# Substance Use in Pregnancy and Breastfeeding: *Opioids & Marijuana*

October 26, 2018


**Presented by Dr. Kaylin Klie, MD MA**
**Addiction Medicine**
**Assistant Professor, Department of Family Medicine**
**University of Colorado**


**Facilitated by**
**Debbie Young ICCE, CD(DONA)**
**Customer Relations Manager**

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# Dr. Kaylin Klie, MD MA

Dr. Kaylin A Klie is a dually board certified physician in Family Medicine and Addiction Medicine, with special clinical and research expertise in Perinatal Addiction Medicine. Prior to medical school, she trained as a marriage and family therapist. She graduated from Rush Medical College, and went on to residency and fellowship with the University of Colorado.

She is the founder of the Denver Health and University of Colorado OB Addiction Medicine clinics, which provide integrated peripartum care and substance use assessment and treatment for pregnant and mothering women. She is the medical director for Outpatient Addiction Medicine services at CeDAR, the University of Colorado's substance use disorder treatment center. She is the associate director for the Addiction Medicine Fellowship with the University of Colorado, and enjoys teaching and mentoring fellows, residents, and students in providing care for people with substance use.

Dr. Klie is a steering committee member for the State of Colorado Substance Exposed Newborn task force, and the co-chair for Provider Education. She serves on the Colorado Department of Public Health and Environment Maternal Mortality Review Committee, helping to understand the impact substance use continues to have on maternal morbidity and mortality in CO.

Dr. Klie lives in Denver, CO with her husband and son.

# Objectives

- Discuss what is addiction—and what is not
- Review epidemiology of substance use in pregnancy
- Discuss social impacts of punitive response to maternal substance use
- Compare treatment approaches, including MAT, for pregnant and breastfeeding women with opiate use disorder
- Discuss marijuana use in pregnancy

# What Is Addiction?

- Addiction is defined as a primary, chronic disease of brain reward, motivation, memory, and related circuitry.
- **Perinatal Addiction** is an emerging field that recognizes the biopsychosocial complexity of substance use disorder care in the setting of pregnancy
- Seeks to provide comprehensive services to the patient and family in the pre-conception, pregnancy, delivery, and post-partum periods

# Substance Use Disorder

- The five Cs:
  - **Craving**
  - **Compulsive** use
  - **Continued use despite harm** (consequences)
  - Impaired **control** over drug use
  - **Chronicity**
- Inability to fulfill work and social obligations
- Use in dangerous situations
- Legal problems
- Interpersonal problems

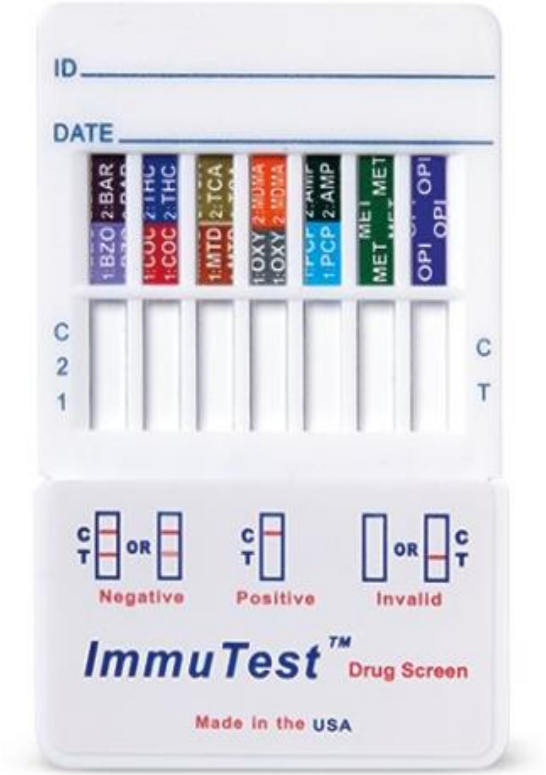
Mild (1-3), Moderate(4-5), Severe (6+)

