

Prescription Opioid Prescribing Patterns as Predictors of Neonatal Abstinence Syndrome (NAS)

Research Team

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Background

The increase in prescription opioid use during pregnancy has been accompanied by an equally dramatic increase in infants diagnosed with NAS. However, factors associated with an infant developing NAS are not well understood.

Study Aim

Determine if specific maternal opioid prescribing patterns, including dose, duration and opioid type, were associated with an infant developing NAS.

Study Methods

The research team utilized data that combined TennCare claims (outpatient, inpatient and prescribing claims) with vital records (birth certificates). The study includes data from 2009 to 2011, representing more than 110,000 pregnancies.

Study Results

More than 112,000 women met inclusion criteria and of those 31,354 women were prescribed opioids, 96% received a prescription for short-acting opioids. Women prescribed opioids compared to non-opioid using women were significantly more likely to be white, have hepatitis C, have a diagnosis of depression, anxiety and smoke cigarettes. Between 2009 and 2011, 1086 infants were diagnosed with NAS; however, not all infants exposed to opioids developed NAS. Increased risk of NAS was seen with the following factors: dose of short-acting opioid, opioid type, number of cigarettes smoked, and use of an SSRI antidepressant within 30 days of delivery. Infants with NAS were significantly more likely to have low birthweight, difficulty breathing and feeding, have seizures and be pre-term compared to infants not exposed and exposed to opioids.

Study Implications

- Providers should be aware of the increased risk of NAS among infants when prescribing opioids to pregnant women especially if the mother is also using cigarettes or a SSRI antidepressant.
- Providers should understand the appropriate use of opioids and pain management during pregnancy.
- Short acting opioids used chronically during a pregnancy increase risk of NAS.
- Higher dose of maintenance opioids, like buprenorphine, do not appear to increase risk of NAS when compared to lower doses.
- Broad public health efforts should be undertaken to reduce cigarette use among pregnant women.
- State prescription drug monitoring programs can be a valuable tool in reducing the burden of NAS.
- *For a full report of this study (prepared by the grantee), please [click here](#).*