PERINATAL OUD AND CO-OCCURRING DISORDERS

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I HAVE NO DISCLOSURES

PERINATAL SUD IS COMPLICATED!

- In general population:
  - Cigarette smoking decreases from 23% pre-pregnancy to 15% during pregnancy
  - Alcohol declines from 55% pre-pregnancy to 10% during pregnancy
- Among women with OUD however change is more complicated (Terplan, 2015)
  - High drop-out rates
  - Need for intensive psychosocial support
  - Late entrance into prenatal care and lower rates of prenatal care follow-up
  - High rates of polysubstance use

CO-OCCURRING SUD

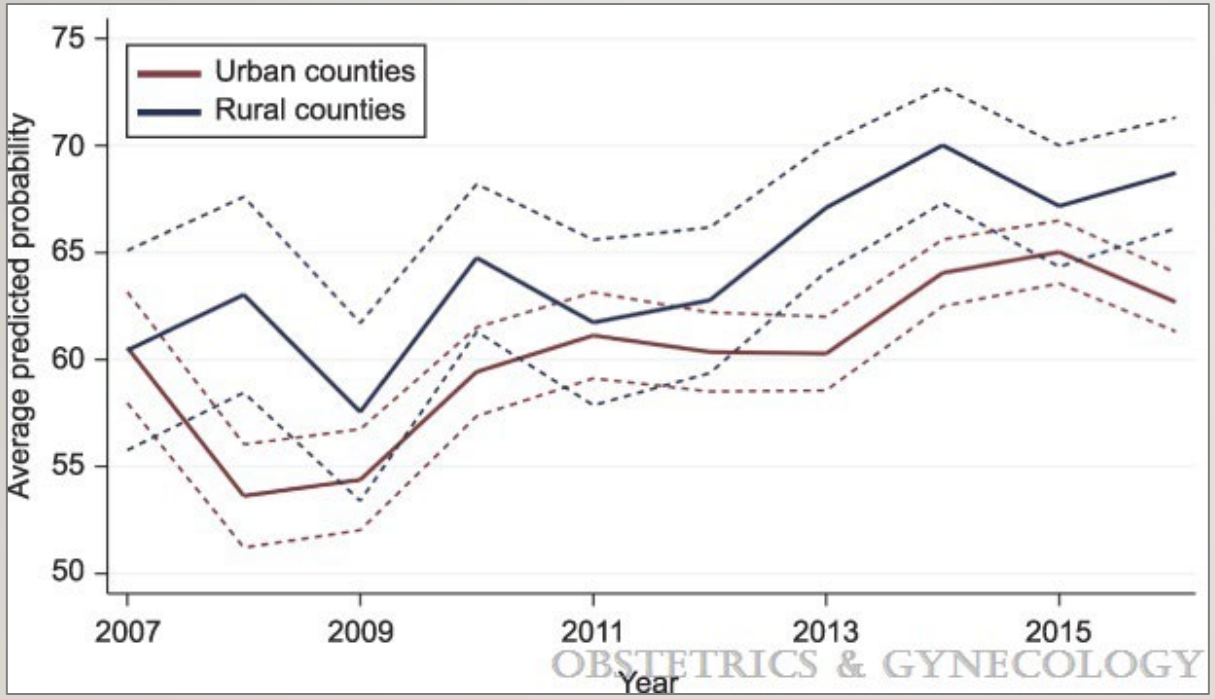
- Alcohol
- Tobacco
- Cannabis
- Stimulants – methamphetamine and cocaine
- Benzodiazepines
- All need to be assessed and addressed along with the OUD
- Remember multiple substance use disorders are the rule not exception

MULTIPLE SUBSTANCE USE DURING PREGNANCY

- Many women may use more than one substance during pregnancy.
- In 2015 study found that pregnant women prescribed opioid pain medication were more likely to smoke tobacco compared to those who did not use opioids;[1]
- In 2017 study found that more than half of pregnant women who used opioids for nonmedical reasons reported drinking more than five drinks with alcohol per day during a 1-month period of time;[2]
- In 2020 study published found that among women who continued marijuana use before and during pregnancy, 74% also smoked cigarettes during their pregnancy.[3]

https://www.cdc.gov/pregnancy/polysubstance-use-in-pregnancy.html

Polysubstance Use Among Pregnant Women With Opioid Use Disorder in the United States, 2007–2016