# A Different Perspective

- “Ritualized, compulsive comfort seeking” Dr Sumrok
- Addiction as an adaptive response to environment
  - Trauma/Loss
  - Systematic/Generational oppression, racism
  - Mental Anguish (depression, Anxiety, PTSD, mania)
  - Social insecurity, phobia
  - Isolation
  - Boredom

# Epidemiology

- A difficult number to nail down!
  - Depends on patient self-report
  - Toxicology screenings
  - Only known data of women *who present for care.*
    - *Movement towards out-of-hospital birthing to avoid toxicology testing, particularly for THC*
  - Depends on what is “socially acceptable”
    - Alcohol, tobacco, marijuana?



# Epidemiology

- Estimates vary between 2-24%, depending on screening tool used:
  - Illicit Substances 5.9%
  - Alcohol 8.5%
  - Nicotine 15.9%
- Highest rate of substance use in women is in years of childbearing (ages 15-35 yrs)
- Many of these urine toxicology reports do not account for prescription substances
- Biased information: minority women (particularly black women) over-represented in toxicology testing and reporting, even though there is equal incidence across all SES

# Starting the Conversation

- 4 "P"s
  - Parents?
  - Partner/Peers?
  - Past?
  - Present?


- Asking about peer/partner substance use is more highly associated with individual's risk the younger the age of the woman

# Screening Tools

- SBIRT
- AUDIT-C/AUDIT
- T-ACE
- DAST
- Adolescents:
  - Ages 12-17: S2BI
  - Ages 14-21: CRAFFT

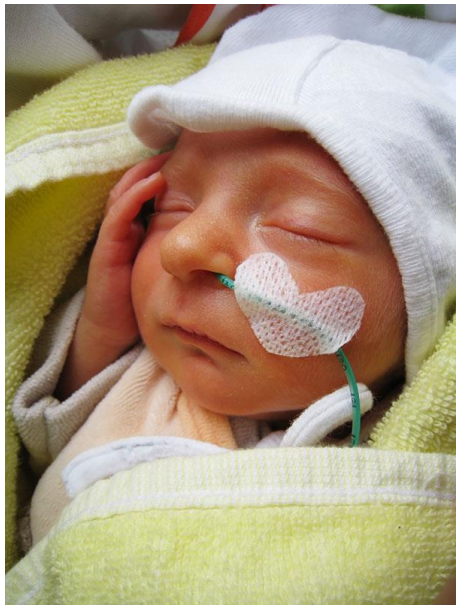
# Maternal Risks

- **Lack of prenatal care** can lead to missed diagnoses, which can be life threatening
  - Pre-eclampsia/Eclampsia
  - Miscarriage, premature ROM, premature labor
  - Placenta previa, accreta
  - Bacteremia, endocarditis
  - Infectious disease, STIs (HIV, Hep C, Hep B)

- **Fear** most common reason to skip prenatal care - being "found out", being reported to social services, and losing custody of infant (or other children)

# Fetal Risks

- Pre-term delivery
- Intra-uterine growth restriction
- Low birth weight (SGA)
- Placental insufficiency/abruption
- Amnionitis
- Birth defects
- Fetal Alcohol Effects/Spectrum Disorders
- Neurocognitive impairment
- *Neonatal Abstinence Syndrome*



# Case #1: Opiates

- “Anna” is 23 yo G2P1001 at approx 27 weeks gestation by unsure LMP
- Pt presents to ED with opiate withdrawal: vomiting, cramping, sweats, chills, tremor, anxiety
- Pt reports she has been taking oxycodone daily for past 3 years. Has been receiving prescription from PCP since car accident 3 years ago.
- Doctor “cut me off” 3 months ago when discovered pregnancy

# Case #1: Opiates

- Pt reports that since stopped receiving prescription, has been getting pills from family/friends. Started buying on street, also some heroin (smoked), no injection use, no other substance use
- Pt estimates taking between 50-80mg oxycodone per day plus intermittent smoked heroin when can't get pills
- "I want to stop, but the withdrawals are so bad, and I don't want to lose my baby"
- No OB care yet this pregnancy
- Lost job, family is "going to kick me out"

