Breast Milk for Infants with Neonatal Abstinence Syndrome

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Abstract

Neonatal abstinence syndrome is a growing problem in the United States. In 2012 alone, there were an estimated 21,732 infants that were born with neonatal abstinence syndrome. This syndrome is caused when an infant is exposed to drugs in utero, and withdrawal from the drugs once there are born. They often experience a variety of unpleasant symptoms, and are often treated with pharmacologic measures ("Dramatic Increases", 2015). This literature review was written to examine the effects of breast milk on infants with neonatal abstinence syndrome. The literature review examines evidence-based practice articles from peer-reviewed journals. These articles were retrieved from online databases such as CINAHL, PubMed, and Google Scholar. The literature shows that breastmilk has the potential to have a positive effect on infants with neonatal abstinence syndrome by reducing symptoms, reducing the need for pharmacologic treatment, and reducing the length of hospital stay.

Introduction

According to the National Institute on Drug Abuse, an infant suffering from opioid withdrawal is born every twenty minutes ("Dramatic Increases," 2015). Infants undergoing opiate withdrawal is called neonatal abstinence syndrome. Infants can become addicted to opiates if their mother used illicit substances or narcotics when the infant was in the womb ("Neonatal Abstinence," n.d.). The amount of infants with neonatal abstinence syndrome is rising in the United States. "There was a five-fold increase in the proportion of babies born with NAS from 2000 to 2012, when an estimated 21,732 infants were born with NAS" ("Dramatic Increases," 2015).

Infants born with neonatal abstinence syndrome could be born prematurely, have a low birth weight, be born with birth defects, have seizures, and go through withdrawal after birth.

When an infant is going through opiate withdrawal they may experience symptoms such as tremors, diarrhea, sweating, high pitched crying, vomiting, irritability, poor feeding, dehydration, tight muscle tone, fever, stuffy nose, sneezing, and sleep problems ("Neonatal Abstinence," n.d.). Treatment for neonatal abstinence syndrome typically includes pharmacologic treatment with various drugs. These drugs help provide comfort to the infants as they go through withdrawal. The pharmacologic treatment depends on the drug that the infant is withdrawing from. Some common drugs used to treat withdrawal in infants include methadone and benzodiazepines ("Treatments for Neonatal," n.d.). Although pharmacologic treatment is essential to treating these infants, non-pharmacologic treatment has the potential to be beneficial as well. For example, breast milk has shown promise of having a positive impact on the infants. The goal of this literature review is to examine a variety of research based articles to determine the effectiveness of breast milk on infants suffering from neonatal abstinence syndrome, as well as barriers that may come up with implementing this practice.

Problem Statement

What are the effects of breast milk on infants with neonatal abstinence syndrome?

Methods

Peer reviewed journal articles were selected and reviewed for this literature review. The articles were selected by searching in online databases. These databases included CINAL, PubMed, and Google Scholar. Search terms used included "neonatal abstinence syndrome", "NAS", "breast milk for neonatal abstinence syndrome", "infants and opioid withdrawal", "breastmilk and neonatal abstinence syndrome", "breast milk and NAS", benefits of breast milk", opioid withdrawal and breast milk", "opioid withdrawal in infants", and "breastfeeding infants with drug dependent mothers. All articles chosen were written in English, and published

within the last ten years. Articles to support breastfeeding and reduction of stigma in healthcare were found through Internet search engines.

Effect on Neonatal Abstinence Syndrome Symptoms

Abdel-Latif et al., 2006

When infants go through withdrawal, they go through a variety of symptoms referred to as neonatal abstinence syndrome. Therefore, it is thought that breast milk may have the ability to lessen the severity or get rid of some of these symptoms. One study was done to see the effects of breast milk on the severity of neonatal abstinence syndrome. There were 190 cohorts studied, each made up of a drug dependent mother and an infant. There were 105 infants who received formula and 85 infants who were breastfed. Data was gathered by reviewing charts. To determine whether an infant was in the formula or breast milk group, if they had received both, they were categorized based off of the predominant type of milk they were receiving on their fifth day of life (Abdel-Latif et al., 2006). The infants were scored with the Finnegan objective scoring system, a system used to score neonatal abstinence syndrome. Infants were scored before each feed. Infants also received appropriate pharmacologic measures, depending on their Finnegan score. "The mean Finnegan scores for the first 9 days of life were considerably lower in breast milk infants" (Abdel-Latif et al., 2006, p. 1165). There was no difference between the groups that breastfed and those that gave breastmilk through bottle or gavage feeding.

Pritham, 2013

Another study that was done looked at the association between breastfeeding and the severity of neonatal abstinence syndrome. This literature reviewed determined that breastfeeding lessens the severity of the symptoms of neonatal abstinence syndrome (Pritham, 2013). The article also touches on the fact that it is unclear if pumped breast milk provides the same benefits

as breastfeeding. "However, there are no studies in which researchers have distinguished feedings at the beast and feedings with expressed breast milk on maternal and infant health or on NAS" (Pritham, 2013, p.522). Overall, this literature review supports the stance of breastfeeding infants with neonatal abstinence syndrome.

