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**The Role of Modern Medical and Organizational Technologies  
in Increasing of Breastfeeding Duration**

**ABSTRACT**

Evaluation of the introduction of modern principles for protection and supporting breastfeeding in practice of maternity and childhood hospitals has been done. Women with infants (12-36 months) were interviewed, in children's clinics, with or without the title of the WHO / UNICEF «Baby Friendly Hospital» (BFH and NBFH). The results showed that in clinics, introducing modern principles of the protection and support of breastfeeding and having the title of the BFH, the average duration of breastfeeding and the proportion of children exclusively breastfed

up to 6 months were more than in NBFH clinics. The conducted dispensary analysis confirmed the impact of medical - organizational factors on breastfeeding. The study confirmed the importance of modern protection and support technology of breastfeeding to increase its duration.

**Keywords:** breastfeeding, exclusive breastfeeding, duration and prevalence of breastfeeding, the initiative «Baby Friendly Hospital».

Breastfeeding remains a perfect kind of feeding, capable to provide harmonious development of a child adequate condition of their health. Breastfeeding is the best way of granting ideal feeding for healthy growth and development of babies, it is also an important component for reproductive process with important consequences for women's health.

However in Russia, as well as in many other industrial countries, for the last decades low duration of breastfeeding has been marked. In this connection search of optimal ways for increasing the breastfeeding prevalence and duration, including duration of exclusive breastfeeding is of great importance.

Contemporary principles of successful breastfeeding cover activities on training medical staff as well as pregnant women, providing conditions for early breastfeeding and rooming-in in maternity hospitals, breastfeeding on newborns' demand, exclusive breastfeeding since birth, refusal of dummies and bottles, supporting mothers after discharge. All these principles as 10 steps of successful breastfeeding are reflected in the WHO/UNICEF Baby-Friendly Hospital Initiative (BFHI) that was declared in 1991. Later these principles have been adapted in the different countries and on other health facilities concerning health care for mothers and their babies.

In Russia BFHI has been implemented and developed since 1996. The Initiative has been engaged in the maternity hospitals children's out-patient polyclinics and women consultations (for pregnant women) as well since 2003. For January 1st, 2015 year 295 maternity hospitals in 51 subjects of the Russian Federation have been designated as Baby Friendly. About 21 % of the annual number of births is accepted in these hospitals. Women consultations and children's out-patient polyclinics take part in the BFHI also, from them 151 and 194 health facilities accordingly are certified.

**The aim** of this research is to describe results of the implementation of contemporary principles for protection and support of breastfeeding in the practice of maternal and the child health facilities.

## MATERIALS AND METHODS

The sociological research has been conducted. Mothers with babies of early age - 12-24 months have been interviewed. Questionnaire contained 63 questions divided into 4 blocks: the social characteristic of a family; state of mother's health and their obstetrical anamnesis, state of infant's health at birth, character of infants' feeding since birth and additional information concerning breastfeeding. The researches were conducted in 8 children's out-patient polyclinics, four of which have been designated as Baby Friendly: Electrostal, Rostov-na-Donu, Yuzhno-Sakhalinsk, Belebei and Tuimazy in Republic Bashkiria (BF). Others 4 children's out-patient polyclinics did not pass certification and were not involved (NBF): Stupino, Fryazino (Moscow Region) and 2 facilities in Ufa, Republic Bashkiria.

Considering that mother support groups are actively developed in Russia [1], we also interviewed mothers having children in the age of 12-36 months visited such group in Stupino - Moscow Regional Mother's Support Group "League of Young Mothers of Moscow Region" (League). This NGO has been created by the participation and support of administration of the city for the purpose to support of the families with the infants and young babies. One of directions of the work of League is breastfeeding protection and support according to the 10 steps of the BFHI.

In total 911 mothers have been interviewed, of them 494 mothers in the BF out-patient children's polyclinics (1 group), 368 - in the NBF out-patient children's polyclinics (2 group), and 49 - visited League (3).

*Statistical processing of the material* was carried out with use of the statistical package SPSS.17 for a personal computer. For revealing interrelation between duration of breastfeeding both studied social, medical and organizational factors the one-factorial dispersive analysis was carried out.

