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WHO/UNICEF Baby-Friendly Hospital Initiative Implementation at Newborn and Preterm Babie's Pathology Unit of Tambov District Clinical Children's Hospital in Russia

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Abstract

Breast milk is extremely important for sick and premature infants, but breastfeeding protection and support in children's hospitals is often impossible due to lack of rooming-in possibility. This study describes the experience of introduction of 10 Steps to Successful Breastfeeding at Newborn and Preterm Babies' Pathology Unit of Tambov District Clinical Children's Hospital (TDCCH) in Russia. From May 2009 to June 2011 this department of the children's hospital was taking part in the joint Russia/USA project "Mother and Child Health Care Improvement ". Since January 2009 the level of breastfeeding is monitored at the unit. The following indices are checked: breastfeeding (BF) and exclusive breastfeeding (EBF) on the time of admission and discharge. By the end of the second year of the project BF rate at discharge were 85,7% and level of EBF 62,7%, about 1.5 times higher, than at admission (52,3% BF and 43,4% EBF, respectively). The implementation the 10 Steps to Successful Breastfeeding adjusted to Newborn and Preterm Babies' Pathology Unit significantly increased the rates of BF and EBF among sick and preterm newborns.

Keywords: *Breastfeeding; Sick and Premature Infants; NICU; Baby-Friendly Hospital Initiative*

Introduction

According to the National Program for Infant Feeding Improvement, breast milk is extremely important for sick and premature infants. Feeding with formula is prescribed to these infants in case no mother's or donor milk is available, as well as in case of breast milk intolerability [1,2].

Researches taken in past decades prove that breastfeeding is an important factor of newborn disease and mortality reduction, also improving the newborn babies' growth and development [3,4]. Breast milk enhances the immune protection, contributes to nutrient digestion and absorption, stimulates gastrointestinal system and also contributes to better mental and cognitive development [5]. It is of beneficial effect for mother's psychoemotional state too, because she takes active part in nursing her preterm baby and continues to breastfeed him or her.

Breastfeeding protection and support in children's hospitals is often impossible due to lack of rooming-in possibility. In many cases an infant is transferred from maternity clinic to children's hospital without his or her mother.

Our aim is to describe the experience of introduction of WHO/UNICEF Baby-Friendly Hospital Initiative 10 Steps to Successful Breastfeeding at Newborn and Preterm Babies' Pathology Unit of Tambov District Clinical Children's Hospital in Russia.

Materials and Methods

In 2010 Newborn and Preterm Babies' Pathology Unit of Tambov District Clinical Children's Hospital became the first Russian unit for sick and preterm babies designated as WHO/UNICEF Baby-Friendly Hospital under the joint Russia/USA "Mother and Child Health Care Improvement project" (a branch of USA Agency of International Development's Health care improvement/USAID project).

From May 2009 to June 2011 Tambov district in Russia was taking part in Mother and Child Health Care Improvement project [6]. Tambov District Clinical Children's Hospital Newborn and Preterm Babies' Pathology Unit played the key role in breastfeeding promotion in the district.

In 2010 Tambov Clinical Hospital celebrated its 70th anniversary. The hospital admits children from 0 to 18 years old and has 399 bed spaces in total. Newborn and Preterm Babies' Pathology Unit hosts 40 bed spaces, including 30 rooming-in bed spaces. 10 bed spaces are provided for infants separated from their mothers due to mothers' poor health demanding residential treatment, or for the infants abandoned by their mothers.

Infants are transferred to the unit from maternity facilities and the hospital's NICU. Each year the unit hosts about 1000 infants that are 10% of all the newborn infants in the district. The average age of the infants transferred to the unit is 6 days (4 to 8).

Since January 2010 the unit admits preterm infants, including extremely premature ones with very low and extra low weight. The relative weight of the preterm infants admitted by the unit in 2011 was 15,2% and in case of low birth weight infants - 16,6%.

