Increasing capacity for the provision of evidence-based human milk and breastfeeding support

Human milk and breastfeeding rates remain low globally for both term infants and those separated from their mothers at birth. A new report from the World Health Organization has concerning news about the effectiveness of the Baby Friendly Hospital Initiative. Therefore, other models must be considered to increase capacity for the provision of evidence-based human milk and breastfeeding support.

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Key points

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1. Nurses and midwives should be the key drivers of evidence-based lactation support and care for the breastfeeding family.
2. In addition to the Baby Friendly Hospital Initiative, there are many models that exist to increase breastfeeding rates.
3. Mothers need appropriate anticipatory guidance prior to delivery to set human milk and breastfeeding goals and understand how and when to seek help if they experience challenges.

Professional organisations throughout the world recommend exclusive human milk/breastfeeding for the first six months of life, and continued breastfeeding with appropriate complementary foods for one year or more.[1-3] Despite the growing interest in breastfeeding, still less than 40% of infants globally receive exclusive human milk for the first six months of life. Additionally, there has been little focus on infants requiring care in a neonatal intensive care unit (NICU) at birth and the provision of human milk feeds. Data from Hallowell and colleagues demonstrate that over 50% of NICU infants in the USA are discharged home on infant formula.[4] Furthermore, less than 50% of NICUs employ International Board-Certified Lactation Consultants (IBCLCs) and a mere 13% of NICU nurses report providing breastfeeding support.[5]

Baby Friendly Hospital Initiative versus needs of vulnerable infants

Of further concern is the 2017 publication from the World Health Organization (WHO) noting that, globally, interest in the Baby Friendly Hospital Initiative (BFHI) is waning and less than 10% of births worldwide occur in BFHI designated facilities. The BFHI guidelines were established 25 years ago, however the 2017 WHO publication reports that despite the 25-year history, there has not been a consistent improvement in breastfeeding outcomes globally.[6] WHO further stated that the majority of respondents report that re-assessment of facilities occurs less often than every five years. Since most facilities do not have internal monitoring systems to ensure that staff continue to adhere to standards, baby friendly practices are not maintained over time.[6] Only 14 countries reported that they re-assess facilities at least every five years.[6] This 2017 report led WHO to revise the BFHI guidelines with a short period for public comment that took place in October 2017.[7] The new guidelines from WHO[8] (**TABLE 1**) have significantly changed and provide three areas of focus including:

1. immediate support to initiate and establish breastfeeding
2. infant feeding practices
3. creating an enabling environment.

The BFHI does not specifically address the needs of critically-ill or hospitalised infants (preterm, low birth weight, surgical) and WHO recommends that vulnerable infants should be fed mother's own milk.[9] If an infant requires hospitalisation, the Spatz *Ten Steps for the Protection and Promotion of Human Milk*

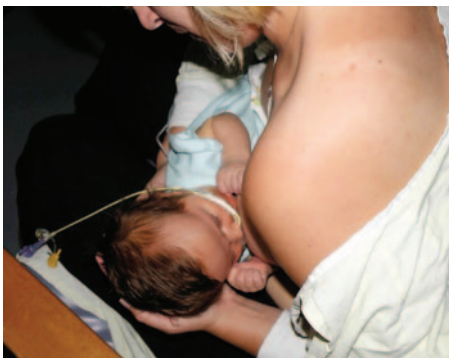

FIGURE 1 All mothers should be supported to initiate breastfeeding as soon as possible.

and Breastfeeding in Vulnerable Infants serve as an evidence-based pathway with proven outcomes (**TABLE 2**).[10-12]

Having implemented this model at the Children's Hospital of Philadelphia (CHOP), pumping initiation rates for the past 10 years ranged from 95-99% of all mothers delivering at the institution. For infants born in the special delivery unit or admitted to CHOP within the first seven days of life, the human milk rate at discharge ranges from 83-86% (**FIGURE 1**). CHOP mothers don't just initiate lactation but on average continue breastfeeding for eight months (range 0.25 to 30 months).[13]

The Spatz 10 Steps have also been implemented in NICUs throughout the USA. Tampa General Hospital (TGH) undertook a multi-year quality improvement project implementing the Spatz 10 Steps in the NICU and noted a three-fold increase in the number of infants receiving human milk at discharge.[12] At TGH, other statistically significant findings included:[12]

1. the time to the first pumping session for the mother decreased
2. the number of infants receiving human milk as their first feed increased
3. patient satisfaction scores increased.