## RESULTS AND DISCUSSION

Results have shown, that social characteristics of the respondents and their families in all groups had no essential distinctions on the majority of studied parameters. Middle age of the mothers was 27,0-29,0 and fathers - 28,0-32,0 years. A significant part of the mothers had a special - 25,0-50,0 % or higher education - 16,0-50,0 %, except for mothers from 3-d group (League) where the majority of mothers were with the higher education - 97,0 %. Also fathers had a high educational level also: special - 20,0-50,0 % and the higher education - 25,0-50,0 %. The average number of the children in the family 1,3-1,6. At the majority of the families was one - 50,0-70,0 % or two children - 30,0-40,0 %. About 80,0-90,0 % of mothers from 1-st and 2-nd groups did not work. Not worked mothers in 3-rd group was less - 46,0 %, it is obvious in connection with that this group included mothers with children with more age.

Obstetrical anamnesis of the respondents and state of their child health at birth had no essential distinctions in all 3 groups. The majority of them were registered on pregnancy in the recommended terms, till 12 weeks - 80,0-90,0 % (League - 70,0 %); visited training groups for the pregnant women on preparation for the births, including questions of the breastfeeding- 25,0-80,0 % (League - 70,0 %). The prevalence of cesarean section like a kind of delivery was 8,0 15,0 % (League - 20,0 %). The prevalence of premature infants and infants with low weight at birth was insignificant 0-5 % in both groups (League - 0 %).

The practice of maternity hospitals on protection and support of breastfeeding was characterized by uniformity and had no essential distinctions in 3 groups of the mothers. Early breastfeeding after birth took place in 45,0-93,0 % (League - 50,0 %), however duration of skin-to-skin contact 30 minutes and more took place only in 3,0 %-30,0 % (League - 11,0 %). Rooming-in took place in 9,0-90,0 % of cases (League - 40,0 %). The first breastfeeding after the translation mothers from a delivery room was carried out in 1-2 hours in 3,0-60,0 % of cases,

and in 12 hours and more - in 10,0-55,0 % (League - 34,0 %). In a significant number of cases the medical staff assisted mothers in attaching a baby to breast - 60,0-90,0 % (League - 57,0 %). 9,0-45,0 % of infants received bottle feeding in the maternity hospital (League - 57,0 %), about 3,0-40,5 % of mothers have answered that they did not know whether bottles and dummies had been used for feeding and drinking their babies (League - 0 %), that is obviously connected with separate stay of a mother and a child. Pacifiers were used only in 3,0-20,0 % of cases (League - 11,0 %), however 3,0-60,0 % of mothers did not know how to use pacifiers in cases of separate stay (League - 30,0 %). In some of maternity hospitals there were cracked nipples among the mothers - 10,0-20,0 % (League - 26,0 %) and breast engorgement - 5,0-40,0 % (League - 20,0 %), that is connected with wrong techniques of breast attachment. Average duration of stay in maternity hospitals was 5-6 days (League - 3) and varied from 6 till 18 days (League - 3-8 days).

Practice of breastfeeding after discharge of maternity hospitals was characterized by the following parameters. The majority of mothers have been adjusted on breast feeding and considered breastfeeding as necessary for health and development of a child (90,0-100,0 %). In their opinion, duration of natural breastfeeding should be not less than 12 months - 85,0-100,0 %. A greater number of the women from 1-st group - 20,0-45,0 % plan long breastfeeding 2 years and more according to recommendations the WHO in comparison with 2-nd group - 4,0-30,0 % (League - 49,0 %). The duration of exclusive breastfeeding is considered to last 6 months - 50,0-80,0 % of mothers of both groups (League - 57,0 %).

Some distinctions in answers of 3<sup>rd</sup> group mothers to questions concerning the key principles of successful breastfeeding should be noted. Feeding on demand of a baby was kept by the majority of mothers - 90,0-100,0 % from 1-st group and 80,0-97,0 % from 2-nd group (League - 94,0 %), almost all of mothers from three groups nursed their babies at night - 95,0-100,0 %. Used pacifiers 35,0-60,0 % of mothers of the 1-st group and 60,0-70,0 % from the 2-nd group (League - 20,0 %); to drink their babies the first 6 months by the water or tea 10,0-30,0 % and 30,0-40,0 %, and used bottles and dummies 15,0-40,0 % and 16,0 %-70,0 % mothers accordingly from 1-st and 2-nd groups (League - 6,0 and 17,0 %).