# Options for Opioid Dependence During Pregnancy

- Detoxification
- Methadone
- Buprenorphine
- Naltrexone/Vivitrol???*

# Why has detoxification from opioids during pregnancy been long avoided?

## Narcotic withdrawal in pregnancy: Stillbirth incidence with a case report

JOSÉ LUIS REMENTERÍA, M.D.
NEMESIO N. NUNAG, M.D.
*Bronx, New York*

*A stillborn infant was born to a drug-addicted mother who had withdrawal symptoms shortly before delivery. Mechanisms are presented to help explain the possible relationship between the maternal withdrawal and the fetal death. Statistics are also presented to show an increased stillborn and neonatal mortality rate in the over-all pregnant drug-addicted population.*

# Detoxification:
# Just because something can be done…

- 93 patients
- All offered detoxification
- Gestational age about 20 weeks at entry
- Duration of detoxification: 25 days
- There was no f/u of how the women faired after delivery

**TABLE 3**
**Infant outcomes of women electing inpatient opioid detoxification compared by illicit maternal drug use at delivery**

| Variable | No illicit drug use at delivery, n = 53 | Illicit drug use at delivery, n = 40 | *P* value |
|---|---|---|---|
| Max NAS score | 0 [0, 0] | 8.3 [6.5, 10] | < .001 |
| Infant treated for withdrawal | 5 (10) | 33 (80) | < .001 |
| Infant hospital duration, d | 3 [2, 6] | 22 [15, 26] | < .001 |
| Gestational age at delivery | 39 ± 1.9 | 37.8 ± 2.4 | .008 |
| ≤34 wk | 4 (8) | 4 (10) | .69 |
| ≤36 wk | 5 (10) | 7 (18) | .27 |
| Birthweight percentile | 3065 ± 487 | 2788 ± 516 | .01 |
| <10th | 7 (13) | 12 (30) | .05 |
| <3rd | 1 (2) | 2 (5) | .40 |
| 5-min Apgar <4 | 0 | 1 (3) | .26 |
| pH <7 | 0 | 0 | NA |
| Neonatal death | 0 | 0 | NA |

Data reported as n (%), mean ± SD, median [First Quartile, Third Quartile].

*NA*, not applicable; *NAS*, neonatal abstinence syndrome.

*Stewart. Opioid detoxification in pregnancy. Am J Obstet Gynecol 2013.*

Stewart, AJOG, 2013

# Detox is doable. Is it effective?

- Relapse:
  - 48% by time of delivery (range 17-96%)
  - Includes additional risks of HIV, Hep B, Hep C, bacterial infections, incarceration, overdose, death
- NAS:
  - 20-90% (compared to 50% with MAT)
  - Includes additional risk of social service involvement, loss of custody

Treating a chronic condition with an acute treatment without clear fetal benefit =

**Clinical Mismatch**

# Benefits of Opioid Agonist Therapy (Methadone/Buprenorphine)

## Maternal Benefits

- 70% reduction in overdose related deaths
- Decrease in risk of HIV, HBV, HCV
- Increased engagement in prenatal care and recovery treatment

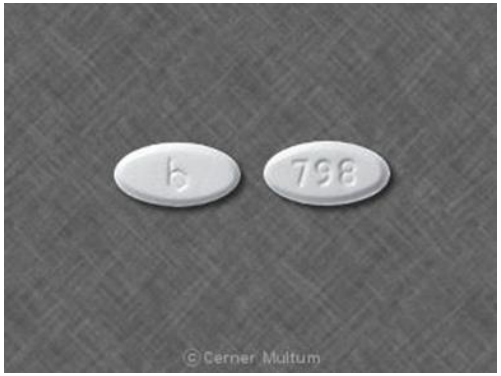
## Fetal Benefits

- Reduces fluctuations in maternal opioid levels; reducing fetal stress
- Decrease in intrauterine fetal demise
- Decrease in intrauterine growth restriction
- Decrease in preterm delivery

# Opioid Maintenance Therapy

- Methadone:

- Buprenorphine:

# Maintenance Therapy Remains the Standard of Care

- Methadone and buprenorphine are safe and effective treatment options in pregnancy
- The decision of which therapy to start is complex and should be individualized for each woman
  - Based on available options, patient preference, patients' previous treatment experiences, disease severity, social supports, and intensity of treatment needed

Fischer et al. 1998, 1999.
Jones et al. 2010.

