



**National
Association of
Neonatal
Nurses**

The Use of Human Milk and Breastfeeding in the Neonatal Intensive Care Unit

Position Statement #3052

NANN Board of Directors
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The use of human milk and breastfeeding are essential components in providing optimal health for the critically ill newborn. As the professional voice of neonatal nurses, the National Association of Neonatal Nurses (NANN) encourages all neonatal nurses to provide mothers of critically ill newborns the education, support, and encouragement needed to provide human milk for their infant.



Association Position

Human milk and breastfeeding play an important role in the growth of the vulnerable infant. A top priority for neonatal nurses is to ensure that all families understand the unique role that human milk plays in the health of their child. It is the responsibility of neonatal nurses to provide all mothers with education about the benefits of breast milk for their infant, regardless of the mothers' original intentions regarding feeding, and to encourage them to express milk for as long as possible. Neonatal nurses should incorporate vigilant monitoring of the lactation experience as part of their daily care in order to optimize success. Research-based education on human milk and breastfeeding for the mother who is pumping to provide human milk for her infant is also critical.

Background and Significance

In the United States, infant mortality could be reduced by 21% if all infants received the recommended 6 months of exclusive human milk feeds (Chen & Rogan, 2004). Human milk has been shown to provide many specific health benefits to the vulnerable infant, both during the hospital stay and following discharge (Ahmed & Sands, 2010; Conde-Agudelo, Belizán, & Diaz-Rossello, 2011; U.S. Department of Health and Human Services, 2011). These benefits include a lower incidence and severity of hospital-acquired infections, a lower incidence and decreased severity of necrotizing enterocolitis, improved visual acuity and higher scores on tests of neurocognitive outcomes, and the nutritional superiority provided by the unique composition of human milk. It should be a goal for all healthcare providers to promote breastfeeding as the cultural norm.

Healthcare providers should strive to initiate enteral feeds when human milk becomes available and when the infant is stable enough to tolerate feedings (Smith, 2005). Using colostrum first has been shown to prime the infant's intestine because of colostrum's high concentration of immunoglobulin A. After the infant has received colostrum, fresh human milk feeds can be introduced. Fresh human milk is preferable to frozen human milk because it exposes the infant to the white blood cells present in the fresh milk. If fresh human milk is unavailable, then frozen human milk should be used.

Recommendations

1. Assessment of Human Milk Supply

Neonatal nurses care for the infant and also work with the mother who is pumping to provide human milk for her infant. Education regarding normal human milk production is important. Instruction regarding initiation of lactation should start as soon as possible within the first 24 hours after the birth. The use of a hospital-grade electric pump with a double collection kit is recommended. Pumping to initiate lactation and establish an adequate milk supply has been shown to be most effective when mothers pump eight times per day, or about every 3 hours. Mothers should be provided with a target daily milk volume based on milk production in the healthy mother-infant dyad (440–1,220 milliliters). Early and frequent monitoring of milk supply during the first 2 weeks is critical to

ensure that the mother will have an adequate supply at the time of the infant's discharge. Maintaining a pumping log allows the mother to track her progress and provides valuable information to the healthcare provider. This information can be used to make research-based decisions regarding the mother's pumping patterns. For example, mothers with large storage capacity or production of milk may be able to decrease pumping frequency if 24-hour daily volumes can be maintained.

2. The Use of Fortified Human Milk

Human milk is highly variable, especially in fat content. Typically, fat increases as the breast is emptied during a pumping and is lower after a longer nonpumping interval (e.g., at the mother's first pumping of the day). Given this variability, instructing the mother to maintain a pumping log in order to monitor her 24-hour production can be useful in assessing the need for modifications in the choice of specific milk specimens for these smaller-volume feedings. If the lipid and caloric density of human milk is a concern, measuring the creatocrit value can be used to determine the potential need for lacto-engineering strategies.

Despite the benefits described, human milk alone does not provide the levels of calories, protein, and minerals that the very-low-birth-weight infant requires for adequate growth. This insufficiency is due mainly to the infant's fluid-restricted status, not to the inadequacy of the mother's milk. Human milk fortifier is used to enhance these essential nutritional components, but it is made from cow's milk, and some infants may experience some intolerance. Care should be taken to ensure the consistency of the process used to mix human milk fortifier with human milk.

3. Transitioning the Vulnerable Infant to At-Breast Feedings

Skin-to-skin care provides a valuable opportunity for all mothers to feel connected to their infants and has been demonstrated to improve breastfeeding outcomes. Prior to holding her infant skin to skin, the mother should pump her breasts to prevent the leakage of milk. In addition, skin-to-skin care is an important component of transitioning the infant from tube feedings to direct feedings from the breast. As a component of skin-to-skin care, nonnutritive sucking at the emptied breast during tube feeds can be initiated as soon as the infant is no longer ventilator dependent.

It has been observed in some studies that infants at 28–30 weeks' gestation demonstrate rooting, areolar grasp, and latching behaviors. Outcomes from one sample reported that 80% of the infants were fully breastfeeding at a mean of 36 weeks (range 33.4–40 weeks), and 94% were fully breastfeeding at the time of hospital discharge (Nyqvist, Sjöden, & Ewald, 1999). The authors of this study further suggested that early sucking behavior is the result of learning and is enhanced by frequent stimuli. Assistive devices like the nipple shield can facilitate breastfeeding in preterm or otherwise ill infants. Use of the nipple shield has been associated with increased sucking bursts, increased milk transfer, and

a prolonged duration of breastfeeding in mothers of low-birth-weight infants (Meier et al., 2000).

Conclusions

Neonatal nurses have a responsibility to facilitate, through support and evidence-based information, the breastfeeding success of mothers who are providing human milk for their infants. Mothers must have a realistic expectation of the postdischarge breastfeeding ability of their infant. Some combination of pumping breast milk and breastfeeding and tube-feeding the infant at the time of discharge is usually involved. Continued lactation support and follow-up by appropriate healthcare providers following discharge can increase the duration of breastfeeding and optimize outcomes for vulnerable infants.

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