

Enhancing the role of nurses in breastfeeding preterm infants[†]



Review

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Abstract: The provision of breast milk and breastfeeding is recommended for preterm infants. Multidisciplinary cooperation is required to promote breastfeeding. Nurses play important roles in breastfeeding preterm infants. First, nurses are strong advocates to help families be aware of the significance of breastfeeding. Second, nurses are educators providing technical and emotional support to pregnant and lying-in women. Third, nurses are coordinators in a multidisciplinary team. Nurses' unawareness of the importance of breastfeeding, knowledge deficit, and unsupportive lactation policy are barriers to breastfeeding promotion for preterm infants. It is therefore suggested that hospital administrators provide appropriate breastfeeding policies, set up posts, and ensure nurses' responsibilities in breastfeeding. Additionally, tailored training should be strengthened to improve nurses' knowledge and skills and thereby enable them to fully exert their roles in the breastfeeding promotion of preterm infants.

Keywords: breastfeeding • nurses • preterm infants • review • role

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1. Introduction

The World Health Organization (WHO)¹ has claimed that the provision of breast milk and breastfeeding is of critical importance for the survival and optimal growth and development of preterm infants. However, breastfeeding practice for preterm infants remains suboptimal worldwide. It was reported that 52% of very low birth weight infants at discharge were breastfed in the United States in 2017.² The breastfeeding rate of preterm infants at discharge was 57.2% in Italy in 2016.³ The prevalence of exclusive breastfeeding in preterm infants discharged from neonatal units has dropped to 45% in 2013 from

59% in 2004 in Sweden.⁴ In China, a study reported that only 22.5% of preterm infants were exclusively breastfed at 6 months after birth.⁵ Apparently, breastfeeding of preterm infants needs to be improved urgently.

Low breastfeeding of preterm infants is caused by a number of reasons. The gastrointestinal system of preterm infants is immature and the breathing–swallowing–sucking is coordinated at 34 weeks of gestational age, and so direct breastfeeding cannot be well tolerated in the early stage. Most preterm infants must be hospitalized. Illness delays development of

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the feeding ability.⁶ If hospitals do not provide a supportive breastfeeding policy, as well as the necessary facilitators and measures, such a shortcoming would hinder the breastfeeding of preterm infants.⁷ Moreover, mothers are prone to quit breastfeeding early due to a lack of recognition of the benefits of breastfeeding, confidence in breastfeeding, or breastfeeding skills.^{8,9} Additionally, mothers of preterm infants are prone to suffer from postpartum anxiety and depression, which in turn affects milk production and feeding behavior.⁵

The WHO guideline indicates that breastfeeding preterm infants requires the collaborative work of multidisciplinary teams, including doctors, nurses, nutritionists, and social workers.¹ Nurses are the professionals who first get in touch with pregnant and lying-in women and accompany them for the longest period. They should play a key role in supporting the provision of breast milk and breastfeeding of preterm infants. However, Hallowell's investigation found that only 14% of infants and mothers in the neonatal intensive care unit (NICU) received breastfeeding support from the nurse and half of the NICUs in the survey had no International Board of Lactation Consultant Examiners (IBCLC) on any shift to support breastfeeding patients and families.¹⁰ Therefore, it is imperative to actively call forth heightened attention to the criticality of nurses' roles in protecting and promoting breastfeeding of preterm infants, so that these are recognized and exerted fully.

2. The role of nurses in breastfeeding preterm infants

2.1. Advocate

The main barrier to breastfeeding is that puerperae and their families have incorrect cognition and inadequate experiences with breastfeeding.⁸ Most of them acquire breastfeeding knowledge from the Internet and from the experiences of seniors residing in their neighborhood, which leads to a one-sided and limited knowledge of breastfeeding.¹¹ Additionally, their poor knowledge of the physiological needs of preterm infants as well as the vital importance of breast milk for preterm infants is another barrier.¹² Thus, professional guidance and encouragement should be provided to mothers and their families to help maintain a positive attitude and belief toward breastfeeding.