The main reasons for the admittance are: hypoxic ischemic cerebrospinal nervous system affliction - 75%, jaundice - 40%, birth injury - 20%, congenital malformations - 6.6%, birth asphyxia - 5.4%; infections - 4.5%; preterm delivery - 4.5%; low birth weight - 4%. In most cases 2 to 3 reasons are combined.

The unit became able to provide healthcare development and support after the reconstruction which was accomplished in June 2008. At the moment the unit provides everything needed for rooming-in. Most rooms are designed for 2 mother-and-baby pairs. Separate rooms for one mother-and-baby pair are in store for premature infants with special care needs who stay in the hospital for long time.

Since January 2009 the level of breastfeeding is monitored at the unit. The following indices are checked monthly: breastfeeding and exclusive breastfeeding (breast milk only, water and medicine on medical indications) on the time of admission and discharge.

Since March 2010 mothers are questioned about breastfeeding on the moment of admission and discharge. We also appraise mother's willingness to breastfeed.

Results

In December 2009 the unit's neonatologist and nurse took a 40-hour WHO/UNICEF Breastfeeding Consulting course. In January 2010 the unit healthcare professionals developed Breastfeeding Protection and Support Policy, which was afterwards formally established by the chief medical officer and now serves as guideline for all the healthcare staff. The policy includes 10 Steps to Baby-Friendly Hospital (BFH) adjusted for the unit:

- Step 1: Have a written breastfeeding policy which is routinely communicated to all healthcare staff.
- Step 2: Train all health care staff in skills necessary to implement this policy.
- Step 3: Inform all the mothers arriving to the hospital about the benefits and management of breastfeeding.
- Step 4: Help and support mothers in skin to skin contact with their infants as soon as it is possible due to infant's health.
- Step 5: Show mothers how to breastfeed and maintaining lactation, even if they should be separated from their infants.
- Step 6: Give newborn infants no food or drink other than breast milk, unless medically indicated.
- Step 7: Practice rooming-in - that is, allow mothers and infants to remain together 24 hours a day.
- Step 8: Encourage breastfeeding on demand if possible due to infant's health.
- Step 9: Give no artificial teats to breastfeeding infant. Pacifiers and breast shields are allowed in case specially indicated due to the infant's health (reducing pain, learning to suckle, stimulating gastrointestinal system).
- Step 10: Get mothers ready for continuous breastfeeding and support them after the discharge from the hospital.

Breast milk substitutes and associated goods such as bottles, teats and pacifiers advertisement is prohibited due to the policy.

All the healthcare professionals and the medical staff of the unit are routinely trained in giving consultations to mothers. WHO/UNICEF, Academy of Breastfeeding Medicine (ABM) and International Lactation Consultants Association (ILCA) materials are used as well as Russian manuals. Large amount of experience is accumulated by European countries and USA in the area of introduction of contemporary breastfeeding protection and support in sick and preterm newborn's units [7-14].

Skin to skin contact is used with both term and preterm infants as soon as they are stable. In case with preterm infants the Kangaroo method is used. Each skin to skin contact lasts 30 to 60 minutes and is conducted 7 to 8 times a day. Staying by mother's breasts enhances infant's health and contributes to quick establishment of breastfeeding.

The main principles on feeding the preterm and low-weight infants used at the unit conforms the recommendations given by The Unit of Pediatricians of Russia and National Dietarians and Nutritionists Association:

1. The way to feed the infant depends on his or her condition, birth weight and gestational age.
2. Infants that receive exclusive parenteral feeding must receive minimal enteral (trophic) feeding as soon as it is possible due to their health.
3. Infants with body weight less than 1500 g receive pumped breast milk enriched with fortifiers of breast milk, so-called enforced milk.
4. In case of formula feeding only specially designed formulas for preterm infants are used.

We start training mothers in breastfeeding at the moment they admit to the unit. The training includes classes and individual sessions. All the medical staff is involved, from physicians to nurses and psychologist. A video player is used to show mothers educational videos on breastfeeding.

If the baby is not able to suckle, the mother pumps her breasts routinely. For pumping electric pumps are used. Pumped milk is not stored (in accordance with Russian sanitary regulations). It is given to the infant without any processing within 1 hour from the moment of pumping. Infants are weighed daily and their body weight gain is checked in order to ensure they receive enough feeding.