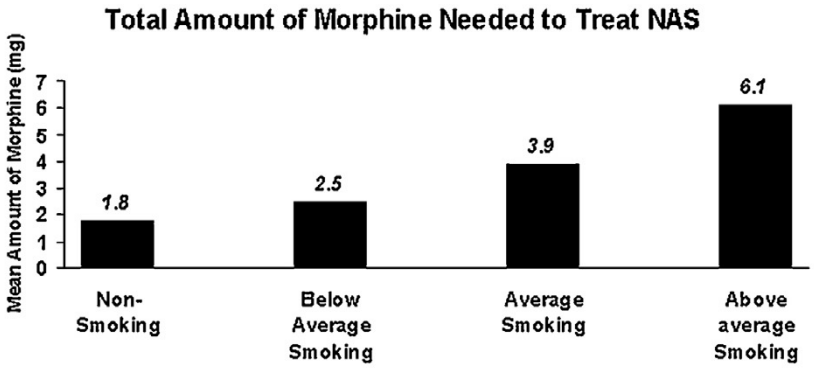
# Pharmacotherapy: Priority

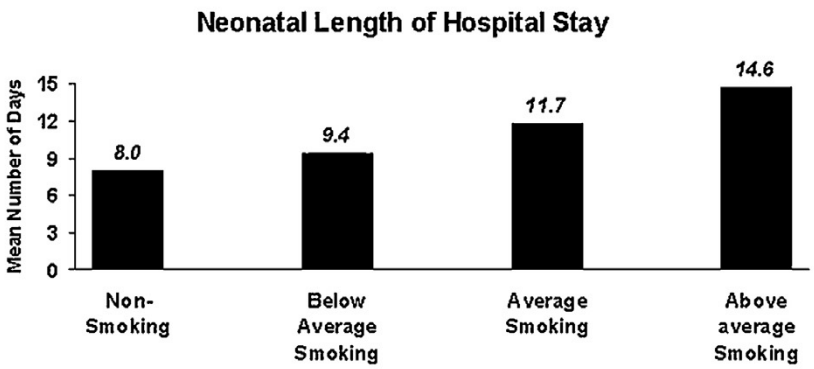
- **Support Pharmacotherapy in Pregnancy**
  - ASAM
  - ACOG
  - AAFP
  - AAP
  - SAMHSA
  - CDC
  - WHO
  - AWHONN
  - JOGNN
  - (partial list)
- **Don't Support Pharmacotherapy**

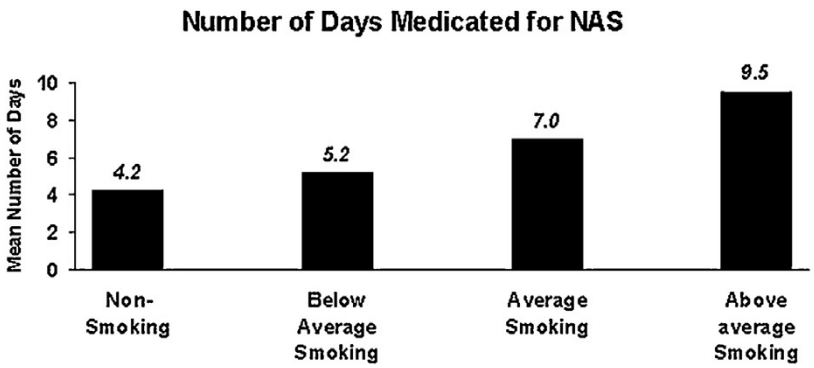
# Neonatal Abstinence Syndrome

- NAS is not unique to opiates
  - Several medications can place infant at risk for withdrawal symptoms after birth
  - Like many treatments in medicine, there is a balance of risk and benefit
- NAS risk not related to maternal methadone or buprenorphine dose
- Impossible to predict before birth which infants will have NAS that requires pharmacotherapy
- Babies are not born “addicted”

