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Quality Improvement for NAS: a Welcome Approach to a Challenging Problem

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In a recently released issue of *Pediatrics*, Dr. Michele Walsh and colleagues describe a statewide quality improvement collaboration with goals to (1) standardize practices for treatment of infants with neonatal abstinence syndrome (NAS) in Level 2 and 3 neonatal intensive care units (NICUs), (2) decrease length of use of opioid agents for treatment, and (3) decrease length of hospital stay for affected infants

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In a recently released issue of *Pediatrics*, Dr. Michele Walsh and colleagues (10.1542/peds.2017-0900) describe a statewide quality improvement collaboration with goals to (1) standardize practices for treatment of infants with neonatal abstinence syndrome (NAS) in Level 2 and 3 neonatal intensive care units (NICUs), (2) decrease length of use of opioid agents for treatment, and (3) decrease length of hospital stay for affected infants. Fifty two of Ohio's 54 NICUs (96%) participated, and infants of ≥37 weeks gestation who had *in utero* opioid exposure were eligible. The authors describe 7 overarching elements of the initiative and all details are available on the OPQC (Ohio Perinatal Quality Collaborative) website. Improved recognition and support of the narcotic exposed mother and her infant through trauma informed care was one specific goal. Trauma informed care is a treatment framework that acknowledges the impact of all types of trauma on the individual, emphasizes psychological safety, and aims to rebuild a sense of control in the survivor.[1] The article is a model for the conduct of quality improvement projects, and walks the reader through the process.

Many lessons can be learned, and the overall initiative was extremely successful in meeting its objectives. My own interest was in the use of breastfeeding, which are part of the non-pharmacologic bundle. There were significant improvements in the implementation of the non-pharmacologic bundle, but feeding of maternal breast milk was the most difficult to increase. Infants could receive maternal breast milk if the mother's addiction specialist "judged the mother to be stabilized;" otherwise low lactose formula was recommended, and 22 calories per ounce strength was preferred. Two components of the non-pharmacologic bundle, swaddling and low stimulation/rooming-in, achieved high reliability over time (95% and 92%, respectively) but the feeding goal remained elusive with just 17.5% receiving exclusively breast milk feedings and 7.4% of infants receiving both formula and breast milk. The most prominent obstacle identified by the authors was that over half of mothers were still using illegal opioids and were not in a treatment program, and in concordance with policies of both ACOG (American College of Obstetrics and Gynecology) and the AAP, were not eligible to breastfeed their infants.

Perhaps most helpful for interested readers is the Academy of Breastfeeding Medicine (ABM) Clinical Protocol on this topic, which notes the frequency of the problem (5.2% of pregnant women ages 15-44 years in the US used illicit drugs in the past month), the many barriers to successful breastfeeding faced by opioid-dependent mothers, and the paucity of research on which to base guidelines.[2] In general it appears that women who accept treatment with either methadone or buprenorphine during pregnancy, and continue

these medications after delivery, can and should breastfeed their infants. Limited evidence supports findings of both reduced length of hospital stay and reduced use of pharmacological treatment for infants with NAS who are breastfed as compared to those not breastfed.[3,4] Whether this is due to the tiny amounts of medication delivered through breast milk or to the close contact and skin-to-skin time associated, or both or other factors, is not known. The ABM Clinical Protocol is fully aligned with the management described by Walsh et al, and clearly counsels health providers that women who are "…Not engaged in substance abuse treatment, or engaged in treatment and failure to provide consent for contact with counselor…" should not breastfeed.

Even though the six children's hospitals in Ohio had previously engaged in initiatives to standardize care for infants with NAS, this Quality Improvement initiative engaged 96% of Ohio's NICUs and was highly successful. Anyone who is involved in care of mothers with opioid dependence or infants with NAS will find a bounty of helpful information here.

References

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