Journal of Nursing, Social Studies, Public Health and Rehabilitation 1–2, 2023, pp. 19–27

SUPPORT OF NATURAL NUTRITION OF PRETERM INFANTS CONSIDERING MULTICULTURAL SPECIFICS

Michaela Abrmanová *, Martin Červený, Inka Kratochvílová, Iva Brabcová

University of South Bohemia in České Budějovice, Faculty of Health and Social Sciences, Institute of Nursing, Midwifery and Emergency Care, České Budějovice, Czech Republic

Submitted: 2022-11-29 **Accepted:** 2023-03-01 **Published online:** 2023-06-30

Abstract

Introduction: Breastfeeding is particularly important for preterm infants, and not only from a nutritional point of view. The nursing goal is to get babies to breastfeed as early as possible, to initiate and maintain lactation. Premature babies who are unable to suck directly from the breast can be fed with expressed breast milk. The professionalism of the paediatric nurse is also an important factor in all areas. In a rapidly changing health service, paediatric nurses with a high level of cultural understanding, who adhere to all ethical principles and keep abreast of current societal developments, are needed.

Aim: The aim of the present paper is to describe nursing interventions in breastfeeding premature babies with respect to multicultural specificities.

Methods: The review study has a literature review design. Databases such as EBSCOhost, SCOPUS, PubMed, and Web of Science were used to search for relevant sources.

Results: A total of 58 articles were identified, of which 11 peer-reviewed articles were included in the analysis. This study highlights the importance of full breastfeeding for preterm infants, both from a nutritional and general multicultural perspective.

Conclusions: All mothers and babies should be treated individually. It is important to fully support breastfeeding with respect to individual specific cultural differences. Breast milk should always be the first choice for preterm infants. Appropriate multicultural care can be used to support mothers in providing culturally safe care for preterm infants.

Keywords: *Breastfeeding; Multicultural care; Nursing interventions; Preterm infant*

REVIEW ARTICLE

INTRODUCTION

A premature birth can put the woman and the child in a very unfavourable situation. Preterm infants are often treated in intermediate or intensive care departments. Exclusive breastfeeding can sometimes be achieved up to a few days before the child is discharged for home care. Despite the difficulties associated with breastfeeding, a mother's milk remains the optimal nutrition due to its indisputable advantages. The goal of interventions in nursing care in neonatology departments is always to assist the mother in gradually transitioning to full breastfeeding, with respect to multicultural specifics. When providing comprehensive nursing care to an immature and premature newborn, the goal is to support breathing, maintain optimal body temperature, save the child's energy, and prevent possible infections and

other serious complications. Proper nutrition is also part of this care (Rennie and Kendall, 2013). A preterm newborn must be adequately hydrated and nourished. Breastfeeding and maintaining lactation is a complex part of nursing care. It is also vital to appropriately assist, support, and encourage both parents in follow-up care (Genna, 2009).

Multicultural nursing strives to understand the patient's preconceived values and worldview that determine newborn care, as one's culture strongly determines parents' behaviour (Buser et al., 2020). Childbirth and postpartum care are significant life events; they are closely linked to culture and require a deeply individualised approach from health professionals (Halperin et al., 2014). These healthcare professionals need to perceive and understand all their patients' cultural differences and social circumstances to provide the best possible care (Puddister et al., 2020).

This paper mainly aims to describe the activities of paediatric nurses in supporting natural nutrition for preterm newborns with respect to multicultural specifics.

