVANCING INTEGRATED HEALTHCARE

A Special Notification Sent on Behalf of the American Cancer Society

January 29, 2025

2:00 PM EST

Click here to register or scan the QR code below.

https://us02web.zoom.us/webinar/register/WN_I56LuBRxR8GrDCVwLRY6Xg#/registration

Contact Interventions@cancer.org if you have questions

Please join the first webinar on January 29th at 2pm EST for an in-depth discussion on:

- HPV vaccination rates and trends
- Best practice – age 9 initiation
- Current state of cervical cancer
- Promising practice – Self collection

See flyer details for registration information. Questions? Email: Interventions@cancer.org

Webinar series:

Cancer Prevention and Early Detection for Community Health Centers

Join us for a 3-part webinar series focused on cervical, colorectal and breast cancer prevention and screening.

Many barriers can impact a person's ability to prevent, detect, treat and survive cancer. Community health centers (CHCs) are essential to reducing disparities and improving access to cervical, colorectal and breast cancer screening.

Session 1: Promising Practices to Increase Cervical Cancer Prevention and Screening

More then 13,000 new cases of cervical cancer diagnosed every year in the U.S.

CHCs screened over 4.2 million individuals with a cervix in 2023

Cervical cancer screening rates nationally at CHCs are only at 55%

Healthy People 2030 goal is 84.3%

Details

Join us for a in-depth discussion on
- HPV vaccination rates and trends
- Best practice - age 9 initiation
- Current state of cervical cancer
- Promising practice - self collection

January 29, 2025

2:00 PM EST

Click here to register or scan the QR code below.

Speakers

Rebecca B. Perkins MD, MSc
Professor of Obstetrics and Gynecology
Tufts University School of Medicine
Tufts Medical Center

Kathy MacLaughlin MD
Associate Professor of Family Medicine
Mayo Clinic

More information coming soon for session 2 (colorectal cancer) & session 3 (breast cancer).

Questions? Please email: interventions@cancer.org

Announcements & Reminders

Recording, Presentation & Evaluation link	Will be emailed today
Certificates of Participation:	December CME Certs will go out this week January CME Certs will go out next month
Next Session Date:	February 18, 2025, noon-1PM
Topic:	Engaging with Doulas-Empowering birthing people
Presenter:	Quatia Osorio, BS-HSM, BSBA, SPM

THANK YOU!