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Expansion of the Ten Steps to Successful Breastfeeding into Neonatal Intensive Care: Expert Group Recommendations for Three Guiding Principles

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Abstract

The World Health Organization/United Nations Children's Fund *Baby-Friendly Hospital Initiative: Revised, Updated, and Expanded for Integrated Care* (2009) identifies the need for expanding the guidelines originally developed for maternity units to include neonatal intensive care. For this purpose, an expert group from the Nordic countries and Quebec, Canada, prepared a draft proposal, which was discussed at an international workshop in Uppsala, Sweden, in September 2011. The expert group suggests the addition of 3 "Guiding Principles" to the Ten Steps to support this vulnerable population of mothers and infants:

1. The staff attitude to the mother must focus on the individual mother and her situation.
2. The facility must provide family-centered care, supported by the environment.
3. The health care system must ensure continuity of care, that is, continuity of pre-, peri-, and postnatal care and post-discharge care.

The *goal* of the expert group is to create a final document, the Baby Friendly Hospital Initiative for Neonatal Units, including standards and criteria for each of the 3 Guiding Principles, Ten Steps, and the Code; to develop tools for self-appraisal and monitoring compliance with the guidelines; and for external assessment to decide whether neonatal intensive/intermediate care units meet the conditions required to be designated as Baby-Friendly.
The documents will be finalized after consultation with the World Health Organization/United Nations Children's Fund, and the goal is to offer these documents to international health care, professional, and other nongovernmental organizations involved in lactation and breastfeeding support for mothers of infants who require special neonatal care.

Keywords

infant feeding, infant nutrition, Kangaroo Mother Care (KMC), lactation counseling, maternal support, NICU, preterm infants, Ten Steps to Successful Breastfeeding

Background

Effects of the Original Ten Steps to Successful Breastfeeding on Breastfeeding in Neonatal Intensive Care

The Baby-Friendly Hospital Initiative (BFHI) was launched by the United Nations Children' Fund (UNICEF) and the World Health Organization (WHO) in 1992. The guidelines promoted by the initiative are outlined in the Ten Steps to Successful Breastfeeding (Ten Steps), initially published in a Joint WHO/UNICEF Statement Protecting, Promoting, and Supporting Breastfeeding: The Special Role of Maternity Services (1989).[1] These steps were recommended as minimum global criteria for attaining the status of a Baby-Friendly hospital. In addition to definitions of standards with related criteria for each of the Ten Steps, the program offers

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tools for hospital self-appraisal and monitoring, preparing for assessment by external observers, and confidential tools for external assessment and reassessment as Baby-Friendly. The BFHI requires compliance with the WHO International Code of Marketing of Breast Milk Substitutes (1981)[2] and subsequent World Health Assembly resolutions. The WHO/UNICEF Global Strategy for Infant and Young Child Feeding (2003) renewed commitment to implementing the BFHI and the Code, and changed the recommendation regarding exclusive breastfeeding from 4-6 months to 6 months.[3]

Compliance with the original Ten Steps has been effective in increasing breastfeeding duration and exclusivity.[4-14] Although launched for promotion, protection, and support for the breastfeeding of healthy term newborn infants, implementation of the Baby-Friendly standards in maternity units has had positive spillover effects on breastfeeding rates and exclusivity, and frequency in the use of mother's milk in neonatal special care units.[15-17] The WHO recommendation for infant and young child feeding recognizes breastfeeding as the normal way of providing nutrition to infants requiring special neonatal care.[3] This recommendation was based on particular benefits for preterm infants with respect to host protection—including protection from neonatal sepsis and necrotizing enterocolitis, lower rates of retinopathy of prematurity, and improved developmental outcomes—compared with formula-fed preterm infants.[18-21] However, neonatal intensive care is consistently associated with lower rates of breastfeeding initiation and duration and more uncertainty and worries about breastfeeding.[22-24]

Staff members in Australian neonatal intensive care units (NICU) who participated in focus group interviews about the application of the Ten Steps in their units described the NICU as a "different world" compared to maternity units.[25] These staff members experienced certain challenges, including the infants' medical condition sometimes being a barrier to breastfeeding for the period during which mothers must express their milk, and the physical environment in the NICU lacking privacy and only providing a limited number of family rooms for rooming-in, which means mother-infant separation is common. Furthermore, the respondents found it difficult to change feeding practices and staff attitudes to breastfeeding.