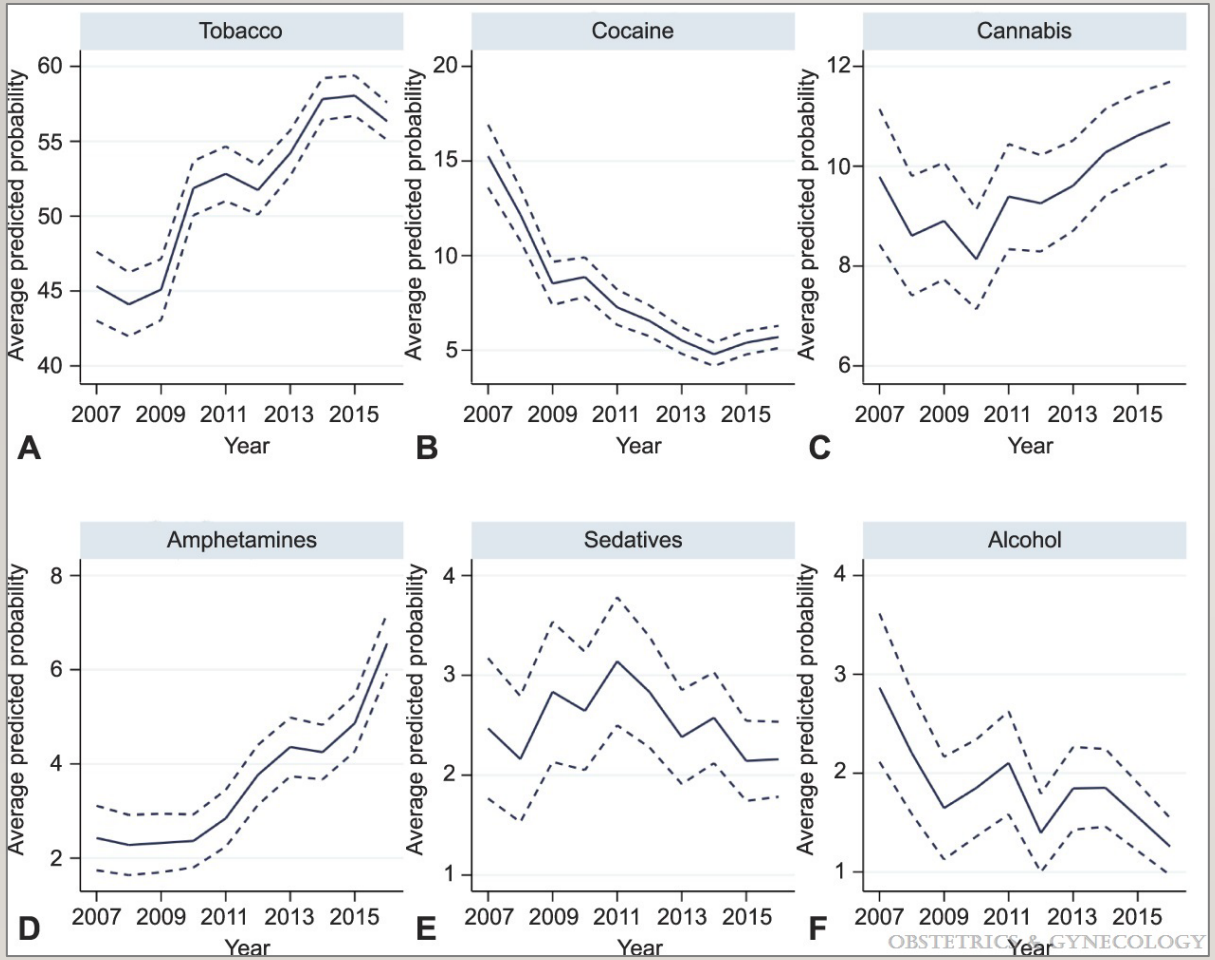
Jarlenski, Marian P.; Paul, Nicole C.; Krans, Elizabeth E.

Obstetrics & Gynecology136(3):556-564, September 2020.

doi: 10.1097/AOG.0000000000003907

Adjusted prevalence of polysubstance use diagnosis among those with opioid use disorder at delivery residing in rural and urban counties in the United States, 2007–2016. Average predicted probabilities and 95% CIs are derived from a weighted logistic regression controlling for rural or urban residence, age, race or ethnicity, and Medicaid insurance coverage. Rural and urban areas defined according to the National Center for Health Statistics classification scheme for U.S. counties. For those in rural counties, polysubstance use diagnosis was statistically significantly greater in 2014, 2015, and 2016 relative to 2007. For those in urban counties, polysubstance use diagnosis was statistically significantly lower in 2008 and 2009 relative to 2007 and was statistically significantly greater 2015 relative to 2007. Increases in polysubstance use relative to 2007 were statistically significantly greater among rural vs urban residents in 2008, 2013, 2014, and 2016.Jarlenski. Polysubstance Use Among Women With Opioid Use Disorder. Obstet Gynecol 2020.

FIG. 3.



Polysubstance Use Among Pregnant Women With Opioid Use Disorder in the United States, 2007–2016