# Doctor, is there ANY way to reduce the chance my baby will have withdrawal?




Jones HE, Drug and Alcohol Dependence, 2013

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# Breastfeeding

- Both methadone and buprenorphine are considered **safe**, and without presence of any other contraindication, women receiving MAT are **encouraged to breastfeed** their infant, regardless of dose of medication
- Breastfeeding decreases rates of NAS
  - It's not the medicine in the milk, it's the presence and bonding with the mother
  - Significant reduction is days in the hospital, medication required, and medical cost when moms and babies are able to stay together (rooming in)

# Case #1: Opiates

- "Anna": admitted to antepartum unit, started suboxone as well as fluids, adjuvant withdrawal meds, fetal monitoring reassuring.
  - IV fluids
  - Clonidine 0.1mg q 4 hr prn
  - Zofran, phenergan
  - Gabapentin, trazodone, hydroxyzine
- Pt discharged 24 hrs later after stabilizing on suboxone
- Followed pt in clinic for remainder of pregnancy, delivered at 39w6d via uncomplicated NSVD. Retained custody of infant

# Case #1: Opiates

- Medication Assisted Treatment (MAT)
  - Not just about meds, but are critical component of treatment for opiate use disorder
- Interdisciplinary care crucial: substance use, OB, family med/pediatrician, etc
- Complete spectrum of care should be considered:
  - Residential
  - Intensive Outpatient (IOP)
  - Outpatient
  - Relapse Prevention
- Psychiatric Care

# Case #2: Marijuana

- "Cassie" is 21 yo G1P0 at 12 weeks by LMP
- Reports daily use of marijuana
- Works in dispensary
- Boyfriend uses daily marijuana as well
- Smokes cigarettes (half pack/day)

# Case #2: Marijuana

- Reports history of bipolar disorder diagnosed at age 15. States “was on every medication but I stopped them all when I moved out” (age 18)
- Since then, pt reports has been using daily marijuana to manage mood symptoms, stress
- Has increased marijuana use since became pregnant to help with morning sickness
- Smokes flower only--no dabs, shatter, or wax (up to 90% THC)