MATERIALS AND METHODS

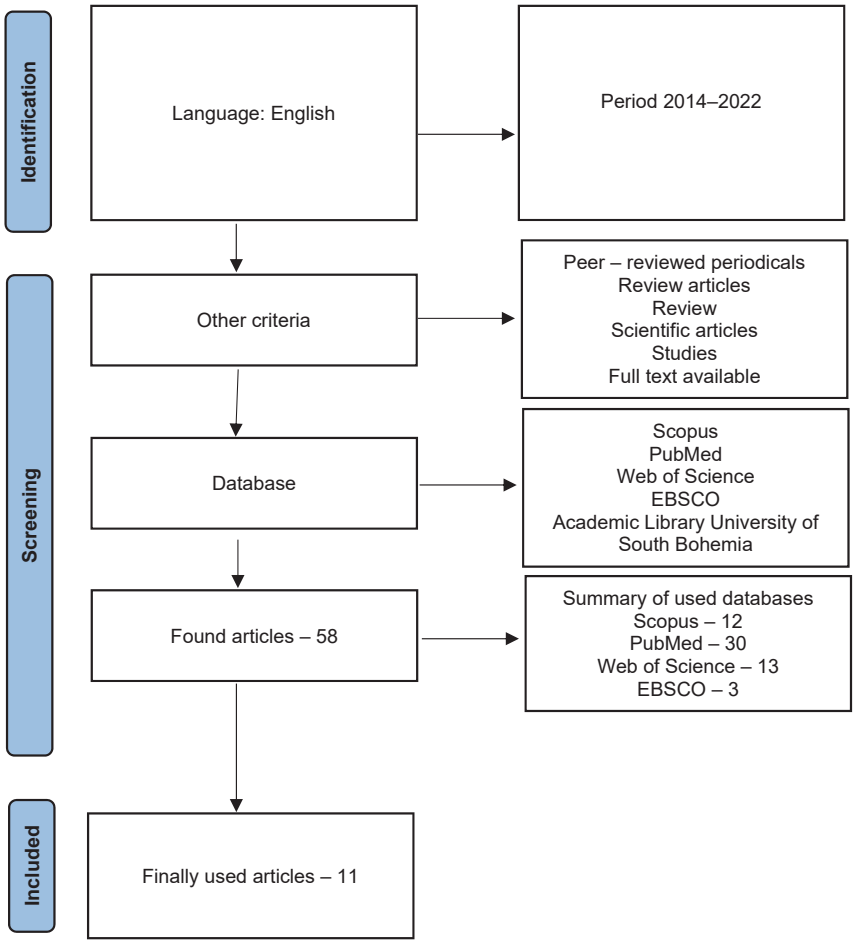
We used the PICo research tool to find relevant scientific evidence – P (participant, care user, patient, population); I (intervention, research phenomenon), and Co (context, connections, circumstances). We based a clinical question on this tool: What approaches/strategies/nursing interventions (I – interventions) are used to support natural nutrition (Co – context) in preterm infants considering multicultural specifics (P – population)? Selection criteria – we used quantitative and qualitative studies focused on breastfeeding and nursing interventions considering multicultural specifics, published between 2014 and 2022. We included only full-text papers of professional theses. Search strategy – we used freely available and licensed databases to obtain relevant data for the analysis, such as EBSCO, SCOPUS, PubMed, Web of Science, and the Academic Library of the University of South Bohemia in České Budějovice. We based the relevant resource search strategy on the Prisma flow diagram on the next page.

RESULTS

Nutrition of preterm newborns

The standard length of pregnancy is 40 weeks. The physiological term of birth is between the 38th and 42nd week of pregnancy. The first day of the last menstrual period is used to determine the length of pregnancy. By adding 280 days (40 weeks, 10 lunar months), we get the estimated date of birth. We divide newborns according to gestational age into full-term (38 + 0 weeks to 41 + 6), overcarried (born after the 42nd gestational week), and premature (37 + 0 weeks). Premature birth occurs before the 37th week of pregnancy, *i.e.*, the pregnancy lasts less than 37 + 0 weeks. In several developed countries, the viability (survival) limit of a foetus outside the womb is set at 24 + 0 weeks of pregnancy. An infant born before the completed 37th week of pregnancy is premature. In most cases, its birth weight is less than 2,500 g. There are several degrees of prematurity, such as light immaturity (34–36 weeks of pregnancy), medium immaturity (32–33 weeks of pregnancy), severe immaturity (28–31 weeks of pregnancy), and extreme prematurity (children born before the 28th week of pregnancy). According to the World Health Organization, a low birth weight is less than 2,500 g (Adisasmita et al., 2021; Marková et al., 2021).