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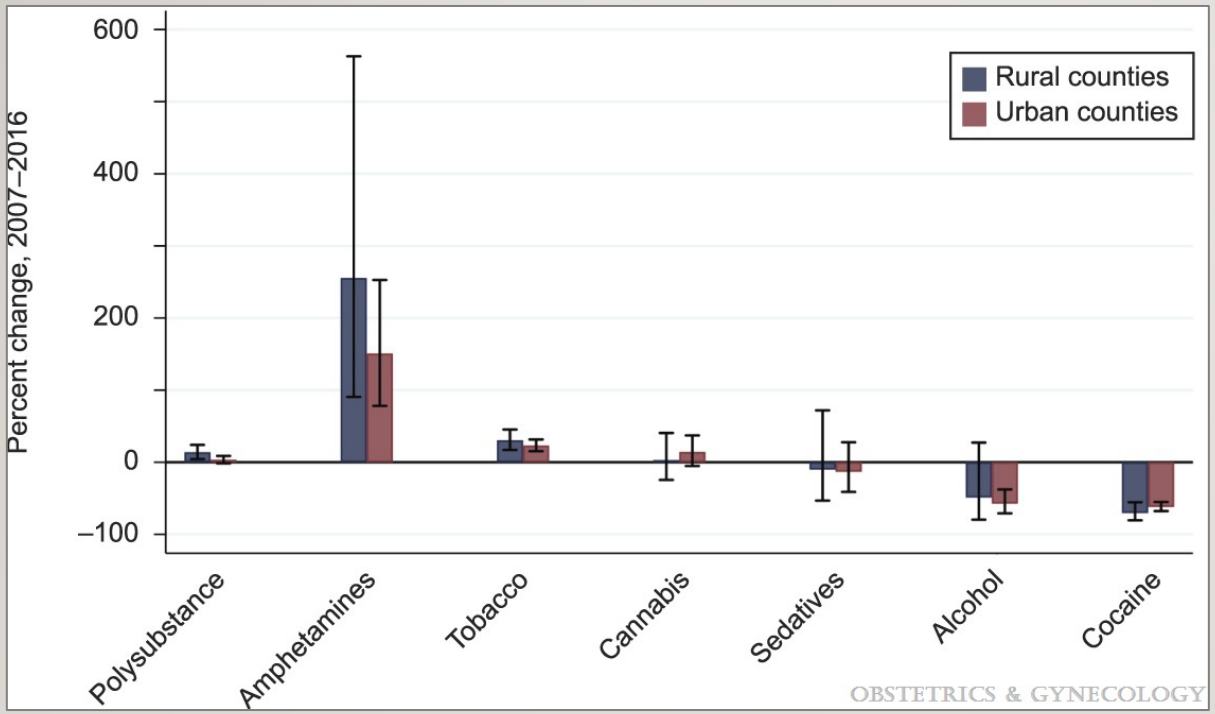
Adjusted prevalence in diagnoses of specific substance use among those with opioid use disorder at delivery in the United States, 2007–2016. Tobacco (A), cocaine (B), cannabis (C), amphetamines (D), sedatives (E), and alcohol (F). Average predicted probabilities and 95% CIs are derived from a weighted logistic regression controlling for rural or urban residence, age, race or ethnicity, and Medicaid insurance coverage. Rural and urban areas defined according to the National Center for Health Statistics classification scheme for U.S. counties. Tobacco and amphetamine diagnoses were statistically significantly greater in 2016 relative to 2007. Alcohol and cocaine diagnoses were statistically significantly lower in 2016 relative to 2007. There were not statistically significant changes over time for cannabis or sedative diagnoses.Jarlenski. Polysubstance Use Among Women With Opioid Use Disorder. Obstet Gynecol 2020.

FIG. 4.



Polysubstance Use Among Pregnant Women With Opioid Use Disorder in the United States, 2007–2016

Jarlenski, Marian P.; Paul, Nicole C.; Krans, Elizabeth E.

Obstetrics & Gynecology136(3):556-564, September 2020.

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Adjusted percent change in prevalence of diagnosis of substance use at delivery among women with opioid use disorder in rural and urban counties in the United States, 2007–2016. Percent changes and 95% CIs are derived from a weighted logistic regression controlling for rural or urban residence, age, race or ethnicity, and Medicaid insurance coverage. Rural and urban areas defined according to the National Center for Health Statistics classification scheme for U.S. counties.Jarlenski. Polysubstance Use Among Women With Opioid Use Disorder. Obstet Gynecol 2020.

EFFECT OF POLYSUBSTANCE USE IN PREGNANCY

- Polysubstance use increases the complexity of treatment needs for women with OUD
- It decreases the likelihood that pregnant people with OUD will gain sobriety
- It increase rate and severity of NAS in infants of people using multiple substances

Jarlenski, Marian P. PhD, MPH; Paul, Nicole C.; Krans, Elizabeth E. MD, MSc Polysubstance Use Among Pregnant Women With Opioid Use Disorder in the United States, 2007–2016, Obstetrics & Gynecology: September 2020 - Volume 136 - Issue 3 - p 556-564

Alcohol use during pregnancy can lead to lifelong effects.

Up to 1 in 20 US school children may have FASDs.

People with FASDs can experience a mix of the following problems:

Physical issues

- low birth weight and growth
- problems with heart, kidneys, and other organs
- damage to parts of the brain

Which leads to...

Behavioral and intellectual disabilities

- learning disabilities and low IQ
- hyperactivity
- difficulty with attention
- poor ability to communicate in social situations
- poor reasoning and judgment skills

These can lead to...

Lifelong issues with

- school and social skills
- living independently
- mental health
- substance use
- keeping a job
- trouble with the law

Drinking while pregnant costs the US $5.5 billion (2010).

SOURCES: CDC Vital Signs, February 2016. American Journal of Preventive Medicine, November 2015.

ALCOHOL AND OUD

- 2005 to 2014 NSDUH indicate that, among pregnant women who used opioids non-medically, almost half reported alcohol use and nearly one-third binge drinking in the past 30 days.[51]
- Bakhireva et al, conducted a prospective birth cohort study and found
  - Prevalence of alcohol use was greater in women who were receiving prenatal care in OUD setting rather than general Ob clinic
  - 5.5 drinks per week (OUD clinic) vs 3.5 drinks per week (general Ob clinic)
- Among women who use alcohol daily during pregnancy, 19% also use tobacco.

Klaman SL, Andringa K, Horton E, Jones HE. Concurrent Opioid and Alcohol Use Among Women Who Become Pregnant: Historical, Current, and Future Perspectives. *Substance Abuse: Research and Treatment*. January 2019.
Bakhireva, LN, Shrestha, S, Garrison, L, Leeman, L, Rayburn, WF, Stephen, JM. Prevalence of alcohol use in pregnant women with substance use disorder. Drug Alcohol Depend. 2018;187:305–310. doi:10.1016/j.drugalcdep.2018.02.025.