Role of nurse versus IBCLC

In the USA and a number of other countries there has been an emphasis on increasing access to IBCLCs. The International Board of Lactation Consultant Examiners (IBCLE) reports that as of April 2016, there were 28,892 IBCLCs globally, however over half (54.5%) were located in the USA.[14] Even with that number of IBCLCs, in the USA there are over four million births annually with the ratio being 3.8 IBCLCs for every 1,000 live births.[15] Furthermore, there are countries where there are no IBCLCs and the process and cost involved with preparing for the IBCLC exam is both time and cost prohibitive. Therefore, it could be argued that all members of the healthcare team should have adequate education and training to provide evidence-based lactation support and care to breastfeeding families.

The United States Breastfeeding Committee (USBC) established core competencies for all health professionals.[16] These core competencies state that at a minimum every health professional should understand the role of lactation, human milk and breastfeeding in improving the health and well-being of mothers and children, and be able to facilitate the breastfeeding care process. Furthermore, the USBC recommends that health professional organisations educate their practitioners to promote, protect and support breastfeeding as a public health priority.

Nurses comprise the largest of all health professionals globally and should be the key drivers of the provision of evidence-based breastfeeding support and care.[17] It is essential that nurses are well-educated and have the knowledge, skills and attitudes to do this.[18] In 2001, the author was recruited to a large children's hospital in the USA. Being a PhD prepared nurse researcher and understanding the nuances of the BFHI

Immediate support to initiate and establish breastfeeding

- Early and uninterrupted skin-to-skin contact between mothers and infants should be facilitated and encouraged as soon as possible after birth.
- All mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery.
- Mothers should receive practical support to enable them to initiate and establish breastfeeding and manage common breastfeeding difficulties.
- Mothers should be coached on how to express breast milk as a means of maintaining lactation in the event of being temporarily separated from their infants.
- Facilities providing maternity and newborn services should enable mothers and their infants to remain together and to practise rooming-in throughout the day and night. This may not apply in circumstances when infants need to be moved for specialised medical care.
- Mothers should be supported to practice responsive feeding as part of nurturing care.

Feeding practices and additional needs of infants

- Mothers should be discouraged from giving any food or fluids other than breast milk, unless medically indicated.
- Mothers should be supported to recognise their infants' cues for feeding, closeness and comfort, and enabled to respond accordingly to these cues with a variety of options during their stay at the facility providing maternity and newborn services.
- For preterm infants who are unable to breastfeed directly, non-nutritive sucking and oral stimulation may be beneficial until breastfeeding is established.
- If expressed breast milk or other feeds are medically indicated for term infants, feeding methods such as cups, spoons or feeding bottles and teats may be used during their stay at the facility.
- If expressed breast milk or other feeds are medically indicated for preterm infants, feeding methods such as cups or spoons are preferable to feeding bottles and teats.

Creating an enabling environment

- Facilities providing maternity and newborn services should have a clearly written breastfeeding policy that is routinely communicated to staff and parents.
- Health facility staff that provide infant feeding services, including breastfeeding support, should have sufficient knowledge, competence and skills to support women to breastfeed.
- Where facilities provide antenatal care, pregnant women and their families should be counselled about the benefits and management of breastfeeding.
- As part of protecting, promoting and supporting breastfeeding, discharge from facilities providing maternity and newborn services should be planned for and coordinated so that parents and their infants have access to ongoing support and receive appropriate care.

TABLE 1 A summary of the new Baby Friendly Hospital Initiative guidelines from the World Health Organization.[8]

Step 1: Informed decision

Step 2: Establishment and maintenance of milk supply

Step 3: Human milk management

Step 4: Oral care and feeding of human milk

Step 5: Skin-to-skin contact

Step 6: Non-nutritive sucking at the breast

Step 7: Transition to direct breastfeeding

Step 8: Measurement of milk transfer

Step 9: Preparation for discharge

Step 10: Appropriate follow-up

TABLE 2 Ten steps for the protection and promotion of human milk and breastfeeding in vulnerable infants.[10]

programme, the author was clear that a different model of education was necessary. Consequently, she developed the Breastfeeding Resource Nurse (BRN) Program, which focuses on providing bedside nurses within a children's hospital with the education and training needed to provide accurate, comprehensive and evidence-based care and support to breastfeeding/pumping mothers and families.[19,20] Through the BRN Program, nurses participate in a two-day course (16 hours of education) during which they receive 14 continuing education credits and full pay. Components of the course include didactic content, discussion and hands-on skills training.[19]