An infant is born with basic vital functions. The mother primarily provides nutrition through breastfeeding. The most natural and healthiest food for newborns is breast milk, which contains nutrients and ions in an optimal composition. Human milk is variable and accurately reflects the organism's current needs, fully meeting the needs of the newborn. Breast milk has a specific protein content, mainly immunoglobulins. It also has a lower range of carbohydrates and a higher percentage of fat-soluble vitamins – A, E, K. Other important components of human milk are macrophages, immunoglobulins, secretory IgA, IgG, lactoferrin, Bifidus factor, lysozyme, folic acid-binding protein, interferon, various hormones, gastrointestinal and regulatory peptides, growth factors and polynuclear cells. Lactobacillus Bifidus is the most common bacterium in the intestines of breastfed children. The main proteins of breast milk



Source: Processed according to Moher et al. (2009)

Prisma flow diagram – relevant resource search strategy

are lactalbumin and casein. The ratio of lactalbumin to casein in colostrum is 90 : 10, while in cow's milk (which forms the basis of most formulas), this ratio is roughly the opposite. The lower level of casein in breast milk makes it more digestible. Therefore, the intervals between breastfeeding times are usually shorter than formula feeding times. Formulas consist of differently treated cow's milk and have a different proportion of fats and ions (Mosca and Gianni, 2017). Cow's milk also contains other proteins, and the child may be predisposed to various types of allergic reactions later in life. According to the recommendations of the World Health Organization, exclusive breastfeeding should last at least six months. Breast milk has beneficial effects on the health of both the child and the mother – and breastfeeding also has economic and psychosocial benefits (WHO UNICEF, 2018).

Breast milk is the perfect natural food for the first months of a newborn's life. In addition to being the best source of nutrients, it also provides countless protective factors for the child. Breast milk provides a comprehensive set of protective factors that are different from similar factors in the milk of other mammals (Schanler and Atkinson, 2005). Breastfeeding and breast milk have unique nutritional and non-nutritional benefits for both mother and child and optimize healthy growth and development.

Breast milk is irreplaceable because it has a unique microbiome that is part of the immune system. It is a specific bioactive fluid representing a biological system with a unique content of nutritional components (Christian et al., 2021). The nutritional and bioactive components in breast milk contain complex components of growth, differentiation, maturation, and regulatory substances. This unique complex of substances optimally modulates the growth and development of the central nervous system. Above all, it has a positive immunological effect on the child (Andreas et al., 2022). Other very important bioactive components in breast milk are oligosaccharides. These are involved in stabilising the microbiome and mucosal immunity. They significantly affect the child's immune system and the maturation of the organism (Walsh et al., 2020). Human breast milk is irreplaceable, it has a unique microbiome that is part of innate immunity (Austin et al., 2019). The microbiome of human breast milk is also specific, as it correctly forms and supports the intestinal microflora. Probiotic bacteria are specific to each mother. The gut microbiome influences mucosal immunity and, as a result, the body's overall immune response. This specific complex of substances prevents and reduces serious bacterial infections in premature babies, such as necrotising enterocolitis – NEC (Tirone et al., 2019). This is an undesirable condition that mainly affects premature babies. Necrotising enterocolitis is a severe disease characterised by inflammation and damage to the intestinal tissues.

Nutrition plays a vital role in the care of a premature baby. It affects both early and long-term morbidity in all groups of premature babies. The dominant form of oral nutrition for premature newborns is supplemented breast milk (fortification). The fortifier supplies premature babies with nutrients necessary for growth. It has a higher protein content and an overall composition adapted to the nutritional requirements of premature babies. Nutrition with fortified breast milk is the optimal form of nutrition for newborns with extremely low birth weight. Thriving and eutrophic babies with low birth weight should be breastfed (recommendation ESPGHAN..., 2022). It is good to breastfeed and fortify the mother's breast milk for hypotrophic, non-thriving children, and children under 1500 g. Fortified breast milk is standard nutrition for premature babies (Arslanoglu et al., 2019). When there is a lack of mother's milk, the child is fed special formulas or a combination of both (Parat et al., 2020). The fortifier is a mixture of hydrolysed milk protein, carbohydrates, vitamins, minerals, and trace elements. It mainly enriches the composition. The doctor determines the exact dosage depending on the type of breast milk. Fortification improves growth, energy intake, nutrient absorption, bone mineralization, and child development (Mangili and Garzoli, 2017).

If the mother does not have enough breast milk, it is possible to use donor breast milk. Breast milk donors are either at maternity hospitals or cooperate with paediatric general practitioners. Hospitals with breast milk banks or collection centres must have a strategy for handling and storing breast milk. Medical personnel must be regularly trained (Abrmanová and Hanzl, 2021).

The importance of breastfeeding and one's own mother's milk is part of quality nursing care for a child. In caring for a premature baby, adequate nutrition is essential. Nutrition affects early and long-term morbidity in all weight groups of premature babies.