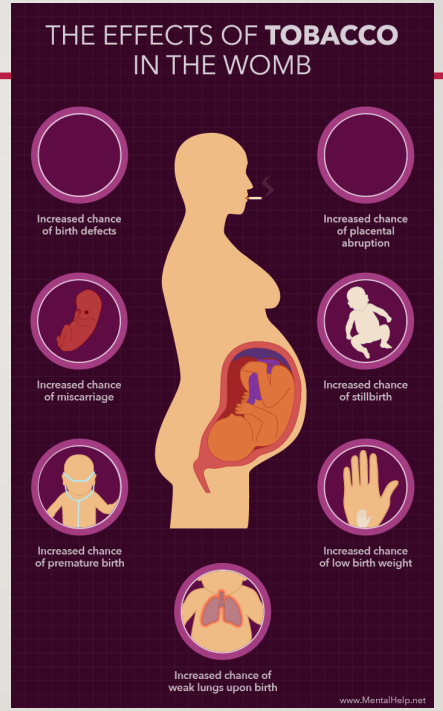
TOBACCO AND NICOTINE

- Cigarette smoking, which is very common in pregnant women with an opioid use disorder (77–95%)
- 88-95% of pregnant women in medication-assisted treatment for an opioid use disorder smoke cigarettes
- Cigarette smoking can increase the duration and severity of neonatal abstinence syndrome resulting in longer hospital stays for these infants
- Moreover, babies born to heavy smokers (≥ 20 cigarettes per day) have lower birth weights and lengths compared to light smokers in medication-assisted treatment for opioid use disorder

Forray A. Substance use during pregnancy. *F1000Res*. 2016;5:F1000 Faculty Rev-887. Published 2016 May 13. doi:10.12688/f1000research.7645.1
Akerman SC, Brunette MF, Green AI, Goodman DJ, Blunt HB, Heil SH. Treating tobacco use disorder in pregnant women in medication-assisted treatment for an opioid use disorder: a systematic review. J Subst Abuse Treat. 2015 May;52:40-7. doi: 10.1016/j.jsat.2014.12.002. Epub 2014 Dec 22.

EFFECTS OF SMOKING DURING PREGNANCY

- Increased rates of placental abruption
- Increase intrauterine growth restriction
- Increase rate of preterm delivery
- Increase risk of low birth weight
- Increase risk of stillbirth



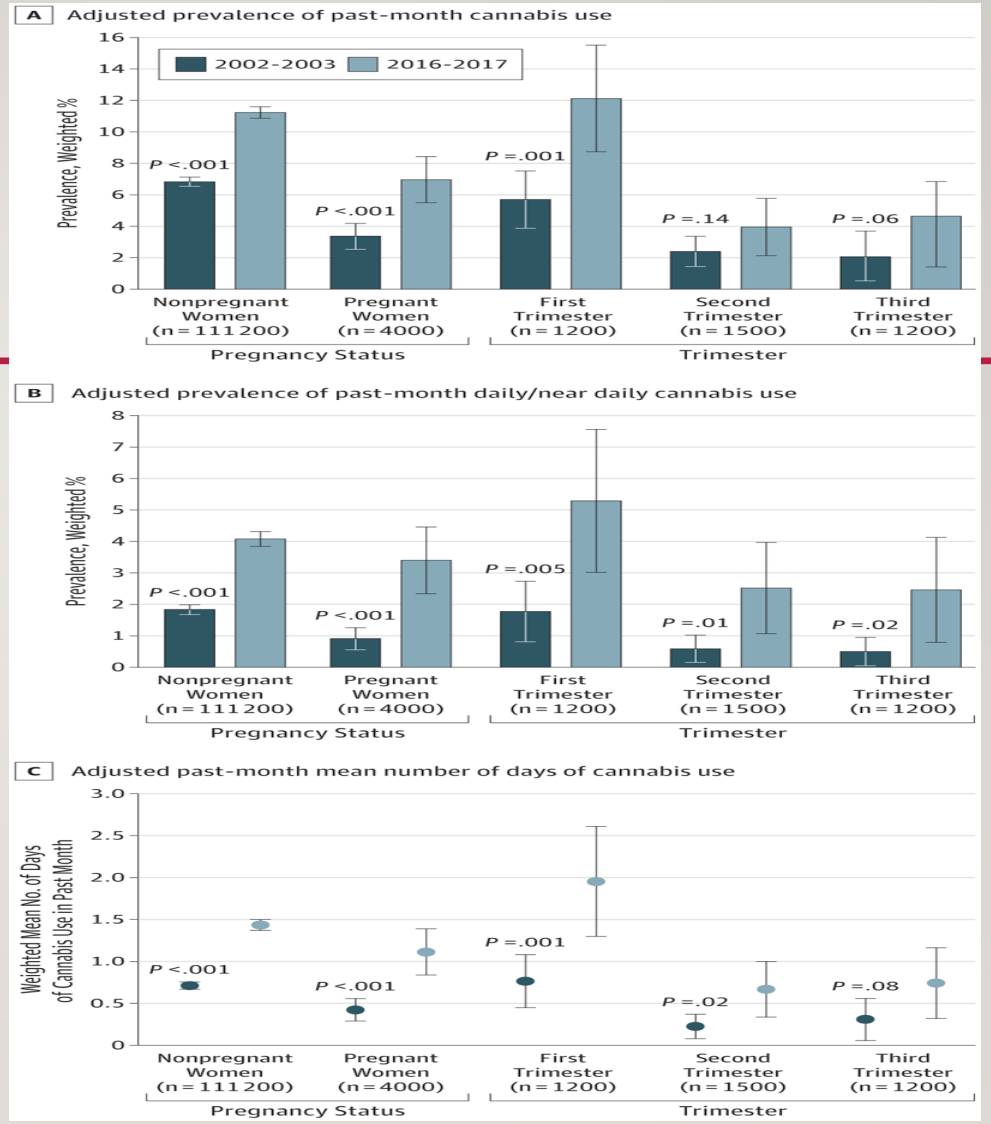
Akerman SC, Brunette MF, Green AI, Goodman DJ, Blunt HB, Heil SH. Treating tobacco use disorder in pregnant women in medication-assisted treatment for an opioid use disorder: a systematic review. J Subst Abuse Treat. 2015 May;52:40-7. doi: 10.1016/j.jsat.2014.12.002. Epub 2014 Dec 22.