Balain & Johnson, 2014

One literature review looked at seven different studies regarding breastmilk and neonatal abstinence syndrome symptoms, and it was found that the infants that were fed breastfed needed less treatment for neonatal abstinence syndrome, had less symptoms, and a shorter hospital stay ((Balain & Johnson, 2014). The literature review also went on to discuss why breast milk could have this type of impact. One potential explanation is that minimal amounts of the drug or methadone may be excreted into the breastmilk, and that could lessen the withdrawal symptoms. However, it is arguable if the amount of drugs that is transmitted through the breast milk is clinically significant. Another theory is that the supportive care that comes along with breastfeeding, such as soothing and swaddling, could have the impact of less symptoms. However, some infants are bottle and gavage fed, so this could not explain the concept in entirety. Regardless, it is shown that breast milk does have a positive effect on infants with neonatal abstinence syndrome (Balain & Johnson, 2014).

Strengths & Limitations

Strengths of this literature review include using peer reviewed journals articles, studying infants with varying severity of neonatal abstinence syndrome, and using recent articles. All of the articles used in this literature review are from within the past ten years, therefore, the research is recent and up to date.

Limitations of this literature review include limited research studies specifically looking at the effects of breast milk on infants with neonatal abstinence syndrome. A comprehensive literature review would assist in helping identify more benefits of breast milk and all of the effects it can have. More articles on the topic are published in subscription only journals, and some are in studies that that review many other pharmacologic and non-pharmacologic interventions. Some of the studies also did not distinguish if the mother providing the breast milk was still on methadone, a different drug, or was drug free. This factor can also play into the effectiveness of breast milk. It is also unclear if donor breast milk would have the same impact. Some studies had varying amounts of formula that was allowed to be consumed before an infant was considered "formula fed" rather than breast-fed. More studies with similar criteria need to be done to further confirm that breast milk is effective in helping treat neonatal abstinence syndrome. Research explaining why breast milk is effective, would further support this practice as well.

Implications for Practice

Feeding infants breastmilk and encouraging mothers to breastfeed could be implemented while an infant with neonatal abstinence syndrome is still in the hospital. Education on the benefits of breastmilk could be provided, and infants could begin breastfeeding in the hospital. It's important to start out strong, and provide the resources that mothers will need for their infants after discharge. This practice could continue to be carried out in the home, with medical monitoring and regular check-ups. Nurses, health care providers, and dieticians could be properly educated on the benefits of breastmilk for infants with neonatal abstinence syndrome. With these key members of the healthcare team educated about it, the information would be easier to disseminate to the families of an infant with neonatal abstinence syndrome. This is an

inexpensive intervention, and the cost to the hospital would be little to none. Lactation consultants are typically already employed at hospitals, and their services could be used to help drug dependent mothers provide milk for their infants. Infants with shorter hospital stays could contribute to reduced costs for hospitals in the long run.

Implications for Research

Although breast milk for infants with neonatal abstinence syndrome seems to be an effective non-pharmacologic intervention, more research is still needed. A repeat study looking at more variables in depth would be beneficial. A study that follows infants from birth until cessation of all symptoms of neonatal abstinence syndrome would also be helpful to determine if breastmilk continues to be helpful as time goes on.

Encouraging Breast Feeding

Encouraging breastfeeding can either be about putting the infant to breast, or encouraging the mother to pump and provide breast milk. As evidenced by the paragraphs above, breast milk could be very beneficial for infants undergoing opioid withdrawal. Therefore, it is incredibly important to encourage breastfeeding, and help these mothers be successful. One aspect of encouraging breastfeeding is simply educating mothers. According to the literature reviews above, there is evidence that breastmilk could help lessen the severity of the symptoms that infants with neonatal abstinence syndrome undergo. Challenges to breastfeeding for mothers who have a substance abuse problem may include an unsupportive social environment, lack of information, a negative attitude toward breastfeeding, or low motivation to breastfeed (Balain & Johnson, 2014). Although some of these challenges are not modifiable, nurses can have an impact on the ones that are. For example, nurses can educate on a lack of information.

Stigma in Substance Dependent Mothers

It's easy to understand why mothers who are dependent on opioids may be fearful of the stigma that comes with interacting with healthcare providers. "Stigma is one of the biggest barriers to effective treatment for pregnant women who use legal or illegal substances, according to the centre's new report, Licit and Illicit Drug Use During Pregnancy: Maternal, Neonatal and Early Childhood Consequences" (Eggertson, 2013, p. 1). It's easy to see that if women feel as though they are being judged during pregnancy, it may be even worse after they give birth, and have an infant with neonatal abstinence syndrome. It's important for healthcare providers and nurses to leave their judgments at the door, and provide proper encouragement and information about breastfeeding for infants with neonatal abstinence syndrome.

Discussion

Overall, breast milk for infants with neonatal abstinence syndrome looks like it could play a huge part in treating infants with neonatal abstinence syndrome. The importance of breastfeeding could become a required education course for mothers who give birth to infants with neonatal abstinence syndrome. If donor milk proved to be effective as well, infants whose mothers choose not to breastfeed could receive donor milk while they are receiving treatment in the hospital. This is something that is currently done by many hospitals for premature infants. If research is brought forward to hospitals, and adopted into policy, more infants could benefit and heal from neonatal abstinence syndrome easier. One challenge that could be faced when attempting to implement this intervention may be the extra effort that it would take to provide education on this. It takes time to educate mothers and caregivers on this practice, but it also takes time to educate nurses. Nurses may have prior misconceptions about drug dependent mothers breastfeeding, and proper education would need to be implemented. The most important thing to emphasize is that the intervention is being done to benefit the infant, and even

though it may take extra effort, it can have a positive impact on the infant. Breastmilk is noninvasive, it's inexpensive or free, and it doesn't require purchasing extra materials of medical equipment. Additional research needs to be done, but the use of breast milk for neonatal abstinence syndrome could definitely be beneficial and help reduce the suffering of infants with neonatal abstinence syndrome.

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