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Non-Pharmacologic Treatment for Infants with Neonatal Abstinence Syndrome (NAS)

-Bangor, Maine

Michael Capata

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Mentors: Dr. Robin Pritham and Dr. Mark Brown

2. Problem Identification

- 50-70% of babies born to mothers on Subutex and methadone during pregnancy show signs of withdrawing from these medications. This is known as Neonatal Abstinence Syndrome (NAS)
- When children withdraw from opiates they often need medication, like methadone. In order to reduce the chance these children will need to be put on medication, it is important for them to be placed in a non-stimulating environment for the first five days of their life
- Often, the mothers and families of these children are not aware of, or do not practice, non-pharmacological methods to reduce the amount of stimulation their children are exposed to

3. Public Health Costs

- 182 children were admitted to Eastern Main Medical Center (EMMC) as opiate exposed newborns in 2012
- Children who need to be medicated for NAS stay in the hospital for approximately 3 weeks
- However, children who do not need medication are hospitalized for only 5 days
- For a baby with NAS, each day in the hospital costs \$3,256 (Patrick et al.)
- When a child can leave the hospital without needing treatment the community saves \$3,256/day
- If a child is able to leave after 5 days instead of 21 days, the community saves \$52,098/child

4A. Community Perspective

- *Name Withheld*, FNP
 - *Name Withheld* is a nurse practitioner who provides Suboxone treatment to patients of all ages
 - “Opiates have been a problem in Maine since the early 1990’s”
 - “There are still only 3 methadone clinics in Bangor and there is a great need for treatment options for patients addicted to opiates”
 - “In the early 2000’s Dr. Eric Brown and a few nurse practitioners decided to start a program to help addicts by prescribing Suboxone”
 - “A ‘stigma’ still exists in Maine against people on Suboxone”
 - “This is especially true for women who are pregnant”
 - “It is important to realize that Suboxone is just as important for people addicted to opiates as insulin is for people with diabetes”
 - “Recent research has shown that people with a high level of Adverse Childhood Experiences (ACE’s) are more prone to abuse opiates”

4B. Community Perspective

- *Name Withheld*, MD
 - *Name Withheld* is a community advocate for treating patients addicted to opiates with Suboxone and an expert on addictive behaviors
 - “Childhood trauma is a very important reason why people become addicted to substances”
 - “These children are vulnerable to ‘abusive relationships’ because they have ‘bent antennas’ that prevents them from properly reading people’s intentions”
 - “The first time patients ever feel ‘good’ in their life is the first time they experience an opiate like oxycodone”
 - “Patients who are depressed feel more pain according to a study that used ice baths to test for pain”
 - “Suboxone allows those who are seeking treatment to maintain more cognitive ability than those on methadone”

5. Intervention/Methodology

- Mothers taking Subutex and methadone were in need of more information regarding their treatment and what could be done to help their babies withdraw from opiates
 - A pamphlet was put together to provide simple instructions to mothers about how to keep their hospital rooms quiet and comfortable as their babies withdraw off of Subutex and methadone. This sheet will be placed in hospital rooms
- An educational form was created to help mothers addicted to opiates understand the importance of taking Subutex and methadone throughout their pregnancy
 - These sheets were given to the chief of Pediatrics and Neonatology to be distributed to the appropriate mothers
- A survey was created to determine if mothers know how to use the NAS scoring system on their babies
 - This survey will be distributed to each mother who has a baby with NAS

6. Results/Response

- Three educational sheets and one survey were created:
 - Parent Information About Medication-Assisted Treatment (Methadone) during Pregnancy
 - Parent Information About Medication-Assisted Treatment (Subutex) during Pregnancy
 - What is Your Baby Thinking...
 - NAS Survey to Assess Parental Involvement in Finnegan Scoring System
- The four educational materials were approved by the Pediatrician Dr. Duska Thurston and the chief of Pediatrics Dr. Mark Brown
- The actual impact of how well these educational devices impact the Bangor community will not be fully understood until after they have been distributed and used

7. Effectiveness/Limitations

- Children born to mothers addicted to opiates are observed for at least five days in the hospital
- During this time, the babies behavior is monitored every 4 hours using the Finnegan Scoring System
- To test if the information I have created is helpful, we should look at the NAS scoring before and after the pamphlets were distributed
- If the NAS numbers go down, the babies will spend less time in the hospital and fewer babies will need to be treated with medications like methadone, to help with their withdrawal
- The limitations in this project are not being able to properly test the effectiveness of the informational material; there was not enough time in the rotation to effectively do so

8. Recommendations

- Research should be done on NAS scores before and after the distribution of the educational handouts
- There is a need to look into ways for hospital staff to minimize staff visits to babies suffering from NAS
 - For example, if nurses and doctors see the patient together there would be less interruptions to the babies sleep schedule
- Make it a mandatory part of each UVM medical students schedule to spend one half day with nurse practitioners treating patients with Suboxone
- A future student project could look at the results from the survey and make recommendations on how parents could be more involved with the NAS scoring of their child

9. References

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