Nursing interventions to support breastfeeding of preterm infants

Proper maternal care and well-conducted nutritional nursing interventions have a corresponding effect on the adequate growth of premature babies. Every child should have the right to breastfeeding. Maintaining lactation and long-term breastfeeding are among the complex tasks of a paediatric nurse. A paediatric nurse should inform the mother that breastfeeding is the perfect diet for a premature baby.

Neo BFHI (Baby-Friendly Hospital Initiative for Neonatal Wards, 2015) is a modification of the "Ten Steps to Successful Breastfeeding" for neonatal intensive care units. WHO/UNICEF (2018) lists individualised circumstances and conditions for successful lactation. It is based on the principles of developmental care. An individualised dyad care programme leads to better motor stability and development (Marková et al., 2021). The World Health Organization (WHO) recommends bonding and skin-to-skin contact across the world and cultures. The WHO

(2023) supports breastfeeding as the basis of care for all full-term and preterm newborns.

Close contact with the mother is vital for building mutual social ties and acceptance. According to Neo BFHI, three guidelines are most important. First is the staff's individualized attitude towards breastfeeding, but also respect for the mother's decision not to breastfeed. Second is supportive care focused on the family (support of parents, respect for the family's individuality and social and cultural customs, ensuring peace and privacy). Third is a uniform strategy of nursing interventions leading to breastfeeding, uniformity and sensitivity of the staff, especially paediatric nurses, and lactation consultants. Giving conflicting advice to parents can negatively impact breastfeeding (WHO/UNICEF, 2018).

Breastfeeding enables intimate closeness and touch. The mother is irreplaceable in this role. When practising breastfeeding a preterm newborn requires patience from the mother, paediatric nurses and lactation consultants, as well as calmness, and the correct position and breastfeeding technique. Breastfeeding technique and proper holding of the breast are essential. The mother must not touch the areola with her fingers because the baby's lips will be on the edge of the areola (Flacking et al., 2021), and it is important to put the baby to the breast, not the breast to the baby. The baby is always on the mother's body, not under it. The paediatric nurse chooses a comfortable position for both mother and child. Breastfeeding positions are individual. Side-lying, semi-sitting, dancer's, lateral "football", or upright positions are recommended (Melo, 2020). The optimal position for breastfeeding can change with age and skills. According to its rhythm, a premature baby must be woken at intervals approximately every 2–3 hours. It is necessary to encourage a sleepy baby to breastfeed.

Alternative feeding methods are recommended for feeding a premature baby. Such methods include finger-syringe feeding and, above all, beaker feeding. Beaker feeding is a recommended first alternative supplement. Even premature babies drink well this way. The baby is fed in upright position, and it is an easy and safe method for the nursing staff. The nurse also teaches the parents this method of supplementary feeding. In premature babies, a feeding tube is usually inserted into the stomach. Such babies can also be breastfed. The best way seems to be a gradual transition from probe feeding to full breastfeeding. Bottles and pacifiers should be avoided completely. If the child is unable to suckle independently, the nursing staff must teach the mother about regular breast milk pumping. It is advisable to start pumping 8–12 times a day in the first 10 days (Balogun et al., 2016). Until it is possible to exclusively breastfeed a premature baby, mothers who want to breastfeed must use a good quality breast pump for their breast milk (Lau, 2018). Feeding premature babies is perhaps even more beneficial than breastfeeding full-term babies. Pumping should start as soon as possible after birth, preferably so that the mother can see her baby. The pumped breast milk is given to the child through a tube using a lactation aid on the breast. If the baby suckles poorly, it is suitable to use alternative aids, such as a beaker, spoon, or syringe. Even if the sucking reflex is weakened in a premature baby, we avoid feeding from a bottle and using a pacifier. All substitutes can spoil the breastfeeding technique.

The most important thing is physical contact between the mother and the child, skin-to-skin contact, and bonding, using the so-called Kangaroo Mother Care. This method is simple and effective. It helps in basal stimulation of both mother and child (Adisasmita et al., 2021). As part of neonatological care, basal stimulation follows the child's intrauterine experience, *i.e.*, the mother's voice, music, sounds, and the rhythm of the mother's breath. Kangarooing and breastfeeding are simple forms of basal stimulation, important for the proper development of a premature baby. Close contact with the mother is a form of kind nursing care and familiar security. Kangarooing is an integral part of intensive care and significantly impacts the duration of breastfeeding. The benefit of kangarooing is mainly in the stability of vital functions; children have physiological heart activity, better respiratory activity, and better oxygen saturation. Newborns on the mother's chest also experience less stress. The importance of kangarooing in breastfeeding is complex. Close contact with the mother contributes to the overall satisfaction of the needs of both mother and child (Provasi et al., 2021).

