INTRODUCTION/PROBLEM STATEMENT

The World Health Organization (WHO) (2017), the American Academy of Pediatrics (AAP) (2012), the Association of Women’s Health Obstetric & Neonatal Nurses (2015), and the National Association of Neonatal Nurses (NANN) (2015) recommend that infants are breastfed minimally for one year with the provision of exclusive human milk for the first six months being essential for optimal health and developmental outcomes. However, in the United States, despite improvements in breastfeeding initiation rates, exclusive breastfeeding and breastfeeding continuation remain extremely low (Centers for Disease Control & Prevention, 2016).

<table>
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<tr>
<th>Breastfeeding Rates-2016 (based on 2013 CDC data)</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Initiation</td>
<td>81.1%</td>
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<tr>
<td>Any breastfeeding at 6 months</td>
<td>51.8%</td>
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<tr>
<td>Exclusive breastfeeding at 6 months</td>
<td>22.3%</td>
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<tr>
<td>Breastfeeding at 1 year</td>
<td>30.7%</td>
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Tremendous health disparities exist as well, with African American women having initiation rates almost 20% lower than Caucasian women and women of the lowest poverty ratio having substantially lower initiation rates compared to women in the highest income ratio (Centers for Disease Control & Prevention, 2016). Those infants who may benefit most from the receipt of human milk and breastfeeding are at most risk for not receiving it which is concerning since human milk and breastfeeding may play an important role in the mitigation of toxic stress (Hallowell, Froh, & Spatz, 2016). Pediatric nurses play a critical role in helping families make an informed decision about human milk and breastfeeding and ensuring that all families can meet their personal breastfeeding goals.

DEFINITION(S)

The WHO (2017) defines exclusive breastfeeding for the first six months as the provision of 100% human milk (no juice, no water, no infant formula, no complementary foods). Exclusive breastfeeding includes direct breastfeeding as well as the provision of human milk through other means (bottle, feeding tube, cup, etc.).

RATIONALE AND SUPPORTING INFORMATION

From an ethical perspective, all available evidence agrees that infants have increased morbidity and mortality without access to human milk, so, pediatric nurses must serve as the advocate for their patients and promote and protect breastfeeding (Froh & Spatz, 2014). Whether working in the community setting or a pediatric facility, the evidence for human milk and breastfeeding must be presented to all families encountered. Pediatric nurses cannot assume that families have had the opportunity to make an informed feeding choice. Additionally, there are few contradictions to breastfeeding: HIV positive, HTLV 1 or 2
positive, a mother undergoing chemotherapy or radiation treatment (AAP, 2012).

Well documented outcomes of how human milk influences health and developmental outcomes:
- Decreased incidence and severity of infections (ear, gastrointestinal, respiratory, urinary) (AAP, 2012) and sepsis (Hair et al., 2016).
- Decreased incidence and severity of necrotizing enterocolitis (AAP, 2012).
- Improved feed tolerance, advancement of feeds for vulnerable infants (decreased total parenteral nutrition [TPN] days) (Ghandehari, Lee & Rechtman 2012).
- Decreased retinopathy of prematurity (Hair et al., 2016)
- Decreased bronchopulmonary disease (Hair et al., 2016)
- Improved brain development (increase in white matter and grey matter) and improved intelligence and developmental outcomes (Deoni et al., 2013; Isaacs et al., 2010)
- Decreased risk of sudden infant death syndrome (SIDS) (AAP, 2012)
- Improved long term health outcomes (reduction in obesity, diabetes, heart disease) (Spatz & Lessen, 2011)
- Enhanced long term protection of gastrointestinal system (reduction in irritable bowel syndrome, Crohn’s disease, celiac disease) (Spatz & Lessen, 2011)
- Reduced risk of childhood cancers (leukemia and lymphoma) (AAP, 2012)
- Decreased mortality (Hair et al., 2016; Victora et al., 2016)

Pediatric nurses may not meet all mothers during the critical time frame for the establishment of lactation. Without ongoing breast stimulation and emptying, prolactin levels fall to a non-pregnant state within 7-14 days after delivery. Thus, if the mother is not well supported with evidence-based practices during the first 2 weeks after delivery, achievement of a full milk supply may not be feasible.

For pediatric nurses working in the community setting, early and on-going support and care of the breastfeeding dyad is essential. The most common breastfeeding challenges include sore nipples related to poor attachment, ankyloglossia, hyperbilirubemia, and poor weight gain (Kent et al., 2015). These challenges must be addressed immediately so that maternal milk supply is not comprised.

The Baby Friendly Hospital Initiative (BFHI) was developed to protect and support breastfeeding during the birth hospital stay. The 10 steps focus on improving breastfeeding practices for newborns immediately following birth. The Baby Friendly USA (2012) BFHI 10 steps are as follows:

Step 1: Have a written breastfeeding policy that is routinely communicated to all health care staff.
Step 2: Train all health care staff in the skills necessary to implement this policy.
Step 3: Inform all pregnant women about the benefits and management of breastfeeding.
Step 4: Help mothers initiate breastfeeding within one hour of birth.
Step 5: Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.
Step 6: Give infants no food or drink other than breast-milk, unless medically indicated.
Step 7: Practice rooming in-allow mothers and infants to remain together 24 hours a day.
Step 8: Encourage breastfeeding on demand.
Step 9: Give no pacifiers or artificial nipples to breastfeeding infants.
Step 10: Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.