Mother remains with her baby 24 hours a day, so that she can take care of the infant, teach him or her breastfeeding, breastfeed on demand, maintaining exclusive breastfeeding without any time limitation. Most medical procedures are conducted in the room in mother's presence.

Non-limited breastfeeding on demand is possible in case of exclusive breastfeeding and good weight gain. If the baby is sick and weak, has poor weight gain and doesn't show signs of hunger, then he is fed on a strict 'schedule, every 2 to 3 hours or more often.

Sometimes to teach an infant to breastfeed finger feeders are used, that allow infant to suckle his or her mother's finger, and thin silicone nipple shields. To teach an infant to breastfeed and to stimulate milk production Supplement Nursing System (SNS) is used, too. Special devices are used as alternatives to bottle feeding for babies who cannot nurse: cups (vials), soft spoons, feeding tubes, syringes, etc.

Mean time of hospital stay is 14 days (7 to 20 days). Extremely premature infants as well as very and extremely low-weight infants receive highly specialized medical aid, so they stay in hospital for 55 to 65 days.

When discharged, mothers can turn for help using the unit hot line or when visiting the hospital for follow-up procedures. Besides, the unit has mother's support group consisting of the staff members with successful breastfeeding experience.

Most mothers are willing to breastfeed their infants. Planned breastfeeding period duration is the following: up to 6 months - 29%, up to 12 months - 53%, 2 years or more - 18%.

Since 2009 to first six months of 2011 while the project was conducted improvements in breastfeeding (BF) and exclusive breastfeeding (EBF) numbers on admission and on discharge have been noted. At the time the project was landed, BF level was 44% on admission and rose up to 72,2% on discharge (Table 1). By the end of the second year of the project (2010) BF level rose up to 52,3% on admission and 85,7% on discharge. At the same time EBF level rose from 30,8% to 43,4% on admission and from 49,6% to 62,7% on discharge.

Indicators	Admission						Discharge					
	2009 I	2009 II	2010 I	2010 II	2011 I	2011 II	2009 I	2009 II	2010 I	2010 II	2011 I	2011 II
BF	44,4	44,7	48,6	52,3	49,1	38,4	72,2	75,4	85,4	85,7	80	70,9
EBF	30,8	32,5	40,2	43,4	40,6	30,3	49,6	56,9	60,4	62,7	60,8	58,6

Table 1: *Trends of BF and EBF rates at admission and at discharge from 2009 through 2011 years (each half of the year, %).*

By the end of the project (June 2011) BF and EBF level on admission lowered a little, and that of course influenced the numbers on discharge. After the end of the project the reduction became even stronger, though the EBF level on discharge had permanent level of about 60,0%.

Analyzing the differences in breastfeeding dynamics on discharge between term and preterm infants, we noted that in case with term infants BF and EBF levels rose in 2009 - 2010 during the first 2 years of the project, and then lowered a little (Table 2). Among the preterm infants the BF level stayed nearly the same after the end of the project, and EBF level continued to rise (Table 3).

Indicators	2009		2010		2011	
	I	II	I	II	I	II
BF	72,2	75,4	87,0	87,5	79,6	69,6
EBF	49,6	56,9	65,1	69,8	64,8	58,7

Table 2: *Trends of BF and EBF rates among term babies at discharge from 2009 through 2011 years (each half of the year, %).*

Indicators	2010		2011	
	I	II	I	II
BF	73,9	77,5	82,4	80,8
EBF	26,1	31,0	37,3	57,7

Table 3: *Trends of BF and EBF rates among preterm babies at discharge from 2009 through 2011 years (each half of the year, %).*

Discussion

Most mothers admitted to Newborn and Preterm Babies' Pathology Unit is willing to breastfeed for 6 months or longer. Rooming-in is crucial for breastfeeding protection and support [9,10]. Due to the introduction of rooming-in and feeding on demand in the unit breastfeeding level rose from 44,4% to 72,2% and EBF level rose from 30,8% to 49,6%. Supplementary steps to successful breastfeeding taken under the joint Russia/USA Mother and Child Health Care Improvement project contributed to the fact that in 2 years from 2009 to 2010 the BF level rose up to 52,3% on admission and up to 85,7% on departure; for EBF it was 43,4% and 62,7% respectively. It happened due to the improvements in Tambov district maternity clinics and in the hospital's Newborn and Preterm Babies' Pathology Unit.