SMOKING CESSATION

- Rates of spontaneous smoking cessation in pregnant women on medication-assisted treatment are extremely low
- Smoking cessation treatment increases rates of substance abstinence and does not negatively impact the treatment of the primary substance use disorder
- Incentive based treatment (i.e. contingency management) was the only effective intervention, demonstrating significant effects on both smoking abstinence and reduction

Akerman SC, Brunette MF, Green AI, Goodman DJ, Blunt HB, Heil SH. Treating tobacco use disorder in pregnant women in medication-assisted treatment for an opioid use disorder: a systematic review. J Subst Abuse Treat. 2015 May;52:40-7. doi: 10.1016/j.jsat.2014.12.002. Epub 2014 Dec 22.
Tuten M, Fitzsimons H, Chisolm MS, Nuzzo PA, Jones HE. Contingent incentives reduce cigarette smoking among pregnant, methadone-maintained women: results of an initial feasibility and efficacy randomized clinical trial. *Addiction*. 2012;107(10):1868-1877. doi:10.1111/j.1360-0443.2012.03923.x

CANNABIS



Volkow ND, Han B, Compton WM, McCance-Katz EF. Self-reported Medical and Nonmedical Cannabis Use Among Pregnant Women in the United States. *JAMA.* 2019;322(2):167–169. doi:10.1001/jama.2019.7982

CANNABIS AND OUD IN PREGNANCY

- Past-30-day marijuana use was less prevalent among opioid-only users (10.9%) compared to opioid-polydrug users (43.6%) and other pregnant illegal drug users (27.6%) ($P < 0.001$)
- Past-year drug/alcohol treatment was less prevalent among opioid-only users (6.3%) compared to opioid-polydrug users (20.3%) and other illegal drug users (8.3%)

Prevalence of substance use disorder and psychiatric comorbidity burden among pregnant women with opioid use disorder in a large administrative database, 2009–2014 Yun Shen, Wei-Hsuan Lo-Ciganic, Richard Segal & Amie J. GoodinORCID Icon
Received 13 Dec 2019, Accepted 05 Feb 2020, Published online: 18 Feb 2020

Characteristics of drug use among pregnant women in the United States: Opioid and non-opioid illegal drug use RSS Download PDF
Verena E. Metz, Qiana L. Brown, Silvia S. Martins and Joseph J. Palamar; Drug and Alcohol Dependence, 2018-02-01, Volume 183, Pages 261-266,

CANNABIS DURING PREGNANCY

5 Things to Know

about marijuana use while pregnant or breastfeeding

Pregnancy and breastfeeding can be exciting and full of learning experiences for new moms. No two women have the same experience. Here are five things new moms should know about using marijuana.
For more information or to print this material, visit **KnowThisAboutCannabis.org**