Bedside nurses, alongside health care professionals, should be the first to shoulder the advocacy responsibility of supporting women and families to reach their personal breastfeeding goals. Prenatal education from nurses, information about the benefits of breastfeeding, and methods to promote lactation have a directive

significance for pregnant women.¹³ Inadequate prenatal education and mothers not being prepared have been reported as contributors to the limited improvements in breastfeeding support.¹⁴ Health professional-led initiatives have strong effects on promoting breastfeeding initiation.¹⁵ Meanwhile, support and guidance from nurses were requested by lying-in women.¹⁶ Therefore, nurses' early encouragement and guidance for breastfeeding are of great significance.

Accordingly, when pregnant women set up their files in the hospital, nurses should evaluate their health status, publicize the importance of breastfeeding, encourage them to prepare for breastfeeding, and carry out tailored prenatal education on breastfeeding. Then, maternal individualized situations should be assessed, for example, the cause of the weak willingness to breastfeed. Targeted solutions, encouragement, and support should be put forward to help women build confidence in breastfeeding. Following discharge from the hospital, it is necessary for a support mechanism to exist through which the mother's concerns pertaining to breastfeeding (and more generally all aspects connected with the infant's nutrition and health) might be discussed and addressed, and toward this end, a breastfeeding consultation network should be established; the approach to this could take the form of a series of periodic inquiries made by trained persons, through telephone calls or even personal visits. Timely guidance should be provided to the puerperae on how to handle the feeding problems.

Additionally, adequate attention should be paid to family members in breastfeeding. Family not being receptive to breastfeeding has been reported as a barrier to breastfeeding failure in NICU.¹⁴ Paternal support is recognized as one of the strongest factors influencing the breastfeeding of preterm infants.¹⁷ Education focusing on improving family members' correct understanding of breastfeeding would help them support mothers psychologically in breastfeeding their preterm infants. Furthermore, through daily communication with women, nurses could understand their social and psychological needs in a timely manner, and exert the role of an advocate to enhance their belief and confidence in breastfeeding.

2.2. Educator

Mothers' lack of knowledge and confidence in breastfeeding is a risk for breastfeeding failure in preterm infants.⁸ Mothers lack an effective awareness of infants' physiological characteristics; resultantly, they cannot judge whether sucking is effective. They are also found to have an inadequate knowledge level regarding the method of expressing milk. Insufficient milk supply caused by incorrect pumping leads to the failure of

breastfeeding.⁸ Hence, breastfeeding preterm infants is recognized as a highly technical job for mothers.¹⁸ Experts have claimed that NICU nurses are influential in providing lactation-based support and education on the benefits of breast milk for preterm infants.¹³ Nurses who work with families with children are responsible for a great deal of patient education and can affect women's decisions to initiate and continue breastfeeding. Nurses are the main implementers of medical services and serve as the link between doctors and puerperae. Considering their close contact with pregnant and lying-in women, they ought to bear the responsibility of lactation education and support and thereby help them better achieve their breastfeeding goal.

Nurses should provide appropriate health education about the proper methods of nipple sterilization, expressing and storing breast milk, and promoting breast milk secretion. They should teach mothers the right posture of the mother–infant dyad to maintain effective latching-on, as well as an effective means for judging whether the breast milk supply would be adequate for the baby. Moreover, nurses' frequent daily communication with mothers would help them understand mothers' social and psychological needs on time and thereby enable them to suggest measures whose implementation would be necessary to avoid the insufficient breast milk supply caused by negative emotions.

Nurses should also learn from other lactation professionals and access mentors' guidance so that they might be better enabled to, in turn, guide puerperae in coping with problems in and associated with breastfeeding^{7,19}; and regularly undertaking self-learning exercises as well as interpersonal study from peers would also be highly beneficial for nurses in terms of empowering them to do so. In peer learning, peer evaluation is recommended to help nurses recognize their weaknesses in providing breastfeeding support and thereby endeavor to strengthen their capacities in supporting breastfeeding preterm infants.