Expansion of the BFHI to Neonatal Care and Related Research

After the importance of revising and expanding the BFHI program was recognized internationally, a new version of the BFHI: Revised, Updated, and Expanded for Integrated Care was launched by WHO/UNICEF in 2009.[26] This document includes specific adaptations to the BFHI, such as Mother-Friendly facilities and communities, Baby-Friendly complementary feeding, Baby-Friendly physician offices, and Baby-Friendly NICU and pediatric units, with suggestions for the Ten Steps for Optimal Breastfeeding in Pediatrics. However, neonatal intensive care is only briefly mentioned, and the document lists standards/criteria for care, discharge planning, post-discharge assessment, and special support for mothers, especially the transitioning of the baby from the NICU to home, as important items to be included in an expanded version of the Ten Steps for neonatal intensive care.

Several initiatives have been implemented for expanding the BFHI to settings beyond maternity care for breastfeeding mothers and babies, such as neonatal care units. In the United States, Spatz proposed a modification of the Ten Steps for vulnerable infants.[27] In the Nordic countries, Norway and Denmark adapted the BFHI Ten Steps to the special context of neonatal units and the unique needs of infants admitted to these units. Norway developed an assessment process similar to the one used for maternity units; most Norwegian NICUs are certified as Baby-Friendly.[28] Denmark conducted an unpublished pilot study in 2 hospitals and developed a tentative Ten Steps for preterm infants.[29] In Sweden, mothers' opinions regarding a modification of the recommendations in the Ten Steps for application in a neonatal care unit indicate that mothers need more, and to some extent different, breastfeeding support compared to mothers of infants born at term[29]: this finding resulted in suggestions for a modified and expanded version of the Ten Steps.[30]

These adaptations are supported by an increasing number of publications documenting the effectiveness of breastfeeding-related best practices in neonatal units. Three recent systematic reviews have established the importance of professional and peer support, implementing hospital practices such as skin-to-skin (Kangaroo Mother Care) and rooming-in, and effective methods for supporting mothers' initiation and maintenance of milk production.[31-33] The policy of early initiation of breastfeeding in preterm infants, with infant stability being the only criterion, is supported.[34-36]

Aim for Formulating an Expanded Version of the BFHI for Neonatal Care

Despite the suggestion for the development of an expanded program for neonatal care in the revised BFHI[26] and the adaptation of the Ten Steps, there is still no consensus on which breastfeeding-related policy and practice should be recommended for neonatal units. Furthermore, this revised version emphasizes the need for flexibility and having a variety of alternative approaches that allow expansion and integration for more creative and supportive mother- and Baby-Friendly care. Thus, as UNICEF alone will not continue to be responsible for implementing BFHI at the country level, governments, professional organizations and networks, and nongovernmental organizations (NGO) can include the BFHI in their mandates. Thus, facilities can assess each other, professional organizations or other NGOs can assess and take responsibility for designation as Baby-Friendly, together with, or after, permission from the National Authority for BFHI, if such an authority exists.

The evidence and the need provided the impetus for the expert group to fill this gap through launching a BFHI for neonatal units, which would establish international standards, criteria, and assessment tools in collaboration with international experts. The initial work on this project was performed by the Nordic and Québec group, and draft proceedings were presented to a wider group of lactation experts from 24 nations at an international conference and workshop in Uppsala, Sweden, in September 2011 (http://www-conference.slu.se/neobfhi2011). Suggestions from workshop participants were incorporated into a draft BFHI for neonatal units, after which a final version will be compiled by the expert group to be published for international implementation and evaluation.

Through this process, a consensus was reached. Although the original BFHI Ten Steps should be maintained, with relevant expansion of practices specific for neonatal intensive and intermediate care, the document should be enhanced through the addition of 3 general aspects crucial for infants and their parents and families in the neonatal intensive and intermediate care setting. The term "guiding principles" was chosen to emphasize that they address general principles and attitudes essential for all aspects of care related to lactation and breastfeeding in neonatal units.