It is unlikely that many pediatric nurses will have the opportunity to implement these practices. The above steps are focused only on the immediate post-delivery care of the mother-infant dyad. For example, in pediatric settings, nurses will not have the opportunity to help mothers breastfeed within one hour of birth and it is unlikely that mothers and infants would be together 24 hours per day. Additionally, certain
interventions may not be appropriate for critically-ill or hospitalized infants (for example, pacifiers are associated with positive outcomes for vulnerable infants). Additionally, evidence is limited on the impact of BFHI on early infant health outcomes (neonatal weight loss, hyperbilirubinemia, hypoglycemia, and hypothermia (Munn, Newman, Mueller, Phillips, & Taylor, 2016).

For pediatric nurses working in hospital settings, it is imperative to protect the use of human milk and breastfeeding during maternal infant separation. The Spatz 10 steps for the protection and promotion of human milk and breastfeeding in vulnerable infants can guide the pediatric inpatient nurse (American Academy of Nursing, 2015; Spatz, 2004). The 10 steps are as follows:

Step 1: Informed decision - mothers and their families should be provided with all the available evidence regarding human milk as a medical intervention with a focus on the provision of human milk.
Step 2: Establishment and maintenance of milk supply – in order to establish and maintain milk supply mothers should pump within one hour of the infant being born and pump every 203 hours for a goal of eight pumping sessions per 24 hour period. Target milk volume should be at least 500-1,000 milliliters per 24 hour period.
Step 3: Human milk management - fresh milk should always be prioritized over frozen thawed milk.
Step 4: Oral care and feeding of human milk - while infants are NPO or prior to oral feeding, infants should receive human milk oral care. Upon the initiation of enteral feeds, colostrum should always be fed first followed by a prioritization of fresh milk feeds.
Step 5: Skin-to-skin contact - infants should have skin to skin contact daily as soon as their condition permits.
Step 6: Non-nutritive sucking at the breast - infants should have the opportunity to participate in non-nutritive sucking at the empty breast as soon as they are extubated.
Step 7: Transition to direct breastfeeding - once the infant is ready for nutritive feeding, the infant should breastfeed prior to bottle feeding.
Step 8: Measurement of milk transfer - performing pre-and post-weights with a electronic scale is the only evidence-based method to document milk transfer.
Step 9: Preparation for discharge - prior to discharge mothers should be encouraged to spend as much time in the hospital with their infant and provide cue based (infant driven) feeding.
Step 10: Appropriate follow-up - mothers who have vulnerable infants need a health professional who is knowledgeable about the special needs and lactation support required for these mother/infant dyads. (Spatz, 2004).

POSITION and/or RECOMMENDATIONS

Pediatric nurses should advocate meeting with families and pregnant women prior to delivery to educate them on the importance of human milk and breastfeeding. Furthermore, pediatric nurses have a critical role to play during the first few weeks after delivery to ensure that the mother establishes an abundant milk supply and navigates common breastfeeding challenges.

All pediatric nurses must possess skills to use technology to support the use of human milk and protection of breastfeeding. All pediatric nurses should know how to assemble and operate a hospital grade breast pump and evaluate a pumping session to ensure the mother is using the correct shield/flange size. Pediatric nurses should be aware of normal milk production (440-1220 ml. per 24 hours once established with an average of around 700-800 ml.). Nurses should also be able to perform infant weights pre- and
post-breastfeeding to assess milk transfer. Finally, pediatric nurses should be knowledgeable about other assistive technologies such as the nipple shield if an infant is unable to latch or sustain latch (Froh, Hallowell, & Spatz, 2015).

Evidence-based strategies to improve human milk and breastfeeding include:

- Help families to make an informed decision about human milk and breastfeeding prior to delivery with a focus on exclusivity and the dose-response benefit of human milk (NANN, 2015; Spatz, 2015).
- Initiate breastfeeding within one hour after birth for healthy infants (Baby Friendly USA, 2012).
- Initiate pumping within one hour after birth in the case of maternal-infant separation (Parker, Sullivan, Krueger, Kelechi, & Mueller, 2012).
- Encourage skin-to-skin contact as much as feasible for both healthy and vulnerable infants (Baby Friendly USA, 2012; Spatz 2004).
- Always prioritize the use of fresh human milk over frozen milk so that the infant receives the maximum benefit of the immune components, but if frozen milk must be used the oldest milk should be utilized first (Spatz, 2004).
- Be aware of the principles of milk production and establishment and maintenance of milk supply.
  - Lactogenesis I: From 16 weeks of pregnancy through about day 3-4 after delivery.
  - Lactogenesis II: Development of copious milk supply.
  - Galactopoesis: Supply and demand (providing milk supply was established).
- Peer and professional support have been demonstrated to increase breastfeeding continuation.

If a breastfed infant is admitted to a pediatric care facility, the nurse must be knowledgeable about breastfeeding and how to protect maternal milk supply and breastfeeding when mother and infant may be separated due to hospitalization. Pediatric nurses play a critical role in providing evidence-based lactation support and care, as well as making appropriate referrals to lactation specialists and reputable sources of information (Spatz, 2014).

RESOURCE(S)

The Centers for Disease Control and Prevention
www.cdc.gov/breastfeeding

The Office of Women’s Health
www.womenshealth.gov/breastfeeding

The United States Breastfeeding Committee
www.usbresatfeeding.org

REFERENCES


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Date: 12/28/2016

SPN Board of Directors:
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