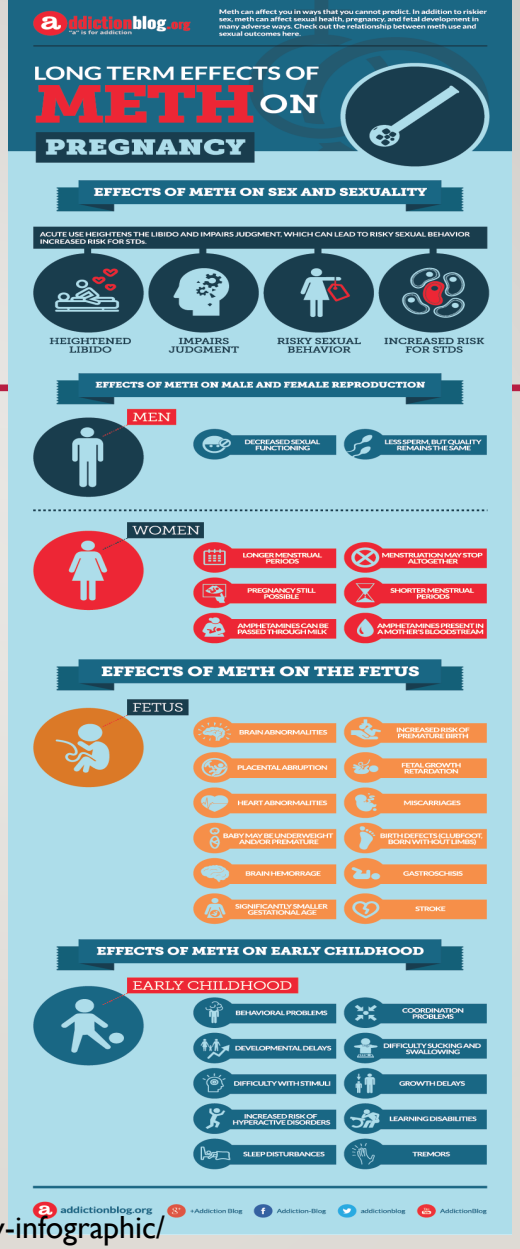
1 There are safer ways to manage pregnancy discomforts.	Morning sickness, stress, pain, and nausea can cause discomfort. If you have any of these symptoms, there are ways to manage them that don't harm your baby. Talk to your primary care provider for safer alternatives.
2 The chemical in marijuana that makes you feel "high" can transfer to your baby.	The active ingredient in marijuana, THC, can pass to your baby during pregnancy and breastfeeding. Babies exposed to THC can have problems with feeding, paying attention, and learning. You may not see some effects until your child is older.
3 Smoking and storing marijuana in the home has risks.	Protect your children from secondhand smoke by only smoking outside, washing your hands, and changing clothes afterwards because smoke can linger. If you have marijuana products in your home, be sure to keep them locked up and out of reach of your children.
4 Marijuana can affect your ability to protect your baby.	Marijuana can impair your judgment, alertness, and reaction time. You need these skills to drive safely and tend to your baby's needs.
5 "Natural" does not mean safe.	Marijuana has health risks for you and your baby. Just because it is a plant, does not mean it is safe to use while pregnant or breastfeeding.

For help quitting marijuana, call **Washington Recovery Helpline: (866) 789–1511**
For people with disabilities, this document is available on request in other formats.
To submit a request, please call 1-800-525-0127 (TDD/TTY call 711).

Washington State Department of Health

140-NonDOH March 2018

METHAMPHETAMINE DURING PREGNANCY



https://addictionblog.org/infographics/long-term-effects-of-meth-on-pregnancy-infographic/

METHAMPHETAMINE AND OUD

- US experiencing an uptick in methamphetamine use
- Individuals with OUD who also use methamphetamine in the Midwest tend to:
  - Higher rates of homelessness
  - Predominantly white
  - Used opioids first and later started methamphetamine
  - More likely to have used IV and prefer fentanyl to heroin
  - More likely to have been on long acting injectable naltrexone
- Methamphetamine use had the greatest observed increase (85%) among people with opioid use disorder between 2011 and 2018.[4]

Methamphetamine Use and Its Correlates among Individuals with Opioid Use Disorder in a Midwestern U.S. City. Raminta DaniulaityteORCID Icon, Sydney M. Silverstein, Timothy N. CrawfordORCID Icon, Silvia S. Martins, William Zule, Angela J. Zaragoza. Pages 1781-1789 | Published online: 22 May 2020

BENZODIAZEPINES

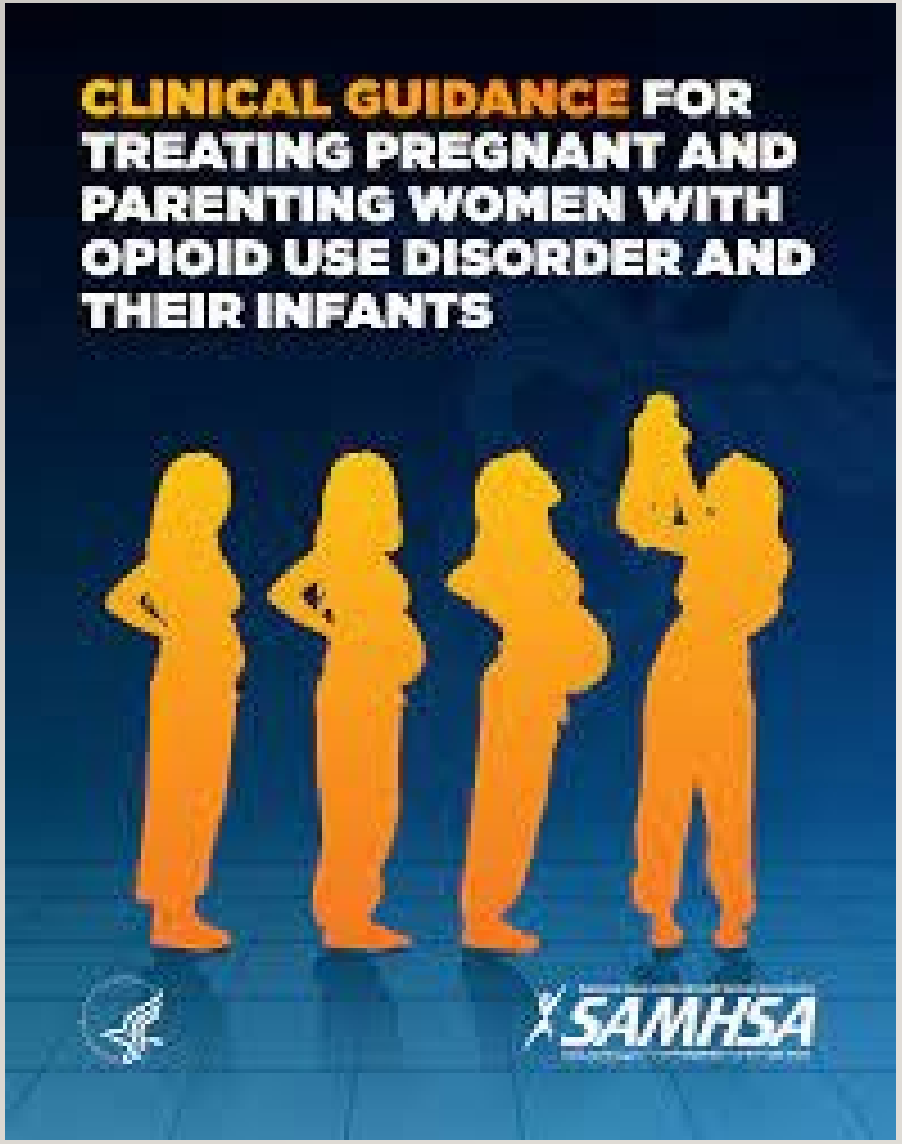
- Diazepam (Valium®), alprazolam (Xanax®), clonazepam (Klonopin®), temazepam (Restoril®), and lorazepam (Ativan®)
- Effects on pregnancy
  - 1st trimester: studies have shown a slight increased chance for cleft lip and/or cleft palate
  - 2nd/3rd trimester: a higher rate of preterm deliveries; low birth weight in babies
- Postpartum
  - Babies can experience withdrawal similar to NAS
  - Symptoms include: trouble breathing, muscle weakness, irritability, a lot of crying, trouble sleeping, tremors, and jitteriness