2.3. Coordinator

The breastfeeding practice for preterm infants requires multidisciplinary collaboration and teamwork.¹ Nurses play an important role in this team. First, nurses should make reasonable and effective assessments of the barriers and potential needs of women and their families. It is their duty to share this information within the team. In addition, nurses should also provide professional suggestions based on their knowledge and experiences, such as breastfeeding skills and how to better provide emotional support. As a participant and coordinator of the whole process, nurses have the

responsibility to prepare family members or caregivers with the knowledge and skills needed to provide care as the infant transitions from the hospital to the home.²⁰

3. The barriers to nurses promoting breastfeeding of preterm infants

3.1. Lack of knowledge to provide enough support

Mothers' attitudes and beliefs toward breastfeeding are among the most important factors affecting whether they can initiate or continue breastfeeding.⁹ Health professionals' behaviors could influence mothers' attitudes and beliefs toward breastfeeding.²¹ Nurses' influence on the belief and behavior of mothers of preterm infants was associated with their age, education level, professional knowledge, communication skills, and work experiences. Among these factors, nurses' awareness of the importance of breastfeeding is particularly important. Nurses inform the parents of the importance of breastfeeding for preterm infants, which can help them make decisions to insist on breastfeeding, thus better achieving the breastfeeding goal. Additionally, mothers of preterm infants intended to imitate nurses' feeding behaviors. If nurses do not feed preterm infants correctly, it may lead to the failure of breastfeeding.²² First-time mothers have the desire to be offered professional breastfeeding support by pediatric nurses.¹⁶

As frontline clinical workers, nurses have a closer relationship with puerperae, and they are responsible for executing the role of chief supporters of mothers' breastfeeding. They play a crucial role in ensuring that families receive evidence-based lactation support and care.²³ However, NICU nurses' knowledge, attitudes, and behaviors about breastfeeding are suboptimal.^{7,24} Deficits were found among nurses in terms of the knowledge and competencies required for the implementation of discharge planning.^{7,11,23} A qualitative study in Iran showed that NICU staff knew the infant's needs, but they were not able to provide a calm environment to facilitate a smooth transition from the NICU to the home.²⁵ Although nurses are expected to have learned breastfeeding knowledge in school, their performance is still unsatisfactory. They do not actively respond to questions about breastfeeding, and also do not provide puerperae with relevant technical skills.²⁶ Consequently, it is important to strengthen the education related to breastfeeding for NICU nurses.

3.2. Lack of supportive policy and clear equivocal position and responsibility

Successful breastfeeding requires nurses to take a large amount of time to support breastfeeding, and this support could take the form of activities such as paying attention to maternal and infant needs, assessing the readiness of breastfeeding, guiding mothers to correctly express milk, and providing emotional support and diet guidance. However, it has been reported that neonatal care units face several barriers to providing optimal neonatal services, including limited numbers of nursing staff and uneven competencies of intensive care nurses.^{27,28} Lack of reasonable staffing and work incentive mechanisms impeded neonatal nurses from playing a role in breastfeeding as well as dealing with other daily nursing work. A study from Jordan found that NICUs' breastfeeding barriers were increased workload, absence of required equipment (i.e., a special refrigerator to store breast milk), inappropriate milk room (i.e., a small room with uncomfortable chairs and no privacy), inactive policy, and inadequate time.⁷ New York hospitals reported that increases in the lack of financial resources for breastfeeding support between 2009 and 2014 have contributed to the phenomenon of improvements in breastfeeding support being limited.¹⁴ Therefore, hospitals should be encouraged to provide appropriate lactation policy orientation, ensure the availability of the needed equipment, clarify the responsibilities of nurses, arrange reasonable work shifts, and provide adequate financial resources to support the breastfeeding practice.

4. Solutions

4.1. Training of nurses on breastfeeding

Providing education to health care professionals is positively associated with improving nurses' attitudes toward breastfeeding.²⁹ Spatz et al.'s study¹³ found that nurses who received specialized education through Breastfeeding Resource Nurse courses integrated the provision of research-based breastfeeding support and care into their daily routines. Furthermore, nurses became breastfeeding advocates and supported family, friends, and members of their communities in their breastfeeding experiences.