Guiding Principles for the Expansion of the BFHI for NICUs

Guiding Principle 1: The Staff Attitude toward the Mother Must Focus on the Individual Mother and Her Situation

Mothers of preterm and ill newborn infants face particular challenges in lactation and breastfeeding. Staff should pay particular attention to the following issues.

Compromised milk production. The initiation and maintenance of breast milk production is a particular challenge for mothers of preterm and ill newborns admitted to neonatal units. These infants are less likely to be breastfed/breast milk fed at discharge and experience shorter breastfeeding durations. There are several possible explanations. A higher rate of mothers giving birth prematurely suffer delayed onset of lactation stage II, an indication of risk for lactation failure.[37] These mothers face the task of attaining and maintaining sufficient milk production through early and regular breast milk expression, either with a breast pump or by manual expression (depending on type of setting). During this process, the mothers encounter several obstacles: the mother herself may be ill and require medical care, and the information and support provided by health professionals to enable her to establish and maintain milk production may be inadequate or inconsistent.

Risk of delayed or impaired development of maternal identity. These mothers encounter particular psychological difficulties of relevance for breastfeeding. The infant's medical condition may be a source of emotional stress and anxiety. At the same time, these mothers are at risk of delayed development of maternal identity when they give birth before they have passed the phases in this process that are normally experienced by mothers who give birth at term.[38] For these mothers, the transition to motherhood commonly entails a crisis with feelings that swing between shock, sorrow, emotional exhaustion, and hope, a process that takes time.[39] Preterm birth can be regarded as a traumatic experience that can lead to maternal posttraumatic stress and cause nonbalanced attachment representations, sometimes with long-term consequences for the mother-infant relationship.[40-42] These reactions require early support, especially if the mother had negative birth experiences.

Mother-infant separation. The major obstacle for the mother's transition to motherhood is separation from her infant because of the requirement of a prolonged hospital stay. Restrictive visiting guidelines are still common. These restrictions limit the parents' presence to fixed visiting hours, do not allow them to stay overnight, and limit the opportunities for siblings, relatives, and friends to visit and support the parents.[43] Practical and economic constraints may also render mothers' visits to the NICU difficult, such as a short maternity leave (which may be unpaid), the mother's responsibilities at home and caring for siblings, and problems with transportation between home and hospital. In addition, regionalization of neonatal care may result in long distances between the hospital and the family home. Therefore, policies emphasizing mother-infant nonseparation are extremely important for these mothers and infants.

Anxiety in connection with the infant's discharge from hospital. A common pattern for preparing for the infants' discharge is for parents to room-in with their infant and take over the infant's care for 1 or a couple of days before the infant is taken home. In some settings, mothers' opportunities for breastfeeding in the hospital may be limited to just a few occasions, and it is not surprising that parents feel anxiety and uncertainty about their capacity to manage their infant's care at home. Thus, offering mothers/parents (ideally) unrestricted opportunity for rooming-in or at least staying at the infant's bedside 24 hours, 7 days a week (24/7) is desirable.

Lactation and breastfeeding: facilitators or obstacles to becoming a "good mother." Mothers of preterm and ill infants have described their milk as a connection between themselves and the infant, a representation of motherhood, and that they may not feel adequate as mothers until they can initiate breastfeeding.[44,45] As the mother's own milk is valued because of its benefits, with an emphasis on infant growth, the mother may feel obliged to provide a certain volume of milk. Her inability to meet the perceived expectations on her lactation capacity may lead to feelings of failure and shame, and she may perceive breastfeeding as task oriented instead of mutually pleasurable.[46] This is a concern, as maternal depressive symptoms, lack of confidence in feeding, and early feeding behavior are associated with a negative impact on the

development of the mother's maternal role, perceptions of the infant as vulnerable, and parenting stress.[47]

Vulnerable mothers. All mothers of preterm and ill newborn infants must be recognized as "vulnerable" mothers. In addition, special attention should be paid to "particularly vulnerable" mothers (families): first time mothers, mothers with previous breastfeeding difficulties, multiparous mothers with a long interval since the last birth, mothers with low socioeconomic status, smokers, mothers with substance abuse, and mothers belonging to groups with low breastfeeding initiation and duration. Preterm infants born to mothers who are young, have a low level of education, and are smokers are less likely to be breastfed.[48]

Sensitive lactation and breastfeeding counseling. Mothers highlight lactation and breastfeeding counseling must be offered with empathy and respect, and in a psychologically and culturally appropriate way.[30,49] The mothers' particular needs must be considered in the development and implementation of clinical guidelines; these groups include mothers who fail to establish lactation and breastfeeding, do not meet their breastfeeding goals, or choose not to breastfeed at all. The breastfeeding mother must be met as a person, not just as someone who produces breast milk and participates in feeding, and she should be supported in making and implementing her own informed decisions about milk production, breastfeeding, and feeding.