Kangarooing also supports the maturation of the orofacial complex. Stabilisation of the

orofacial complex is one of the conditions for discharging a premature baby from the neonatology department. It is a coordinated organ system with many essential functions, such as ensuring food intake, facial expressions, breathing, phonation, and coordination. The younger the child is, the more vulnerable the orofacial complex and the interplay of suckling, swallowing, and breathing (Chvílová Weberová, 2017). We distinguish between nutritive and non-nutritive suckling. Nutritive suckling serves to feed the baby naturally; it involves rapid suckling movements and subsequent swallowing. Non-nutritive suckling is a complex oromotor behaviour; swallowing demands are minimal, it has nutritional value, supports the child's health, and forms maternal behaviour. Non-nutritive suckling, breastfeeding, and proximity to the mother are basal stimulation for newborns (Grassi et al., 2016).

Sometimes, despite the best efforts of the staff, breastfeeding a premature newborn is not possible. Attempts to attach to the breast are a source of worry, and the mother may be overwhelmed by sadness and remorse. Therefore, we must carefully warn the mother that this can happen and that the most important thing for the child is a loving parent. Women's needs after premature birth are specific, and the psychological burden tends to be enormous. An earlier delivery tends to disrupt the parental role due to premature termination of pregnancy. A mother experiences constant fear and worry about her child's future. After discharge, it is advisable to offer professional help to the child and the mother. A favourable climate in the family is essential and stimulating for the child's further promising development, which affects the complex maturation of the child's personality. Breastfeeding support has a multifaceted lifelong impact on preterm infants.

Multicultural specifics of nursing care

Educating mothers on the benefits of breastfeeding is essential. It helps increase breastfeeding awareness among women from culturally different backgrounds (Choudhry, 1997). Breastfeeding support and its promotion can significantly affect a child's health. Breastfeeding benefits all babies and mothers, but the benefits may be significantly greater for women from different cultural backgrounds. In the US, African American and Hispanic women have higher rates of obesity, diabetes, and cardiovascular disease (Jones et al., 2015). There are several barriers to breastfeeding. Women may experience pain after a Caesarean section, discomfort from a foreign environment, embarrassment, fear, or stress. However, some barriers are specific and more common for women from other cultural backgrounds. Women from minority cultural backgrounds said that the greatest barriers to breastfeeding include lack of social, occupational, and cultural acceptance, support, language barrier, overall literacy, lack of maternal access to information that promotes and supports breastfeeding, acculturation, and lifestyle choices, including tobacco and alcohol use (Robinson et al., 2019). The awareness of the risk and protective factors of breastfeeding is essential for paediatricians and community childcare services and hospitals. The study results show that the decisive determinants for quality breastfeeding are the mother's age, education, and attendance at prenatal courses. Other factors include previous experience, independent childbirth, or prior experience with breastfeeding. Interestingly, older mothers breastfeed less often than younger mothers. These results are consistent with the literature (Colombo et al., 2018; Kitano et al., 2015).

Benefits of family-centred and multicultural family care and the health and well-being of preterm infants include increased parent-child bonding, improved breastfeeding, and positive mental health outcomes. Due to the increasing demographic development, it is necessary to prepare paediatric nurses to better tend to patients' needs from different cultural backgrounds. Cultural diversity requires nurses to be aware of all cultural needs and provide culturally appropriate health care (Turale et al., 2020). Cultural competence is essential in nursing because nurses spend more time directly caring for young patients than other medical personnel. Cultural competence is developed through internal reflection and awareness. We approach each patient with consideration of their race, religion, sexual orientation, gender, and disability (Červený et al., 2022). Multicultural care is significant in preterm care, including breastfeeding and infant formula. A Finnish study concluded that breastfeeding was one of the methods to achieve closeness with the

infant, while, in the US, breastfeeding is seen as only supporting the infant's nutrition. It was concluded that breastfeeding and the caregiver's proximity are supportive approaches to care for a family (Holdren et al., 2019). The Neonatal Intensive Care Unit (NICU) used to have limited parental access to the infant. Over the last decade there has been a shift towards Family-Centred Care (FCC), which has expanded the role of parents in neonatal units and has become a standard practice recommended by the American Academy of Pediatrics (Hill et al., 2019). This type of care offers unlimited parental presence, shared responsibility for hospital childcare, and open communication between the family and the nursing team. This approach to care has been shown to have benefits for the health, well-being, and overall satisfaction with the care of newborns and their families, and the possibility of an earlier discharge. This approach to care also has positive benefits for infant nutrition.