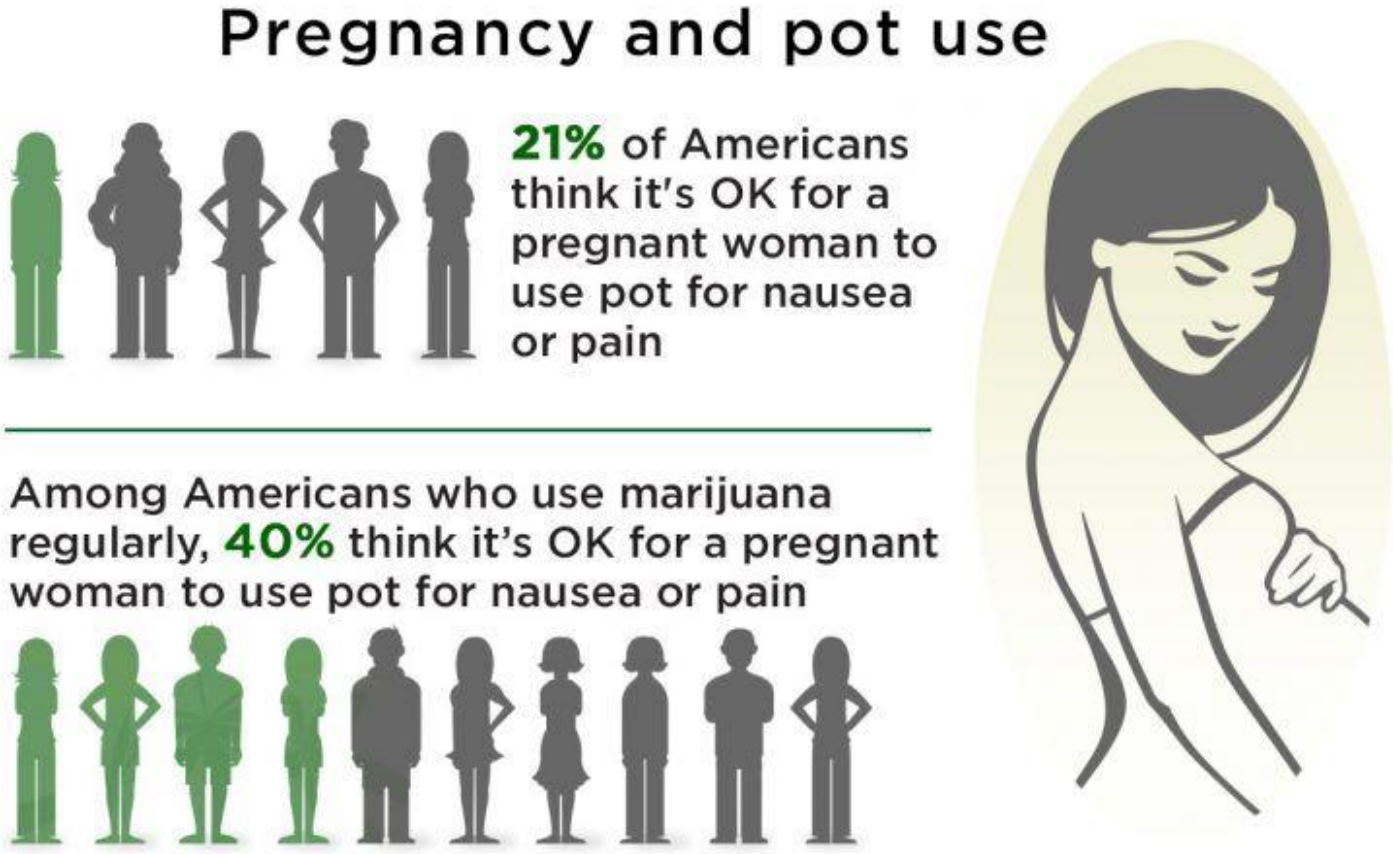
# Case #2: Marijuana

- Patient unsure if would be willing to reduce marijuana use. Reports “its been the only thing that helps me and I don’t want to be back on all those psych meds”
- Pt states “I’ve done my research and in Jamaica the babies are actually smarter because all the moms use marijuana in pregnancy” and “my friend had a baby and smoked throughout her pregnancy, and her baby is fine”
- Reports would be willing to cut down on tobacco

# Marijuana

- Legal in several states
- Increasingly socially accepted
- Women of reproductive age are one of the fastest growing consumers of both medical and retail marijuana


# Shift in Social Acceptability




*Graphic: Yahoo News/Getty Images*

*Source: Yahoo News/Marist Poll April 2017*

# Why Are Pregnant Women Using Marijuana in the First Place?

- Depression
- Anxiety
- Stress
- Pain
- Nausea and vomiting
- Fun/recreation
- Other (sleep, seizures, migraine, cancer, to increase appetite)

# Maternal Outcomes

- Concurrent substance use/misuse (tobacco>alcohol>prescriptions>illicits)
- Decreased prenatal care, out of hospital birth (fear)
- Intoxication: accidents, paranoia, psychosis, physical illness/toxicity
- Withdrawal
- Asthma/pulm dx (96% of marijuana use reported in pregnancy is used via smoking)
- Increase risk of dysfunctional labor, precipitous labor, and meconium-stained amniotic fluid

# Fetal Outcomes

- THC freely crosses placenta and BBB
  - Fetal plasma concentrations equal to (or higher?) than maternal levels
- Increased rates of preterm delivery
  - Hard to separate from tobacco effects in many studies
- Low birth weight> head circ > length
- Growing evidence that THC may alter certain receptors in the brain during fetal development, particularly in limbic system and prefrontal cortex

