DISCLOSURES

• I have no pertinent disclosures.
LEARNING OBJECTIVES

• Discuss how to assess and identify stages of change
• Discuss drug metabolism and pharmacokinetics during pregnancy
• Discuss proposed recommendations for MAT prescribing during pregnancy
ADDICTION OVERTAKES MOTIVATION

Repeated drug use

Adapted from Emily Zarse, M.D. and Andrew Chambers, M.D.
STAGES OF CHANGE

- Pre-contemplative - “I don’t need to/want to change.”
- Contemplative – “I am considering making a change.”
- Planning – “I am thinking/planning my how to change.”
- Action – “I executing my plan for change.”
- Maintenance – “I am using skills to continue my behavior.”
STAGES OF CHANGE

• Pre-contemplative - “I don’t need to/want to change.”
• Contemplative – “I am considering making a change.” Where the patient is!
• Planning – “I am thinking/planning my how to change.”
• Action – “I executing my plan for change.” Where we as treaters go.
• Maintenance – “I am using skills to continue my behavior.”
DON’T FORGET PLANNING

• There is some urgency with pregnant patients due to dyadic relationship between mother and fetus

• However, women still need to be in the planning to action stage of change before starting MAT

• Women who are still contemplative; will be less likely to achieve sobriety

• Don’t be held hostage by the fetus
MOTIVATIONAL ENHANCEMENT THERAPY

- Open, curious, supportive demeanor
- Help create dissonance and increase perceived need for treatment
  - “On the one hand I hear you saying that you enjoy using heroin, but on the other hand you say that it has certain costs for you?”
- Remember the patient has some degree of ambivalence
- Bolster the change side of ambivalence by using “change talk”
  - “It sounds as if you have taken some steps already in curbing your opioid use.”
- Your goal is to move from 1 stage to the next and not more
INTERVENTION: HOW DOES IT LOOK IN PRIMARY CARE?

- Pharmacotherapy with buprenorphine or naltrexone;
- Provider and community educational interventions (e.g. in-person, web-based, and telehealth provider CME activities, community-based advertising campaigns, stakeholder conferences);
- Coordination/integration of OUD treatment with other medical/psychological needs;
- Psychosocial services (e.g. counseling on-site or by referral)
- Models varied in the degree of component implementation.

PHARMACOTHERAPY FOR OPIOID USE DISORDER

• Methadone – “gold standard” in pregnancy; but must be administered in highly regulated clinics;

• Buprenorphine – not FDA approved in pregnancy, but efficacy comparable with methadone treatment, produces less NAS (MOTHER study);

• Naltrexone – not approved in pregnancy and not widely used in pregnancy.
AGONIST/ANTAGONIST

Adapted from Emily Zarse, M.D. and Andrew Chambers, M.D.
BUPRENORPHINE IN PREGNANCY

• Buprenorphine mono product (without naloxone) is generally preferred

• Originally used to to fears that of precipitated withdrawal if buprenorphine-naloxone was used IV by pregnant women

• Newer studies with Bup/Naloxone combo have shown comparable safety and efficacy without increase in adverse effects; (reference)

• Of note, dosing scheme based on adult dosing regimen where daily dosing is usually sufficient

BUPRENORPHINE METABOLISM

• Response to buprenorphine appears to be related to dose

• Pregnancy leads to a number of changes in the woman’s body that lead to changes in how medicines are processed

• Liver metabolized via CYP3A4 is the main avenue for buprenorphine metabolism

Gestational changes in buprenorphine exposure: A physiologically-based pharmacokinetic analysis

BUPRENORPHINE LEVELS IN PREGNANCY

• Small cohort study showed pregnant had lower blood concentrations than non-pregnant women at same doses (ref.)
• A correlation exists between response to buprenorphine and blood concentration
• Recent work looking at changes in blood concentration of buprenorphine in each trimester

Observational studies suggest plasma concentrations remain above 1 ng/mL during an entire dosing interval.
Figure 1. Median *buprenorphine* concentrations

Median buprenorphine concentrations according to dose in second (A) and *third trimesters* (B) and *postpartum period* (C) after sublingual dose of 4, 8, or 12 mg BID. All subjects were at *steady state*.

Figure 3. Simulated plasma concentrations of buprenorphine in nonpregnant subjects utilizing physiologically based pharmacokinetic modeling. Values are means. Frequency of dosing includes 6 mg daily, 3 mg BID, and 2 mg TID.
CONCLUSIONS

• Addiction to opioids during pregnancy is a still growing problem in the US
REFERENCES