

Non-Pharmacologic Interventions for the Treatment of Neonatal Abstinence Syndrome

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Background: Neonatal abstinence syndrome (NAS) is a significant and growing problem. NAS is a condition that develops in an infant as the result of abrupt removal of exposure to addictive substances. Two forms of treatment exist for NAS: pharmacologic and non-pharmacologic. Nursing's perspective on family support and non-pharmacological care for infants experiencing withdrawal is not well studied in the literature. **Purpose:** This project introduces NAS as a health care issue, reviews the literature on non-pharmacologic interventions, and demonstrates the significance of the project on nursing and health care. **Methods:** The quality improvement method FOCUS-PDSA was used to guide this project. A prospective quality improvement project was conducted with a pre-implementation and post-implementation phase. The intervention was implementation of a non-pharmacologic intervention bundle in the neonatal intensive care units (NICUs). A multidisciplinary group reviewed the non-pharmacologic interventions found in the literature and identified the interventions to be bundled and used in the (NICUs). All staff completed an educational program on the non-pharmacologic interventions. Data was collected on infants born and admitted with a diagnosis of NAS during a ten month time period pre-implementation and post-implementation. Data collected included demographic (birth date, admission date, gestational age, birthweight and maternal drug history), pharmacologic medications given, length of treatment with each medication, highest dose given of each medication, number of times each non-pharmacologic intervention was used, and length of stay. The modified Finnegan scoring tool was used to assess for withdrawal symptoms. **Analysis:** Data was collected on 67 patients pre-implementation and 37 patients post-implementation. An independent sample t test was conducted to compare pre-implementation patients with post-implementation patients for length of pharmacologic treatment and length of hospital stay. **Findings:** Data analysis showed that the mean highest dose of morphine was significantly higher in the pre-implementation phase compared to the post-implementation phase ($p < 0.0001$). There was no significant difference in length of stay.

Title:

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Keywords:

NICU, neonatal abstinence syndrome and non-pharmacologic interventions

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Abstract Summary:

Neonatal abstinence syndrome (NAS) is a significant, growing problem. Non-pharmacological care for infants experiencing withdrawal is not well studied in the literature. A prospective quality improvement project was conducted utilizing a non-pharmacologic intervention bundle, with pre-implementation and post-implementation phases. Results showed that non-pharmacologic interventions were helpful in decreasing pharmacologic treatment.

Content Outline:

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4. Review of Literature
5. Pharmacologic Treatment
6. Non-Pharmacologic Interventions

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3. Retrospective QI Project
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6. Setting
7. Data Collection
8. Data Collection Tool
9. Demographic
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16. Mean
17. Frequency

- Timeline

1. Pre-Implementation Phase

2. Post-Implementation Phase

- Discussion

1. Limitations

2. Conclusions

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Professional Experience: 2013-present - NICU Clinical nurse specialist, Akron Children's Hospital. Provide support to NICU as a clinical expert, consultant, educator, researcher and leader/change agent. Provide leadership in the development of programs. Interest in care of the baby with neonatal abstinence syndrome led to this implementing this project as my DNP project. 1997-2012 - case manager in NICU, Akron Children's Hospital, Akron, OH. Managed the hospitalization of a caseload of patients from pre-admission through 1 week post-discharge, coordinated health care team efforts. 1992-1997 - NICU education coordinator, Akron Children's Hospital, Akron, OH. Oriented newly employed nurses, coordinated continuing education for all NICU nurses. 1/1992-5/1992 NICU staff nurse, Akron Children's Hospital, Akron, OH 1991-1992 - NICU staff nurse, Aultman Hospital, Canton, OH 1988-1991 - NICU staff nurse, Akron Children's Hospital, Akron, OH 1987-1988 - NICU staff nurse, Medical University of South Carolina, Charleston, SC 1985-1987 - infant care staff nurse - Medical University of South Carolina, Charleston, SC

Author Summary: Connie has worked in the NICU for most of her career as an educator, case manager and now as a CNS. She developed an interest in the care of the baby with neonatal abstinence syndrome and chose this as her DNP project. Her project looks at how non-pharmacologic interventions affect pharmacologic treatment of these babies.