

Opioid Use Disorder and Infant Health Outcomes: A Literature Review

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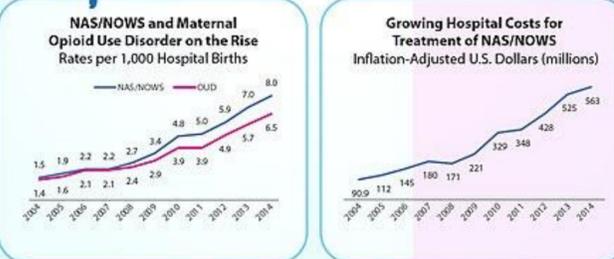
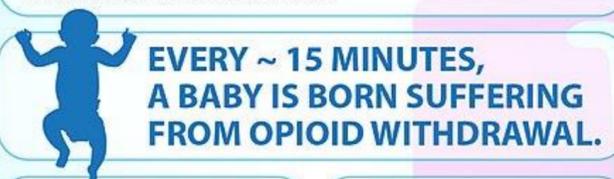
NRSE 3525 Research and Health Promotion

Introduction

- Opioid use disorder (OUD) is an epidemic in the U.S. that affects both the mother's and the infant's health (Zedler et al., 2016)
- Infant's exposed to addictive illicit or prescribed substances suffer from decreased health outcomes such as longer hospital stays, low birth weight, preterm birth, and neonatal abstinence syndrome (NAS) (Okoroh et al., 2017).
- NAS is a group of symptoms experienced by a newborn infant that was exposed to addictive drugs in the womb (Corr & Hollenbeak, 2017)
- The aim is to identify infant health outcomes when pregnant women are prescribed medication-assisted treatment (MAT) for OUD.
- Among pregnant women with OUD in the U.S., is MAT as compared to no therapy associated with decreased negative infant health outcomes?

DRAMATIC INCREASES IN MATERNAL OPIOID USE DISORDER AND NEONATAL ABSTINENCE SYNDROME

Opioid use during pregnancy can result in a drug withdrawal syndrome in newborns called **neonatal abstinence syndrome**, or **neonatal opioid withdrawal syndrome** (NAS/NOWS), which causes **costly** hospital stays. A recent analysis showed that an estimated **32,000** babies were born with this syndrome in the United States in 2014, a more than **5-fold increase** since 2004.



Background & Significance

Morbidity Statistics Among Infants	Non-Substance Exposed	Substance Exposed	NAS Diagnosis
Respiratory distress syndrome	3.6%	7.3%	12.7%
Sepsis	3.4%	7.5%	11.3%
Preterm (28-32 weeks)	2.1%	3.9%	3.3%
Late preterm (32-36 weeks)	10.3%	20.5%	18.8%

(Okoroh et al., 2017)

- Prevalence of OUD has increased by more than double from 1998 to 2011 among pregnant women, which increases the likelihood of adverse outcomes (Zedler et al., 2016).
- Mortality was 1.0% among infants with NAS compared with 0.29% among infants without NAS (Witt et al., 2017).
- NAS related hospital admissions increased by more than fourfold between 2003 and 2012. The increase raised the annual cost for the U.S. from \$61 million to \$316 million, respectively. (Corr & Hollenbeak, 2017).
- To decrease prenatal drug exposure, leadership is needed among public health to inform and provide resources to women of childbearing age (Corr & Hollenbeak, 2017).

Literature Review & Methods

- Databases:** CINAHL, PubMed
- Keywords:** opioid use disorder, pregnancy, neonatal abstinence syndrome
- Search Limitations:** 2016-2021, full text only
- Inclusions:** One qualitative and three quantitative articles were used from 815 results focusing on infant outcomes and prevention of NAS. One meta-analysis was included that compared two types of MAT for pregnant women with OUD.
- Exclusions:** articles that focused on maternal outcomes, focused on cost, or unoriginal research.

Findings

- NAS was more common among the white, Medicaid-dependent population and low-income households (Corr & Hollenbeak, 2017).
- Infants with NAS had hospital stays that were 3.5 times longer than infants without NAS (Corr & Hollenbeak, 2017).
- Approximately, one-third of infants with NAS are cared for in smaller hospitals that may not have the resources needed for their care (Corr & Hollenbeak, 2017).
- The states with more than 20 cases of NAS per 1000 births in 2017 were:

State	NAS rates per 1000 birth hospitalizations
West Virginia	53.5
Maine	31.4
Vermont	29.4
Delaware	24.2
Kentucky	23.9

(Hirai et al., 2021)

- 85.7% of women studied with OUD were not actively trying to get pregnant, but over half did not utilize any pregnancy prevention method (Hurley et al., 2020).
- The most important barriers for women with OUD trying to obtain contraception were awareness and access to services (Hurley et al., 2020).
- The rate of NAS increased from 2.1 to 8.0 in 1000 live-births from 2003 to 2013 (Okoroh et al., 2017).
- The ability to analyze the relationship between MAT and fetal death was limited due to inconsistent reporting of point in gestation and treatment (Zedler et al., 2016).
- There was no measurable difference in the congenital anomaly risk among women that received MAT (Zedler et al., 2016).
- Preterm birth risk was lower in women treated with buprenorphine than with methadone (Zedler et al., 2016).

Conclusions

- Each quantitative article reviewed was able to produce data that showed rates of OUD and NAS are rising significantly.
- MAT for pregnant women with OUD is associated with better health outcomes for infants, including a shorter hospital stay and less severe NAS symptoms (Okoroh et al., 2017).
- When comparing methadone and buprenorphine as MAT for women with OUD, neither had increasingly more risks or decreased health outcomes for the infant than the other (Zedler et al., 2016).
- Most pregnancies among women with OUD are unintended (Hurley et al., 2020).

Implications

- Further research would benefit from examining the degree to which the infant was exposed to opioids, how long the mother had been using MAT, and whether the mother used opioids while taking MAT.
- Further research would also benefit from separating cases of NAS associated with illicit drugs versus opioids.
- Rates of NAS among infants born to women with OUD would decrease if they had safe, easy, low-cost access to contraceptives (Hurley et al., 2020).
- Healthcare professionals need to focus on providing unbiased care that addresses all the patient's needs and educate the patient on comprehensive treatment plans to reduce and prevent NAS.
- Patient-centered care could help decrease negative health outcomes for both women with OUD and their infants.

References



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