An exclusively human milk diet is recommended for preterm infants, especially those with low birth weight. Such a diet leads to increased food tolerance, improved neurological development, and reduces the risk of serious infections, sepsis, or gastrointestinal disease (Marková et al., 2021). Given that mothers of premature babies often need the qualified support of a paediatric nurse and lactation consultant to be successful in breastfeeding, appropriately adapted cultural care can significantly impact lactation. The benefits of breastfeeding for the mother should not be ignored, especially in terms of bonding with the newborn (Holdren et al., 2019). This study illustrates the importance of culture for breastfeeding. Both culture and space must be considered when creating an appropriate and welcoming environment. The family's well-being is essential, mainly supporting the closeness of parents and child. Neonatologists, paediatric nurses, and lactation consultants should consider this when developing interventions to protect breastfeeding.

This study provides new insights into the characterises of a positive breastfeeding experience and how staff can facilitate and enable mothers to achieve full breastfeeding. Rooming in, longer skin-to-skin contact, qualified care, supportive and encouraging staff, and full family support are essential. The task of a paediatric nurse is to ensure and provide quality nursing assistance in breastfeeding full-term and preterm infants. Every parent wants their child to thrive and be healthy. The influence of many factors is essential for proper development, such as adequate nutrition; breast milk has a complex impact on health. The importance of breastfeeding as the most natural way of feeding newborns has been highlighted. Another highlighted factor is putting the baby to the breast for the first time immediately after birth, but this is often impossible if a baby is premature. A premature baby's nutrition is different in many aspects. Mothers often reconcile themselves to the fact that their baby was born prematurely and feel afraid for its development. Nutritional support is essential for the proper development of their child. Therefore, the role of a paediatric nurse or lactation consultant is important.

CONCLUSIONS

Breast milk is the best possible choice and reference nutrition for all newborns. Multicultural care can be used to support the care of premature babies. Such cultural practices are greatly valued; thus, paediatric nurses and other health care workers should act within a culturally accepting framework to support mothers in providing culturally safe care for preterm infants. The mothers' cultural values and beliefs are integral when it comes to feeding newborns with breast milk. However, there is little evidence examining infant-feeding in terms of cultural and religious factors. This important topic needs to be considered in the context of nursing practice, and the current gap in science requires further research.

Funding
This paper has been supported by the Grant Agency of the University of South Bohemia in České Budějovice (project registered as 046/2021/S).

Ethical aspects and conflict of interests
The authors have no conflict of interests to declare.