https://mothertobaby.org/fact-sheets/benzodiazepines-pregnancy/pdf/

BENZODIAZEPINE IN OUD

- Benzodiazepine use is very common in individuals with OUD
- Predicts worse outcomes in terms of sobriety and morbidity and mortality
- 30% of opioid overdose deaths in the US in 2011 had benzo present
- In pregnant people with OUD, concomitant benzo use increases risk of NAS
- Individuals with high anxiety are more prone to combining opioids and benzodiazepines

Anxiety sensitivity and nonmedical benzodiazepine use among adults with opioid use disorder. R. Kathryn McHugh, Victoria R. Votaw, Olivera Bogunovic, Sterling L. Karakula, Margaret L. Griffin and Roger D. Weiss. Addictive Behaviors, 2017-02-01, Volume 65, Pages 283-288,



https://portal.ct.gov/-/media/DMHAS/womenservices/SAMHSAClinGuideInspdf.pdf

Substance	Treatment Approaches	Comments	References
Alcohol	•Withdrawal management: Benzodiazepine (e.g., diazepam) for medication-assisted withdrawal •Pharmacotherapy: •The US Food and Drug Administration approved naltrexone, disulfiram, and acamprosate to treat alcohol use disorder. •Psychosocial treatment during and after withdrawal	•Alcohol is associated with fetal alcohol spectrum disorders and is the number one cause of preventable developmental delays in children. •In non-pregnant patients, behavioral interventions for risky/harmful alcohol use are an effective component of care. The effectiveness of these interventions has not been well studied in pregnant or postpartum women. •Although pregnant women are counseled to cease drinking alcohol, little specific evidence-based guidance is available on how to manage alcohol withdrawal in pregnancy. Management should be based on alcohol withdrawal for non-pregnant women. •Alcohol withdrawal cannot be managed with behavioral therapies alone. A long-acting benzodiazepine similar to one that would be used with benzodiazepine detoxification can be used in addition to behavioral treatments. •No published studies have compared the safety or efficacy of disulfiram, acamprosate and naltrexone for alcohol use disorder in pregnant women.	Bhat & Hadley, 2015 Bhuvaneswar, Chang, Epstein, & Stern, 2007 Christensen, 2008 Whitlock, Polen, Green, & Klein, 2004 DeVido, Bogunovic & Weiss, 2015

Substance	Treatment Approaches	Comments	References
Amphetamines/ Methamphetamines	• Behavioral interventions such as cognitive behavioral therapy, contingency management, and motivational interviewing	• There is no effective pharmacotherapy for withdrawal or maintenance of abstinence from stimulants. • Peer support is a helpful component of the treatment and recovery process	Rawson, Gonzales, & Brethen, 2002 Sherman, Sanders & Yearde, 1998
Benzodiazepines	•Gradual taper with a long- acting benzodiazepine (e.g., diazepam) with the goal of being benzodiazepine free at birth •Psychosocial treatment during dose reduction and after taper is complete	•A long-acting benzodiazepine similar to one that would be used with alcohol detoxification can be used in additionto behavioral treatments. For withdrawal, behavioral treatments alone are not sufficient. •May require long term treatment for underlying depression/ anxiety.	McElhatton, 1994
Cannabis	• Behavioral interventions such as cognitive behavioral therapy and contingency management	• There is no known effective pharmacotherapy.	Budney, Roffman, Stephens, & Walker, 2007 Conner et al., 2016
Cocaine	• Behavioral interventions such as cognitive behavioral therapy, contingency management, and motivational interviewing	• There is no known effective pharmacotherapy. • Peer support is a helpful component of the treatment and recovery process	Farkas & Parran, 1993 Sherman, Sanders & Yearde, 1998