Implementing the 10 Steps to Successful Breastfeeding helped to raise BF level on discharge to 87,5% for term infants and to 82,4% for preterm ones. EBF level on discharge rose up to 82,4% for term infants and up to 57,7% for preterm ones.

To achieve steady growth of breastfeeding level among sick and preterm infants the implementation of successful breastfeeding principles is needed in all phases of healthcare for mothers and their babies from maternity clinics and later on [13,14].

Conclusion

The implementation the WHO/UNICEF Baby-Friendly Hospital Initiative 10 Steps to Successful Breastfeeding at Newborn and Preterm Babies' Pathology Unit significantly increased the level of breastfeeding and exclusively breastfeeding among sick and preterm newborns.

Our future plans. Within Tambov children's hospital, we are planning to:

- Spread baby friendly practices to a soon-to-be opened Preterm Infant Unit, which will care for most preterm babies in Tambov district.
- Clarify sanitary standards for expression, storage and use of breast milk.
- Further expand breastfeeding through enrichment of breast milk for preterm babies.

- Broaden indications for using breast milk for sick and preterm infants.
- Form support groups for mothers of these special-need infants.
- Spreading all breastfeeding practices district wide in Tambov.

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Disclosure Statement

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Bibliography

1. National Program for Infant Feeding Improvement in Russian Federation. NCZD, Moscow (2009).
2. Ryumina II., *et al*. "Organization of breastfeeding of infants in perinatal center (clinical practice guidelines)". *Neonatology: News, Opinions, Training* 4.18 (2017): 149-160
3. "Infant and young child feeding. Resolution of the Seventy-first World Health Assembly. WHA71.9". Geneva: World Health Organization (2018).
4. "National implementation of the Baby-friendly Hospital Initiative". Geneva: World Health Organization (2017).
5. Victora CG., *et al*. "Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect". *Lancet* 387.10017 (2016): 475-490.
6. "Selected Abstracts from the Baby-Friendly Neonatal Care Conference and Workshop: Uppsala, September 14-16, 2011". *Journal of Human Lactation* 28.2 (2012): 233.
7. Alonso-Diaz C., *et al*. "Breastfeeding Support in Spanish Neonatal Intensive Care Units and the Baby-Friendly Hospital Initiative". *Journal of Human Lactation* 32.4 (2016): 613-626.
8. Fugate K., *et al*. "Improving Human Milk and Breastfeeding Practices in the NICU". *Journal of Obstetric, Gynecologic, and Neonatal Nursing* 44.3 (2015): 426-438.
9. "Guideline: Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services". Geneva: World Health Organization (2017).
10. "Implementation guidance: Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: the revised Baby-Friendly Hospital Initiative". Geneva: World Health Organization (2017).

11. Karen E and Rajiv B. "Optimal Feeding of Low-Birth-Weight Infants. Technical Review". Geneva: World Health Organization (2006).

12. Meier PP., *et al*. "Evidence-Based Methods that Promote Human Milk Feeding of Preterm Infants. An Expert Review". *Clinics in Perinatology* 44.1 (2017): 1-22.

13. Nyqvist KH., *et al*. "Expansion of the baby-friendly hospital initiative ten steps to successful breastfeeding into neonatal intensive care: expert group recommendations". *Journal of Human Lactation* 29.3 (2013): 300-309.

14. Nyqvist KH., *et al*. "Neo-BFHI: The Baby-friendly Hospital Initiative for Neonatal Wards". Core document with recommended standards and criteria. Nordic and Quebec Working Group (2015).

Volume 7 Issue 10 October 2018