Among the main reasons of breastfeeding cessation the 1-st and 2-nd group mothers named such reasons as shortage of chest milk of 9,0-47,0 % and 19,0-53,0 %; itself has solved on age of the child - 16,0-32,0 % and 15,0-49,0 %; problems with the breasts - 0-2,0 % and 0-6,0 % accordingly (League - 0; 40,0 and 0 %). More often mothers from 1-st group in comparison with mothers from 2-nd group named such reasons, as come back to work - 9,0 -23,0 % and 2,0-5,0 %; illness of mothers - 4,0-19,0 % and 3,0-7,0 %; getting tired to nurse - 4,0-14,0 % and 0-6,0 %; illness of a child - 0-4,0 % and 0-1,5 % accordingly (League - 9,0; 3,0; 14,0 and 3,0 %). About identical number of mothers from both groups have stopped to nurse for the reason that a child himself disengaged from breast feeding - 6,0-16,0 % and 4,0-15,0 % accordingly (League - 31,0 %).

Mothers in the 1-st and 2-nd groups estimated highly the help of medical staff in support of breastfeeding - 50,0-80,0 %. Also they assess the help of members of their families - 60,0-90,0 %. The mothers from League noted insufficient help of medical staff - only 3,0 % of mothers have gave positive estimation, preferring the help of members of their families - 70,0 %, and also their girlfriends - 48,0 %.

Sources of information concerning breastfeeding. No essential distinctions in answers of mothers of 2 groups were revealed. The most widespread sources of the information for these mothers are medical staff of children's polyclinics - 80,0-100,0 %; maternity hospitals - 30,0-90,0 % and women's consultations - 5,0-60,0 %. A significant part of mothers receive the information on breastfeeding from their mothers 30,0-60,0 %; popular scientific literature - 35,0 -50,0 %; their breastfeeding girlfriends - 13,0-40,0 %; mothers-in-law - 6,0-40,0 %; in

mother support groups - 3,0-40,0 % and from mass media - 9,0-24,0 %. Only insignificant part of mothers have named sites in the Internet as a source of the information - 2,0-8,0 %. Answers of the mothers from the League group substantially differed from answers of mothers of two other groups. They named the main sources of the information not medical staff but sites in the Internet - 100,0 %; mother support groups - 97,0 %, the popular scientific literature - 54,0 %; breastfeeding girlfriends - 34,0 % and their mothers - 17,0 %.

The average duration of breastfeeding in the 1-st group was 7,7-14,7 months, and in 2-nd group - 7,7-12,6 months. In the three from for BF children's polyclinics average duration of the breastfeeding were significantly high than in the NBF polyclinics - 11,0-14,7 months ( $p < 0,01$ ). Average duration of breastfeeding among themothers from League was significantly higher than in BF and NBF polyclinics - 19,7 months ( $p < 0,001$ ).

Duration of breastfeeding recommended by WHO - 2 years and more with the appropriate supplement feeding after 6 months. A significant number of mothers in the 1-st group nursed till 1 year or 1,5 years. The mothers from League nursed even longer.

Average duration of exclusivebreastfeeding is 4,4-5,8 months in BF out-patient children's polyclinics and 4,0-5,2 months in NBF out-patient children's polyclinics. The highest duration took place among the mothers of League - 6,0 months, they considerably exceeded the parameters other two groups ( $p < 0,01$ ).

Duration of exclusivebreastfeeding, recommended by WHO is 6 months, the Russian pediatrics recommend duration of exclusive breastfeeding in an interval 4-6 months. According to our research it was revealed, that the majority of children in both groups - 80,0-97,0 % (League - 100,0 %) were on exclusive breast feeding up to 3 months. Much less children were on exclusive breastfeeding up to 6 months: 1-st group - 40,0-80,0 % and 2-nd group - 20,0-60,0 % (League - 70,0 %). The higher prevalence rate of children who were on exclusive breastfeeding up to 6 months was noted in BF polyclinics and among mothers from League in comparison with NBF polyclinics ( $p < 0,01$ ).

As a result of the dispersive statistical analysis it is revealed, that the duration of breastfeeding is mainly connected with a positive spirit of a woman on long feeding. Social factors of the duration of breastfeeding include a number of children in a family, age of a mother and a father, their education, and also mother's work. The more a number of children in a family or the higher a level of mother and father's education or the later mother comes to work, the longer the breastfeeding duration is noted.

