

Nursing Support of Breastfeeding, Kangaroo Care, and Rooming-in  
to Improve Outcomes for Neonatal Abstinence Syndrome (NAS)

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Neonatal Abstinence Syndrome, or infant drug withdrawal, is a national concern that has experienced dramatic rise in recent years. The neonate is exposed to harmful substances when the mother uses medications or illicit drugs during pregnancy, and after the infant is born goes through withdrawal because it is no longer receiving these substances (Tennessee Department of Health, 2018). Studies have shown that 55 to 94 percent of newborns exposed to opioids develop withdrawal symptoms; this equates to a baby being born with neonatal abstinence syndrome approximately every 25 minutes in the United States (Smith, 2017). This staggering trend is only increasing in prevalence. It is estimated that the rate of American children born with neonatal abstinence syndrome has quadrupled over the past 15 years (Rappleye, McHugh, & Farrow, 2017).

**Process Description**

Symptoms of neonatal abstinence syndrome vary based on the type of substance the mother used while pregnant, and may develop anywhere from 24-48 hours after birth to five to ten days after birth. Most common symptoms include: tremors, irritability, sleep problems, high-pitched crying, tight muscle tone, hyperactive reflexes, seizures, tachypnea, poor feeding and sucking, vomiting and diarrhea, fever and unstable temperatures (*Stanford Children's Health*, 2018). These symptoms may be difficult or impossible to treat without further use of harmful drugs within the same class as the substance the baby is withdrawing from. Many nursing interventions and policies are aimed at treating these symptoms despite limited research and evidence supporting their effectiveness. Further investigation into these interventions and

policies regarding neonatal abstinence syndrome needs to be addressed in order to improve the quality of care for affected neonates.

Standardization of treatment for neonatal abstinence syndrome is difficult to achieve because symptoms of withdrawal vary among infants. Current interventions for neonatal abstinence syndrome range from supportive-swaddling and cuddling, nutritional support and breastfeeding, completing observation and scoring systems, providing a quiet environment and low stimuli, rooming-in with the mother, and pharmacotherapy (MacMullen, Dulski, & Blobaum, 2014). However, limited research is available in support of these interventions and their effectiveness. Additionally, the stigma surrounding mothers with substance abuse disorder creates a barrier to care. Inclusion of alternative therapies and educational programs for parents need to be investigated to improve support for the infant experiencing withdrawal and decrease the stigma surrounding NAS.

### **Theoretical Framework**

The theoretical framework utilized to guide research on neonatal abstinence syndrome is drawn from Virginia Henderson's "Definition of Nursing and 14 Components of Basic Nursing Care." According to Henderson, "the unique function of the nurse is to assist the individual in the performance of those activities contributing to health or its recovery that he would perform unaided if he had the necessary strength, will, or knowledge and to do this in such a way as to help him gain independence as rapidly as possible" (Henderson, 1966, p. 15). Since all newborns have a deficit in strength and knowledge, it is the responsibility of the parents and nurses caring for them to meet their basic needs until they gain independence as they age. Neonatal abstinence syndrome complicates this process and makes it more difficult to meet the infant's basic needs. Henderson further identifies 14 basic needs including the need to: breathe

normally, eat and drink adequately, eliminate bodily wastes, maintain desirable postures, rest, maintain body temperature, keep the body clean, avoid dangers in the environment, communicate with others in expressing needs, and satisfy the curiosity that leads to normal development (Masters, 2011). Many nursing interventions aimed at NAS revolve around caring for these basic needs since associated symptoms create a deficit and prevent normal function and achievement. This holistic framework will be implemented in the discussion of evidence as it addresses the fundamental needs of infants experiencing neonatal abstinence syndrome.

### **Evidence**

Henderson defines the need to eat and drink adequately as a component of health; this especially applies to newborns reliant on the mothers' milk for nutrients. For most newborns, it is recommended that the mother with no contraindications breastfeed exclusively for 6 months (Meek & Hatcher, 2017). There have been found many medical benefits of breastfeeding including: decreased incidence of lower respiratory infections, gastroenteritis, otitis media, and necrotizing enterocolitis. Additionally, psychosocial benefits of breastfeeding include increased opportunity for bonding between the mother and infant. Alternatively, the risks are increased for infants who are not breast-fed in regards to SIDS, obesity, asthma, and diabetes (Meek & Hatcher, 2017).

Most drugs pass through the mother's milk and are metabolized by the infant. This factors into the discussion of breastfeeding infants with NAS. While breastfeeding is generally contraindicated in mothers who use illegal drugs, it may in fact be beneficial in the case of infants with NAS whose mothers are receiving opioid substitution therapy. Studies have found that few women on opioid substitution therapy breastfeed despite evidence supporting it, most often due to misconceptions about its safety while receiving treatment and the stigma

surrounding it (Graves, Turner, Nader, & Sinha, 2016). However, numerous studies indicate its benefit for improving the outcomes of infants diagnosed with neonatal abstinence syndrome in instances where there are no other contraindications.

According to a 2016 study, breastfeeding may prove beneficial for infants diagnosed with NAS by shortening the length of hospital stay (Short, Gannon, & Abatemarco, 2016). This study indicated that less than one-half of infants diagnosed with NAS were breastfed by mothers receiving treatment at discharge, however the group that was breastfed experienced a 9.4% reduction in length of hospitalization (Short, Gannon, & Abatemarco, 2016). Further evidence from 2017 supports this finding and indicates additionally that infants with NAS who receive human milk require less pharmacologic treatment (Holmes, Schmidlin, & Kurzum, 2017). The Academy of Breastfeeding Medicine's Clinical Protocol #21, revised in 2015, indicates that "drug-exposed infants who are at a high risk for an array of medical, psychological, and developmental issues, as well as their mothers, stand to benefit significantly from breastfeeding." In fact the article further states, "women on stable doses of methadone maintenance should be encouraged to breastfeed if desired, irrespective of maternal methadone dose" (Reece-Stremtan & Marinelli, 2015).