A multicenter study in Denmark showed that training neonatal nurses increased the exclusive breastfeeding rates in preterm infants and maternal self-reported use of breastfeeding-supportive practices.³⁰ However, many nurses reported that the breastfeeding education they received was insufficient.^{30,31} This reflected an urgent need for hospitals to provide educational and training programs.¹⁰ Besides, breastfeeding education and evidence-based

lactation programs should be provided continuously and regularly. All NICU nurses must complete the continuing education credits for breastfeeding every year.

Studies have shown that currently most of the training programs are limited to theoretical knowledge transmitted in the form of lectures. Owing to a scarcity of opportunities to practice, there has been an adverse impact on nurses' ability to improve their practical skills. To a certain degree, nursing practical competencies are as important as knowledge. Therefore, education programs focusing on improving nurses' breastfeeding performance should be strengthened.

Moreover, nurses often take the initiative to retrieve professional knowledge. Compared with the passive learning mode, active learning is more effective.³² Online self-learning courses are more flexible for nurses to take after daily work, which will help them learn actively.³³ Therefore, both online and offline education methods are recommended. Additionally, master-apprentice education is recommended. Senior nurses can mentor young nurses in time during breastfeeding practice. As a result, flexible and diverse training methods should be encouraged to promote the breastfeeding knowledge and skills of nurses.

Nurses should also learn from other lactation professionals and access mentors' guidance so that they might be better enabled to, in turn, guide puerperae in coping with problems in and associated with breastfeeding.¹⁹ The previous study identified that nurses mostly learned at the workplace.³⁴ They learned by puzzling, enquiring, and questioning peers. They valued their colleagues for facilitating and encouraging their professional development.³⁵ Therefore, regularly undertaking self-learning exercises as well as interpersonal study from peers would also be highly beneficial for nurses in terms of empowering them in relation to the clinical practice of breastfeeding preterm infants. In peer learning, peer evaluation is recommended to help nurses recognize their weaknesses in providing breastfeeding support and thereby endeavor to strengthen their capacities in supporting breastfeeding preterm infants.

In addition, experts have highlighted the importance of breastfeeding education in nursing schools in terms of having a formative role on nursing students' opinions and beliefs about breastfeeding. Teachers' instruction and encouragement regarding breastfeeding will help nursing students lay a good psychological and professional foundation for future clinical work. One systematic review indicated that in some settings, health professional students demonstrated limited knowledge of breastfeeding, particularly in relation to breastfeeding assessment and management.³⁶ It is therefore suggested to offer breastfeeding-related courses in nursing schools, to improve breastfeeding knowledge and

attitudes and students' confidence in helping and guiding breastfeeding mothers.

4.2. Establishing a supportive policy

Global evidence indicates that policy advocacy creates a supportive environment that helps mothers to adopt and sustain positive child-feeding behaviors.³⁷ Supportive hospital policies toward the use of breast milk and breastfeeding are the preconditions for facilitating breastfeeding for hospitalized preterm infants.¹⁰ Accordingly, hospital administrators should set goals for breastfeeding promotion and conduct audits of related documentation. As is known, breast milk banks and kangaroo mother care (KMC) facilitate breastfeeding preterm infants. Nurses play a major role in managing and providing care in relation to breast milk donation and KMC. Therefore, administrators should recognize the important roles of nurses in promoting breastfeeding of preterm infants, build appropriate working posts, clarify job responsibilities, and empower and inspire nurses to fully play an active role in promoting breastfeeding of preterm infants.

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5. Conclusions

Breastfeeding preterm infants is of great importance but challenging. As advocates, educators, and coordinators, nurses play a critical role in breastfeeding promotion for preterm infants. To address this persistent clinical issue and promote the health of preterm infants, there is a need to reinvigorate efforts among hospitals to develop supportive policies for strengthening the professional training of nurses and taking incentive measures to inspire nurses to play their roles more actively. Nurses should be aware of the importance of breastfeeding, make full use of existing resources to seek out professional knowledge, and then endeavor to help mothers and their families to achieve their breastfeeding goals.

Ethical approval

Ethical issues are not involved in this paper.

Conflicts of interest

All contributing authors declare no conflicts of interest.

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