

Title of Abstract:

A Multi-Center Analysis of Neonatal Abstinence Syndrome (NAS): A CQI Project

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Abstract Description:

A Multi-Center Analysis of Neonatal Abstinence Syndrome (NAS): A CQI Project

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Background. The increased opioid use in pregnant women led to an alarming epidemic of babies born in the United States undergoing withdrawal, a trend also observed in our Las Vegas practice. The lack of uniform approach to the diagnosis and inpatient management resulted in prolonged treatment, hospitalization and an enormous burden to healthcare.

Objectives. The goals of this project were: 1) to develop evidence-based practice recommendations for the identification and treatment of affected neonates; and 2) to decrease the number of patients requiring treatment.

Methods. In 2012, a NAS-CQI task force was formed to educate and train healthcare providers about NAS assessment using Finnegan scoring. Procedural steps were modified for easy transfer from nursery to the NICU for non-pharmacologic and as needed pharmacologic interventions. Dose calculator for pharmacologic initiation, dose increase and weaning was formulated to provide consistency (NAS Guidelines). Charts from 4 hospitals were reviewed from 2010 to 2014. Data before May 2012 (pre NAS guidelines) was compared to data from May 2012 to April 2014 (post NAS guidelines).

Results. The number of NAS patient admitted increased 114% from 78 (2010 to April 2012) to 167 (May 2012-2014). Implementation of the NAS guidelines resulted in a higher number of

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infants admitted on day of life (DOL) 2 (20%, $p < 0.01$) compared to 6% before NAS. Drugs most commonly used in utero were hydrocodone (pre:43% vs post:41%), oxycodone (pre:28% vs post:11%, $p < 0.002$), methadone Rx (pre:18% vs post:23%), and heroine (pre:4% vs post:17%, $p < 0.001$). Before guidelines, methadone was the first line drug used for NAS treatment (62%). Post implementation, morphine became the drug of choice (72%), analogous to that used within Pediatrix network. The number of patients requiring no treatment increased from 9% to 23% ($p < 0.01$) and switching from one drug to another declined from 17% to 4% ($p < 0.001$). The number of patients discharged without medications increased from 27% to 90% ($p < 0.001$).

Conclusion. Developing a standardized approach with the diagnosis and treatment of NAS by personnel education and following evidence based guidelines, resulted in the improvement of patient care and reduced the need for opioid agonist treatment in neonates during hospitalization and at discharge. The implications for reduced healthcare costs may be substantial.

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