A second component of health that impacts infants suffering withdrawal includes sleep and rest, maintaining desirable body temperature, and communicating with others in expressing needs. Skin-to-skin care, sometimes termed kangaroo care, is an intervention aimed at meeting these needs and may be especially beneficial in infants with neonatal abstinence syndrome along with other therapies. Research published in *Clinical Nursing Studies* in 2015 examined the newborn's response to kangaroo care in the treatment of NAS. Pertinent findings include modified neonatal abstinence syndrome scores decreased with three or more hours of continuous

kangaroo care (Ludington-Hoe & Abouelfettoh, 2015). Additionally, the article mentions “recent clinical observations at Grant Medical Center in Columbus, OH have revealed that the number of infants of substance abusing mothers being transferred to the SSCU for NAS has decreased approximately 67% since kangaroo care at birth has been routinely practiced” (Ludington-Hoe & Abouelfettoh, 2015).

The inclusion of kangaroo care provides additional psychosocial benefits including increased bonding, observation time, and availability of the mother to provide for the needs of her baby. It fosters comfort for the infant and promotes rest, warmth, and an outlet for the infant to express its needs to the mother. Further, kangaroo care may improve the stigma surrounding drug-addicted mothers who feel a combination of shame, guilt, and distance from their child, which makes it more difficult during the first critical bonding days. According to a quote from registered nurse Lisa Cleveland, “several of the mothers have said that they feel when their baby was skin to skin that their baby was forgiving them. And they felt that some of the shame and guilt was going away... so that’s really powerful” (“Kangaroo Care Could Help Drug-Addicted Newborns,” 2017).

Rooming-in further supports a means for the mother and infant to bond and provides closely monitored care for the neonate experiencing withdrawal. According to a study published by the *American Academy of Pediatrics*, it was found to improve family-centered care and decrease both lengths of stay and hospital costs for infants with neonatal abstinence syndrome. It further reduced the rate of pharmacotherapy for NAS to 27% (Holmes et al., 2016). A similar study supports these findings and suggests that rooming-in is associated with a reduced need for pharmacologic treatment and shorter length of hospital stays (McKnight et al., 2016). Based on these and similar findings, a recent meta-analysis on the “Association of Rooming-in with

Outcomes for Neonatal Abstinence Syndrome” determined that rooming-in should be recommended as a preferred inpatient care model for NAS (MacMillan et al., 2018). It provides the means for holistic care and careful observation of the infant, improved bonding with the mother, and an outlet for all needs of the infant as outlined by Henderson to be met.

### **Proposed Policy and Implementation Into Practice**

The evidence supports that infants benefit from the inclusion of breastfeeding, kangaroo care, and rooming-in for treatment of neonatal abstinence syndrome. The proposed policy is to integrate these interventions into the nursing plan of care. All infants born with neonatal abstinence syndrome will be assessed per hospital guidelines to determine the level of care required. If the infant’s mother is found to be maintained on methadone and/or has not ingested any other harmful drugs, her decision to breastfeed should be encouraged and supported by the nursing staff. Kangaroo care will be provided daily and continuously for a minimum of three hours. Rooming-in will become the hospital’s preferred inpatient care model. The inclusion of these interventions functions to meet the infant’s basic needs as defined by Henderson. Additionally, they have been found to provide numerous psychosocial benefits for the withdrawing infants and their mothers. This serves to create a holistic environment of care.

It is the nurses’ responsibility to advocate on behalf of vulnerable populations and promote patient and family-centered care. It will be the parents caring for these infants after they leave the hospital, so it is important to set the example and create a precedent of parental involvement while still at the hospital. These interventions keep the infant close to the mother providing ample opportunity for bonding and exploration of the mother’s new role, under the close supervision of the health care team and staff. Further, these interventions are natural to the maternal-infant bonding experience and promote a feeling of wellbeing.



Education provided to the nursing staff will include conveying a caring and nonjudgmental approach to these patients. In order to achieve this, it may be appropriate for the staff to complete role-playing exercises with provided scenarios (Campbell, 2012). This will allow the staff to experience first hand the stigma that patients are under and its effect on their relationships and ability to care for their infants. A presentation supporting the evidence and reasoning behind changing the policy to include these interventions should be presented to the staff following with a discussion granting the staff the opportunity to voice any questions and concerns. This promotes the compliance of the staff as they will be well-informed and involved in the changes taking place. Additionally, education regarding proper assessment of these infants should be reinforced using a scale such as the Finnegan scoring system since the severity of illness will guide interventions (Gomez-Pomar et al., 2017).

### **Summary**

Neonatal abstinence syndrome has risen dramatically in recent years. Due to the rapid increase, there is limited research supporting nursing interventions that promote the best patient outcomes. Additionally, the stigma surrounding it has created a barrier to family-centered care. Breastfeeding, kangaroo care, and rooming-in have been supported by evidence to improve patient outcomes. Inclusion of these interventions into a standardized hospital policy will benefit infants and their mothers by creating an environment for bonding and healing to take place. Further, it will allow for the infant's basic needs as outlined by Henderson to be met. This change can be accomplished through educating the nursing staff about evidence backing these interventions and undergoing training regarding providing a caring and nonjudgmental environment.

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