Substance	Treatment Approaches	Comments	References
Tobacco	•Nicotine replacement therapy (NRT) •Bupropion •Varenicline •Behavioral interventions such as cognitive behavioral therapy, contingency management, and especially voucher-based reinforcement •5As (Ask, Advise, Assess, Assist, Arrange) as a brief intervention	• Data are very limited for NRT (nicotine gum, transdermal nicotine patches, nicotine nasal spray, nicotine lozenge, and nicotine inhaler), bupropion (Wellbutrin®), and varenicline (CHANTIX®) use in pregnancy. These medications should be used during pregnancy only if the benefit outweighs the risk to the fetus.	Cressman, Pupco, Kim, Koren, & Bozzo, 2012; Forinash, Pitlick, Clark, & Alstat, 2010; Minnes, Lang, & Singer, 2011 Osadchy, Kazmin, & Koren, 2009

PSYCHIATRIC COMORBIDITIES

- Range of rates of pregnant women with OUD and a psychiatric co-morbidity was broad 21%-72%
- Mood Disorders were most commonly reported with rangers of 28—58% of samples
  - Mostly Depressive Disorders
  - Bipolar was reported as 6% in one study
  - Hypomanic Episodes 30% in one study
- Anxiety Disorders next most common with rages from 40—42% of samples
- PTSD diagnosis ranged from 3%-26%
  - These women more likely to have a second Axis I (50% vs. 27%)
- Personality disorders
  - 23% in one study (Moylan)
  - Much more studies are needed
- Treatment of OUD/SUD can actually increase symptoms of underlying psychiatric illnesses

THERAPY

- Harm Reduction Focused
- Motivational Enhancement Therapy
- Trauma Informed crucial
- Psychodynamic Psychotherapy
- Behavioral Therapies (CBT manuals for cocaine, opioids, benzo's)
- Group and individual can both be helpful
- Research supports the treatment of women in women only settings
- Individualized care that takes into consideration diagnosis and setting
- In our review article, Dr. Andraka-Christou and I found that adherence to treatment was linked to treatments being appropriately geared toward the population

ANTI-DEPRESSANT MEDICATIONS

- SSRI most commonly prescribed psychiatric med during pregnancy
- Much concern in recent years about safety
- Hundreds of articles published
- Confounders particularly of depression itself have been difficult to control for
  - High quality studies have tried to address this
  - Measures used for diagnosing depression in the studies are variable
  - Rate of smoking and alcohol use are higher in women with mental illness, but many studies do not properly control for this
- For moderate to severe depressive disorder, the risk to the fetus from depression appears more greater than the risk from anti-depressants

MOOD STABILIZERS

- Lamotrigine
  - Anti-epileptic
  - In pregnancy must follow levels and adjust accordingly
  - Risk for Stevens-Johnsons rash low if started low and increased slowly
  - Relatively safe in breastfeeding
  - Excellent article on dosing (Clark et al 2013)
- Lithium
  - Risk of Ebsteins' anomaly not as high as originally believed
  - Dosing adjustments and levels also needed
  - Dose decrease at delivery very important
- Second generation Anti-psychotics

ANTI-PSYCHOTICS

- Used to control mania and psychosis during pregnancy
- Risk of untreated **Psychosis** leads to poor prenatal care, inability to care for self, increased risk of violence, increased substance use, premature birth, low birth weight, fetal demise (Croicu et el, 2016)
- Risks of **Anti-psychotics:**
  - Haloperidol most repro data (no evidence teratogenesis, EPS in newborn possible)
  - Thus far data on second generation anti-psychotics no evidence of teratogenesis thus far
  - (Cohen et atl 2016) and (Huybrechts et al 2016)
- MGH Registry for Atypical Antipsychotics particularly needs pregnant women from mid-western states
  - https://womensmentalhealth.org/research/pregnancyregistry/atypicalantipsychotic/
  - **TO PARTICIPATE CALL TOLL-FREE: 1-866-961-2388**

POSTPARTUM SUPPORT INTERNATIONAL

https://www.postpartum.net/

Get Help

Call the PSI HelpLine:

1-800-944-4773

#1 En Español or #2 English

Text "Help" to 800-944-4773 (EN)

Text en Español: 971-203-7773

GET HELP

988 Suicide & Crisis Lifeline

National Maternal Mental Health Hotline (US only)

Massachusetts Child Psychiatry Access Program

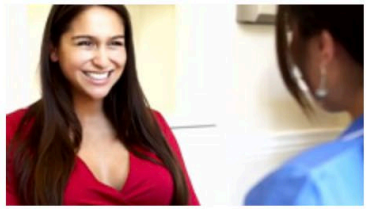
MCPAP For Moms

https://www.mcpapformoms.org/Default.aspx

Promoting Maternal Mental Health During and After Pregnancy

About MCPAP for Moms | How We Help Providers | Toolkits and Resources | Our Team | For Mothers and Families

Click Below For Video



MCPAP for Moms promotes maternal and child health by building the capacity of providers serving pregnant and postpartum women and their children up to one year after delivery to effectively prevent, identify, and manage mental health and substance use concerns.

CONCLUSION

- Women receiving MAT have higher rates of success if psych and other SUD diagnoses are treated together
- Many co-occurring diagnoses are missed because you can't tell by looking
- Screening for additional SUD and general psychiatric diagnoses allows identification of other diagnoses and their treatment
- Alcohol and Tobacco in particular lead to pregnancy complications and are often missed by those treating women with OUD
- Integration of Ob-Gyn and psychiatric care has evidence for improved outcomes