Guiding Principle 2: The Facility Must Provide Family-Centered Care, Supported by the Environment

Family-centered care. The concept of family-centered care is increasingly embraced in neonatal care and is characterized by the attitude that parents are the most important people in their infant's life and should act as the infant's primary caregivers (as far as possible, considering the infant's medical condition and treatment). The core components of family-centered care are dignity and respect, information sharing, participation, and collaboration.[50] For concrete implementation, family-centered care must be integrated into the culture and functioning of a neonatal unit and the environment must be adapted to accommodate the parents' presence and participation in their infant's care. A high level of staff collaboration with the families is more dependent on the attitudes of the staff and the relationship staff members establish with the families of infants in the ward than on the physical facilities available.[51]

Parents' rights and natural roles. Parents' rights and responsibilities are laid down in the UN Convention on the Rights of the Child.[52] This is a legally binding document in which Article 7 states, "the child shall . . . have the right from birth . . .to know and be cared for by his or her parents," and Article 9 ". . . a child shall not be separated from his or her parents against their will, except when competent authorities . . . determine . . . that such separation is necessary for the best interests of the child." However,, parent-infant separation has been the norm in neonatal care since the medical care of preterm infants commenced in the late 1880s, and after the parents' role as caregivers was acknowledged in pediatric care. Although few countries support the parents' unrestricted presence (24/7), this is a possible practice and should be supported.

Support of the natural parental role. Recognition of parents as primary caregivers is achieved by offering them freedom of choice regarding performance of nursing tasks and advancement of taking over care.[53] Mothers want a supportive physical environment, support of the father's unrestricted presence, and early transfer of their infants' care to the parents.[30] The parents must be seen as both a unit and as individuals, as mothers' and fathers' needs are not the same.

Fathers of preterm infants who experienced support, security, and happiness feel they are in control and able to handle the situation.[54] Fathers have suggested they could be included in the process of breastfeeding through the provision of favorable environments for the mother and baby during breastfeeding, and they consider the opportunity of providing continuous Kangaroo Mother Care and taking over their infant's care gradually, commencing from birth, makes them feel they are "real" fathers.[55,56] Therefore, training in family-centered care should be on a regular basis and be included in the education of all new staff members.[57]

Family-centered NICU design and developmentally supportive infant care. The main barrier for parents being present is the NICU physical environment with limited space; facilities often lack access to an armchair in the NICU, or to a parent bed at the infant's bedside or in a parent room inside or near the NICU. Although the recent trend in neonatal unit design is single care rooms, which enable one or both parents to stay 24/7, this is by no means the standard. The NICU environment is commonly characterized by a high level of activity and noise and may not offer sufficient privacy.

The unit design should accommodate the presence of parents as far as possible, in the form of rooms for mothers or families or in nurseries with a parent bed or comfortable armchair that enables the mother to attain a comfortable breastfeeding position, so she can support the infant's development of effective breastfeeding behavior.[58] In nurseries, the privacy of breastfeeding mothers and parents should be safeguarded by screens or curtains and the level of light, sound, and activity should be modified according to each individual infant's and parent's needs.