After completing the BRN Program, it is the expectation that the nurse will return to their area of practice to serve as a valuable resource to their peers and patients/families. In addition, to stay current as a BRN, the nurse enrolls in the four-hour BRN refresher course every two years following the completion of the programme. To date, over 1,300 nurses have completed the CHOP BRN Program, however over time not all nurses stay within the institution and so presently there are over 800 BRNs representing every inpatient unit in the main hospital as well as the outpatient centres and CHOP's after-hours programme (nurse triage call system – essential as nurses in primary care are typically the only encounter a family may have with an educated and experienced lactation professional).

In contrast to the Hallowell research,[4,5] where only 13% of NICU nurses reported providing breastfeeding support, 90% of CHOP BRNs report providing direct breastfeeding support and assistance.[20] Nurses at CHOP are empowered through the BRN Program and they strive to advocate for breastfeeding families and support their peers in delivering optimal, evidence-based lactation care and support as part of their daily practice.[21]

With the desire to translate the accomplishments at CHOP to other institutions locally and internationally the author developed two initiatives: a one-day NICU specialist course, and the Human Milk Assembly (HMA). The HMA was created 14 years ago as a way to bring together nurse leaders from the regional hospitals in order to influence practice change. A research study conducted on participants of the HMA found that best practices shared at the HMA were implemented at rates of over 50% by the hospitals who participated and that 77% (17 out of 22) of best practices shared were implemented by the participating hospitals.[22] Some examples include: early and frequent pumping, human milk oral care, skin-to-skin contact (**FIGURE 2**), non-nutritive suckling at the breast, and pre-post-weights for breastfeeding.[22] Qualitative feedback from participants noted that they were: "inspired, challenged, and empowered by participation" and that their participation: "supported continued improvement and commitment to breastfeeding."[22]

Helping families set realistic breastfeeding goals

As nurses (and other health professionals) work with families to make an informed choice to want to provide human milk and breastfeed their infant, it is imperative that we provide appropriate anticipatory guidance and realistic expectations. Many women express fears and concerns regarding their ability to 'successfully' breastfeed and when a mother runs into difficulties, it is common to hear the woman say they feel like a failure. The author has recently published a column regarding the importance of avoiding the word 'success' with breastfeeding and instead, work with the mother and her family to set short-term, mid-term, and long-term breastfeeding goals.[23] Starting breastfeeding requires time and commitment; it is not always easy or natural. Mothers and their families should understand that it is important to make the investment in breastfeeding and seek help if they run into challenges.[23]

Mothers should be provided with appropriate and realistic expectations regarding the first few weeks of breastfeeding. At CHOP the message to the mother is that her only job for the first two weeks following delivery is to eat, sleep, pump and visit her baby. For a mother who has a healthy infant, her only job should be to eat, sleep and breastfeed. Prior to delivery, the mother's family (however she defines it) should be empowered to assume all other household responsibilities so that the mother can focus on feeding and making milk for her baby. It is essential for the mother and her family to understand that there is a critical window of opportunity following birth and if the mother does not turn on all the prolactin receptor sites in her breast and establish a normal milk supply early on, she will jeopardise her ability to be a long-term breastfeeding mother.

FIGURE 2 Skin-to-skin contact can help to initiate and establish breastfeeding.

Research from the USA on why mothers stop breastfeeding in the first year of life found that after milk supply concerns, another major category of why mothers stop breastfeeding was related to 'lactational factors' including pain, latch-on difficulties, nipple trauma, and discomfort.[24] Kent and colleagues reported that over one-third (36%) of women seek help for persistent nipple pain.[25] The most common cause of nipple pain (90%) was due to incorrect positioning and attachment.[25] It is important to teach mothers about the difference between pressure and pain. Mothers will and should feel pressure, as infants apply significant vacuum to the breast for milk removal. However, if consistent and repetitive pain is reported, this must be evaluated. Mothers can also be advised that pain resolves for most women by an average of 18 days (range two to 110 days).[25]

Conclusion

By utilising alternative models of care as described in this manuscript and helping women set realistic breastfeeding goals, a change in current breastfeeding rates may be realised. As health professionals we should ensure that women and their families are able to make an informed infant feeding choice. Breastfeeding is not a lifestyle choice but a public health issue.[2] Mothers need appropriate anticipatory guidance and support to achieve their personal breastfeeding goals.

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