Comparing Methods of Opioid Agonist Treatment in Pregnant Women with Opioid Addiction

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Background

- Pregnant women are not immune to the opioid addiction crisis in the US.
- The current recommendation for therapy is opioid agonist treatment (OAT), which uses either methadone or buprenorphine for opioid replacement.
- The current gold standard in treatment is methadone.
- The rate of pregnant women admitted to substance abuse rehab increased sharply from 2% in 1992 to 28% in 2012 (Krans & Patrick, 2016).
- One of the most serious consequences is neonatal abstinence syndrome (NAS).
- From 2009 to 2012, the prevalence of NAS increased from 3.4 to 5.8 per 1000.

Objectives

- To compare the risks and benefits of morphine vs. buprenorphine on maternal and fetal health.
- To analyze the best evidence for choosing the right therapy for OAT.
- To present recommendations for practitioners considering OAT for their patients.

Methods

- Databases: EMBASE, CINAHL, PubMed.
- Inclusion criteria:
  - RCTs, cohort studies, SR/MA.
  - Published within the last 5 years.
- Keywords used:
  - Buprenorphine, methadone
  - Pregnancy, opioid addiction
  - Opioid addiction, infants
  - Neonatal abstinence, infants
- 2 reviewers analyzed data from 7 studies.

Results

Author	Study design	Interventions	Results
Kaltenbach et al. (2018)	Prospective cohort	Infants and mothers observed for 3 years	No statistical difference in any domain
Lemon et al. (2017)	Retrospective cohort	Buprenorphine or methadone	The methadone group had higher rates of NAS, more relapses, preterm births and congenital defects.
Lemon et al. (2018)	Retrospective cohort	Buprenorphine or methadone	The methadone group had higher rates of NAS
Nechanska et al. (2017)	Prospective cohort	Buprenorphine or methadone	No statistical difference in neonatal outcomes
Tran et al. (2017)	Systematic review/meta-analysis	Reviewed 3 RCTs, 8 prospective cohort studies, 2 case studies	No statistical difference between methadone and buprenorphine on risk of NAS
Wiegand et al. (2015)	Retrospective cohort	Buprenorphine + naloxone or methadone	The methadone group had higher rates of NAS, lower birthweight and more preterm births.
Wurst et al. (2016)	Retrospective cohort	Buprenorphine or methadone	The buprenorphine group had lower rates of NAS, preterm birth, congenital defects and lower birth weight

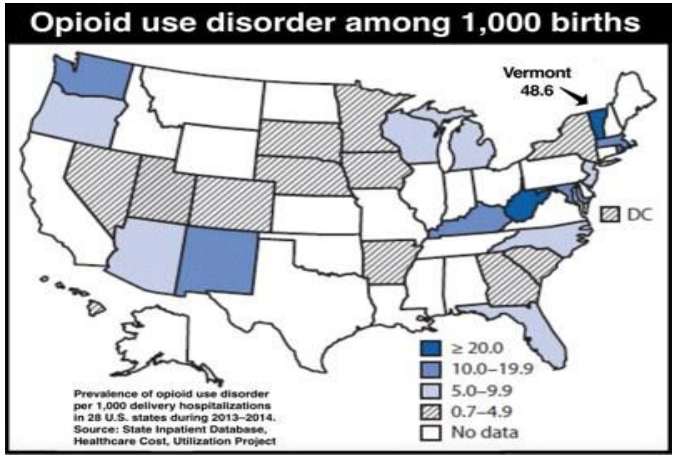

TABLE 2 Methadone vs Buprenorphine in Pregnancy*

	Methadone	Buprenorphine
Patient preference	Provided daily in licensed methadone clinics	Provided in office setting by licensed physician
Risk of overdose mortality	Higher	Lower (but not absent)
Risk of drug interaction	Higher	Lower (but not absent)
Risk of neonatal abstinence syndrome	Equal	Equal
Duration of neonatal abstinence syndrome	Longer	Shorter
Breastfeeding consideration	Safe (assuming no other contraindications)	Safe (assuming no other contraindications)
Neurodevelopmental outcome in exposed children	Favorable	Less long-term information

*Adapted from: Mozurkewich EL et al. *Obstet Gynecol Clin North Am*. 2014 Jun; 41(2): 241-53

Clinical Implications

- OAT remains the first-line of treatment for treating opioid-addicted pregnant women.
- Choosing the right therapy must be a collaborative process between the patient and their provider.
- Current literature shows buprenorphine confers a slight benefit over methadone when considering maternal and fetal consequences.
- Special considerations include access to prescriptions, cost and extensive follow-up is required for OAT.
- Ultimately more research is needed to determine if one medication is truly superior over the other.

Summary of Results

- Pregnant women prescribed methadone generally had higher rates of preterm births and relapses.
- Infants in the methadone group had higher rates of NAS and congenital defects, and lower birth weight.
- The systematic review found no statistical differences between the two therapies on risk for NAS.

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