REFERENCES

1. Abrmanová M, Hanzl M (2021). Význam bank mateřského mléka v současnosti [The importance of breast milk banks today]. Výživa a potraviny 1/2021 (Czech).
2. Adisasmita A, Izati Y, Choirunisa S, Pratomo H, Adriyanti L (2021). Kangaroo mother care knowledge, attitude, and practice among nursing staff in a hospital in Jakarta, Indonesia. PloS One 16(6): e0252704. DOI: 10.1371/journal.pone.0252704.
3. Andreas SF, Scotolline B, Good M (2022). Shaping infant development from the inside out: Bioactive factors in human milk. Semin Perinatol 47(1): 151690. DOI: 10.1016/j.semperi.2022.151690.
4. Arslanoglu S, Boquien C-Y, King C, Lamireau D, Tonetto P, Barnett D, et al. (2019). Fortification of Human Milk for Preterm Infants: Update and Recommmendations of the European Milk Bank Association (EMBA) Working Group on Human Milk Fortification. Front Pediatr 7: 76. DOI: 10.3389/fped.2019.00076.
5. Austin S, De Castro CA, Sprenger N, Binja A, Affolter M, Garcia-Rodenas CL, et al. (2019). Human Milk Oligosaccharides in the Milk of Mothers Delivering Term versus Preterm Infants. Nutrients 11(6): 1282. DOI: 10.3390/nu11061282.
6. Balogun OO, O'Sullivan EJ, McFadenn A, Ota E, Gavine A, Garner CD, et al. (2016). Interventions for promoting the initiation of breastfeeding. Cochrane Database Syst Rev 11(11): CD001688. DOI: 10.1002/14651858.CD001688.pub3.
7. Buser JM, Moyer CA, Boyd CJ, Zulu D, Ngoma-Hazemba A, Mtenie JT, et al. (2020). Cultural beliefs and health-seeking practices: Rural Zambians' views on maternal-newborn care. Midwifery 85: 102686. DOI: 10.1016/j.midw.2020.102686.
8. Červený M, Kratochvílová I, Hellerová V, Tóthová V (2022). Methods of increasing cultural competence in nurses working in clinical practice: A scoping review of literature 2011–2021. Front Psychol 13: 936181. DOI: 10.3389/fpsyg.2022.936181.
9. Choudhry UK (1997). Traditional practices of women from India: pregnancy, childbirth, and newborn care. J Obstet Gynecol Neonatal Nurs 26(5): 533–539. DOI: 10.1111/j.1552-6909.1997.tb02156.x.
10. Christian P, Smith ER, Lee SE, Vargas AJ, Bremer AA, Raiten DJ (2021). The need to study human milk as a biological system. Am J Clin Nutr 113(5): 1063–1072. DOI: 10.1093/ajcn/nqab075.
11. Chvílová Weberová M (2017). Nedonošenost a orofaciální komplex ve vývojových souvislostech [Prematurity and the orofacial complex in developmental contexts]. Listy klinické logopedie 1(2): 31–39 (Czech).
12. Colombo L, Crippa BL, Consonni D, Bettinelli ME, Agosti V, Mangino G, et al. (2018). Breastfeeding Determinants in Healthy Term Newborns. Nutrients 10(1): 48. DOI: 10.3390/nu10010048.
13. ESPGHAN Statement on Promotion of Breastfeeding (2022). Interaction of Paediatric associations with Providers of Nutritional Products. [online] [cit. 2023-01-22]. Available from: https://www.espghan.org/our-organisation/Publications/Societal-Statements
14. Flacking R, Tandberg BS, Niela-Vilén H, Jónsdóttir RB, Jonas W, Ewald U, Thomson G (2021). Positive breastfeeding experiences and facilitators in mothers of preterm and low birthweight infants: a meta-ethnographic review. Int Breastfeed J 16(1): 88. DOI: 10.1186/s13006-021-00435-8.
15. Genna CW (2009). Selecting and Using Breastfeeding Tools: Improving care and Outcomes. Amarillo, Tex.: Hale Pub., 198 p.
16. Grassi A, Cecchi F, Sgherri G, Guzzetta A, Gagliardi L, Laschi FC (2016). Sensorized pacifier to evaluate non.nutritive sucking in newborns. Med Eng Phys 38(4): 398–402. DOI: 10.1016/j.medengphy.2015.12.013.
17. Halperin O, Sarid O, Cwikel J (2014). A comparison of Israeli Jewish and Arab women's birth perceptions. Midwifery 30(7): 853–861. DOI: 10.1016/j.midw.2013.11.003.
18. Hill C, Knafl KA, Santacroce SJ (2019). Family-Centered Care from the Perspective of Parents of Children cared for in a Pediatric Intensice Care Unit: An Integrative Review. J Pediatr Nurs 41: 22–33. DOI: 10.1016/j.pedn.2017.11.007.
19. Holdren S, Fair C, Lehtonen L (2019). A qualitative cross-cultural analysis of NICU care culture and infant feeding in Finland and the U.S. BMC Pregnancy Childbirth 19(1): 345. DOI: 10.1186/s12884-019-2505-2.
20. Jones KM, Power ML, Queenan JT, Schulkin J (2015). Racial and Ethnic Disparities in Breastfeeding. Breastfeed Med 10(4): 186–196. DOI: 10.1089/bfm.2014.0152.
21. Kitano N, Nomura K, Kido M, Murakami K, Ohkubo T, Ueno M, Sugimoto M (2015). Combined effects of maternal age and parity on successful initiation of exclusice breastfeeding. Prev Med Rep 3: 121–126. DOI: 10.1016/j.pmedr.2015.12.010.