# Neonatal→ Childhood Outcomes

- Acute:
  - Poor feeding
  - Excessive weight loss
  - Hypotonia
- Long-term
  - Increasing data demonstrating impairment in learning, memory, attention, school performance, growth
  - Some effects not appreciated fully until late childhood or adolescence

# Case #3: Marijuana

**ACOG Committee Opinion 637:**

"Pregnant women or women contemplating pregnancy should be encouraged to discontinue their use of marijuana….There are insufficient data to evaluate the effects of marijuana use on infants during lactation and breastfeeding, and in the absence of such data, marijuana use is discouraged."

# Case #3: Marijuana

- Counseling is key:
  - Recommendation is cessation of use (and 2nd hand smoke)
  - Not enough information about marijuana in pregnancy and breastfeeding
  - Information that we do have does not reveal any benefit, and some concern for harms (preterm delivery, meconium)
  - Significant evidence for harm in later period of brain development (adolescence)
  - Many hospitals are testing for THC at birth

# Case #3: Marijuana

- No matter our personal beliefs or feelings about marijuana, we owe it to our patients to explain the current medico-legal climate:
  - Marijuana is legal in CO (18+ medical, 21+recreation) and other states
  - THC is a Federal Schedule I substance
  - In CO, any infant who tests positive at birth for a Federal Schedule I or Schedule II or III (without a prescription) is a reportable event under Child Abuse and Neglect law
- Harm reduction and safe storage

# A Needed Balance

- How can we help health care providers engage women with marijuana use in pregnancy and breastfeeding?
- How can we ensure that any legislation regarding mothers or infants testing positive for THC does not impair mother-infant bonding or increase punitive action towards mothers with substance use?
- How can we work to support much-needed research without threatening mother with reporting to social services?

# If all else fails…

- “I will still take care of you”
- “You are not alone”

# Time for Q & A

# Contact Info

- Kaylin.Klie@ucdenver.edu

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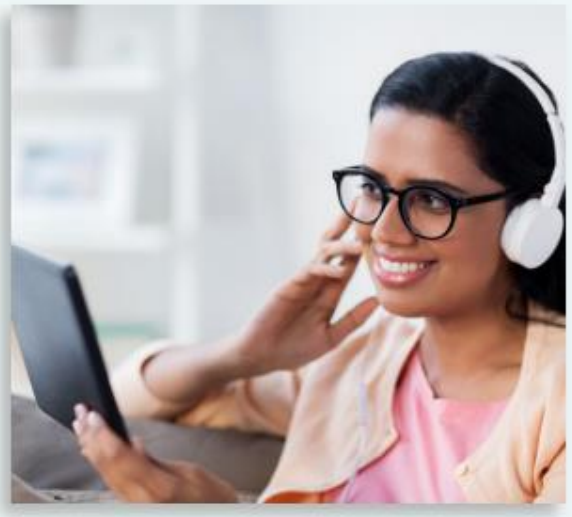

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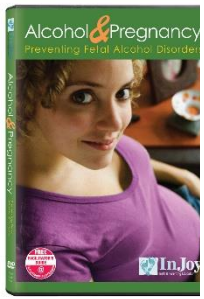


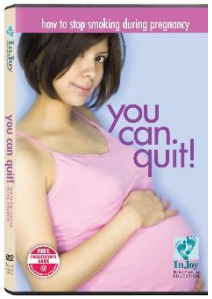


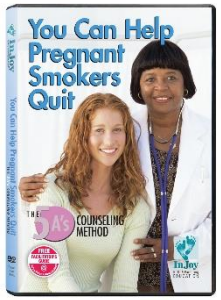



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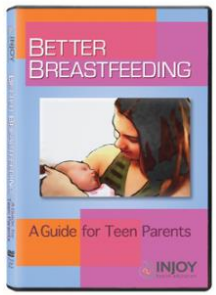


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# References & Resources


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Facilitated by Dr. Kaylin Klie

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Debbie Young

Debbie Young, ICCE, CD(DONA)