The Newborn Individualized Developmental Care and Assessment Program. The Newborn Individualized Developmental Care and Assessment Program (NIDCAP) promotes infant autonomic and motor stability, state regulation, and attentional functioning. Infants who are treated according to NIDCAP principles are able to cope with enteral feeding and significantly shorter duration of tube feeding at an earlier age.[59,60] The application of NIDCAP principles in connection

with breastfeeding enhances the development of preterm breastfeeding behavior.[58] The NIDCAP model of care is perceived by staff as contributing to the infant's well-being through providing opportunity for rest and sleep and to the parents' well-being through their presence at the infant's bedside, by providing a way of caring for their infants, and their attachment to the infant.[59]

Guiding Principle 3: The Health Care System Must Ensure Continuity of Care: That Is, Continuity of Pre-, Peri-, and Postnatal Care, and Post-discharge Care

Phases in neonatal care and breastfeeding. Continuity of care involves care delivered over time to an individual infant and his of her family and may include several distinct phases, all of which are anxiety-provoking to parents[61-63]:

- A prenatal care phase, when parents anticipate the arrival of an infant who will require hospital care and may be in a critical condition.
- Birth and delivery room stabilization.
- Admission to a neonatal ward in the birth hospital or a neonatal transport before admission to a neonatal ward at another hospital.
- Hospital care, which may include an intensive care phase and an intermediate care phase.
- When the infant is initially transferred to another hospital, back-transfer to the local hospital for a phase of continued care.
- A pre-discharge preparatory phase followed by discharge to home. An alternative is early discharge for continued care of the infant at home provided by the parents, supported by hospital staff, a home care agency, or another health care facility.
- A follow-up phase by the hospital or/and by community health systems or pediatricians, depending on health care system organization. If the infant requires continued long-term care (for example, for treatment with additional oxygen or ventilator treatment), this follow-up means a continued phase of intensive care at home.

The phases in lactation and breastfeeding include initiation of lactation, attainment and maintenance of adequate milk production, initiation of breastfeeding, and the mother's attainment of her breastfeeding goals (ideally, exclusive breastfeeding), combined with a transition phase with feeding methods and nutrition policies that are supportive of breastfeeding.

Aspects of continuity. In moving through these stages, preterm and ill infants will be cared for by a large number of care providers who could potentially work at cross-purposes. Continuity in approach is achieved when providers deliver consistent care that is responsive to the infant's and his or her family's changing needs.[64] This consistent care necessitates shared policies and guidelines for infant care and for the parents' role and parent education programs (group activities, individual counseling, or printed information).

Another aspect is parents' perception of continuity in the process of care. During any given encounter, parents should perceive that the decisions about their infant's care are based on policies shared by all of the infant's caregivers and to which all are willing to adhere and that they are without any conflicting information or advice. Parents should feel confident that the caregivers know their infant's medical history and current care plan and that they (the parents) will not have to repeatedly inform caregivers of the current situation. The continuity of the neonatal ward's physical environment (nursery environment, parent rooms, and other parent/family facilities) should also be considered.

Mothers describe certain barriers to breastfeeding, including contradictory advice from different health professionals; frequent change of feeding and care giving strategies; a hands-on approach in breastfeeding counseling; judgmental, critical, and uncaring attitudes; and lack of empathy.[65] In contrast, continuity of care from breastfeeding counselors with adequate training improves mothers' perception of support.[66]

The family-centered care approach facilitates continuity of care through, for example, promoting parents' presence and participation as primary caregivers. As the nurse's role changes from caregiver to parent educator/coach and parents take over more or nearly all components in their infant's care, so they become more informed about their infant's condition and actively participate in decisions about the infant's care, which can act as a safeguard of continuity of care. Furthermore, continuity of care affects parents' confidence in their infant's safety and their own emotional status. Frequent staff changes constitute a risk for infant safety and disregard the parental role.[67] Continuity of care is one of the main outcomes of activities in all comprehensive global maternal-infant health initiatives.[68]

Conclusion

As there are specific benefits of breast milk and breastfeeding for infants requiring neonatal intensive/intermediate care and their mothers, it is important that lactation and breastfeeding support is professional, and information and support must be evidence based, individualized, and consistent. All staff working at a facility providing any type of neonatal intensive/intermediate care must share the same basic knowledge about and attitude to the Guiding Principles described here and the expanded Ten Steps. Facilities require tools for establishing adherence to the new guidelines and for determining whether the unit can be designated as Baby Friendly during an external assessment. The addition of the Guiding Principles, which take into consideration the specific situation of mothers/parents of newborn infants who require hospital care because of prematurity and/or illness, is a

critical first step in expanding the BFHI globally into neonatal intensive care.

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