22. Lau C (2018). Breastfeeding Challenges and the Preterm Mother-Infant Dyad: A Conceptual Model. Breastfeed Med 13(1): 8–17. DOI: 10.1089/bfm.2016.0206.
23. Mangili G, Garzoli E (2017). Feeding of preterm infants and fortification of breast milk. Pediatr Med Chir 39(2): 158. DOI: 10.4081/pmc.2017.158.
24. Marková D, Chvílová Weberová M, et al. (2021). Předčasně narozené dítě. Následná péče kdy začíná a kdy končí? [A premature baby. When does follow-up care start and end?]. Praha: Grada, 736 p. (Czech).
25. Melo KS (2020). New Research on Breastfeeding and Breast Milk. Nova Medicine Science Publishers, Inc., 215 p.
26. Moher D, Liberati A, Tetzlaff J, Altman DG (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. DOI: 10.1371/journal.pmed.1000097.
27. Mosca F, Gianni ML (2017). Human milk: composition and health benefits. Pediatr Med Chir 39(2): 155. DOI: 10.4081/pmc.2017.155.
28. Neo – BFHI: The Baby – friendly Hospital Initiative for Neonatal Wards. Three guiding principles and ten steps to protect, promote and support breastfeeding. WHO and UNICEF, 2015 edition. http://epilegothilasmo.gr/wp-content/uploads/2017/04/Neo_BFHI_Core_document_2015_Edition.pdf
29. Parat S, Raza P, Kamleh M, Super D, Groh-Wargo S (2020). Targeted Breast Milk Fortification for Very Low Birth Weight (VLBW) Infants: Nutritional Intake, Growth Outcome and Body Composition. Nutrients 12(4): 1156. DOI: 10.3390/nu12041156.
30. Provasi J, Blanc L, Carchon I (2021). The Importance of Rhythmic Stimulation for Preterm Infants in the NICU. Children (Basel) 8(8): 660. DOI: 10.3390/children8080660.
31. Puddister S, Ali-Saleh O, Cohen-Dar M, Baron-Epel O (2020). Health may be compromised by social interactions depending on culture among postpartum Arab and Jewish Israeli women. BMC Pregnancy Childbirth 20(1): 480. DOI: 10.1186/s12884-020-03168-4.
32. Rennie JM, Kendall GS (2013). A Manual of Neonatal Intensive Care. Taylor and Francis Group, 384 p.
33. Robinson K, Fial A, Hanson L (2019). Racism, Bias, and Discrimination as Modifiable Barriers to Breastfeeding for African American Woman: A scoping Review of the Literature. J Midwifery Womens Health 64(6): 734–742- DOI: 10.1111/jmwh.13058.
34. Schanler R, Atkinson S (2005). Human Milk. In: Nutrition of the Preterm Infant: Scientific Basis and Practical Guidelines. 2nd ed. Cincinnati: Digital Educational Publishing, Inc.
35. Tirone C, Pezza L, Paladini A, Tana M, Aurilia C, Lio A, et al. (2019). Gut and Lung Microbiota in Preterm Infants: Immunological Modulation and Implication in Neonatal Outcomes. Front Immunol 10: 2910. DOI: 10.3389/fimmu.2019.02910.
36. Turale S, Kunaviktikul W, Mesukko J (2020). Giving undergraduate nursing students international experiences: Issues and strategies. Nurs Health Sci 22: 830–836. DOI: 10.1111/nhs.12722.
37. Walsh C, Lane JA, van Sinderen D, Hickey RM (2020). Human milk oligosaccharides: Shaping the infant gut microbiota and supporting health. J Funct Foods 72: 104074. DOI: 10.1016/j.jff.2020.104074.
38. WHO (2023). Breastfeeding. [online] [cit. 2023-01-22]. Available from: https://apps.who.int/nutrition/topics/exclusive_breastfeeding/en/
39. WHO/UNICEF (2018). Implementation Guidance. Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE. [online] [cit. 2023-01-22]. Available from: https://www.unicef.org/media/95191/file/Baby-friendly-hospital-initiative-implementation-guidance-2018.pdf

Contact:

Michaela Abrmanová, University of South Bohemia in České Budějovice, Faculty of Health and Social Sciences, Institute of Nursing, Midwifery and Emergency Care, U Výstaviště 26, 370 05 České Budějovice, Czech Republic
Email: abrmanova@zsf.jcu.cz