Among medical and organizational factors positive influence on the duration of breastfeeding training of pregnant women, practice of maternity hospitals concerning breastfeeding support and promotion should be considered: early skin-to-skin contact and initiation of breastfeeding during the first hour after birth, rooming-in, feeding on the baby's demand. Also the positive interrelation between duration of breastfeeding and implementation of recommendations for successful breastfeeding after hospital discharge has been revealed: exclusivebreastfeeding in the first 6 months, breastfeeding on demand, including night feedings, and also refusal of dummies and bottles. Average duration of breastfeeding and exclusivebreastfeeding substantially depends on whether the children's polyclinic has status BF and whether mothers visit mother support group (League). These parameters were higher in BF polyclinics and the highest among mothers from League.

Thus our research allowed to give the main characteristic of the practice for supporting breastfeeding support and promotion in maternity hospitals and out-patient children's polyclinics designated and not designated as BF, to estimate the duration of breastfeeding and exclusivebreastfeeding in out-patient children's polyclinics among mothers visiting mother support groups.

Maternity hospitals play a key role for the successful breastfeeding from the birth; it especially concerns to

Russia as the majority of Russian women are initially adjusted on feeding by breast since maternity hospitals in comparison with women from other European countries - on the average 5-6 days. Not less than 92,0 % of Russian women start to nurse their babies in maternity hospitals [7].

The important role for support of breastfeeding mothers after their discharge from maternity hospital belongs to out-patient children's polyclinics. Implementation of modern technologies for protection and support of breastfeeding of the BFHI allows to organize and unify this work correctly. In our research average duration of breastfeeding in the BF out-patient children's polyclinics was characterized by high parameters in comparison with the NBF children's out-patient polyclinics. Among mothers of League the duration of breastfeeding was the highest one. In BF polyclinics and among mothers of League higher parameters of exclusive breastfeeding in comparison with NBF polyclinics also were marked. Data of our research are comparable to data of the other authors. Duration of breastfeeding in various regions of Russia range from 5,0 up to 11,0 months, for example, in Nizhni Novgorod - 5,3; Kirov - 5,5; Republic Yakutia (Saha) - 6,8-8,4; Republic Ingushetia - 8,5-8,7 and in the Chechen Republic - 9,5-10,8 months [4-6, 3]. As a result of introduction of BFHI principles in the health facilities in Krasnoyarsk breastfeeding duration raised up to 9,9 and Republic Tyva - to 12,4-14,0 months [2].

The significance of medical and organizational factors implementing the modern health care facilities in the practice for increasing breastfeeding and exclusive breastfeeding duration has been established by the dispersive statistical analysis.

## CONCLUSION

Duration of breastfeeding and exclusive breastfeeding substantially depend on implementation of modern organizational principles for breastfeeding protection and support of the BFHI in the practice of the health care facilities for babies and their mothers, based on Initiative WHO/UNICEF "Hospital friendly to a child".

## References

- Evloyeva F.M. Mediko-sotsiologicheskoe issledovanie demograficheskoi situatsii, zabolevaemosti detey do 1 goda zhizni I sostoyaniya grudnogo vskarmlivaniya v Chechenskoy respublike I Respublike Ingushetiya [Medico-sociological study of the demographic situation, the incidence of children of the first year of life and state of breastfeeding in the Chechen and Ingushetia Republics] / F.M. Evloyeva // Health of the Russian Federation. - 2012. - 3:16-21.
- Lazareva E.P. Razrabotka podkhodov k profilaktike alimentarno-zavisimyykh zabolevaniy u detey pervogo goda zhizni [Development of approaches to the prevention of alimentary-dependent diseases in children of the first year of life: PHD thesis] / E.P. Lazareva. - Nizhny Novgorod, 2006.
- Moshanova O.Y. Vliyanie vida vskarmlivaniya na pokazateli zdorovia detey rannego vozrasta [The impact of breastfeeding on health outcomes of children of early age: PHD thesis] / O.Y. Moshanova. - Arkhangelsk, 2006.
- O gruppakh materinskoy podderzhki grudnogo vskarmlivaniya [About groups of maternal breastfeeding support / L.V. Abelian [et al.] // Problemy sotsialnoy gigieny, zdravookhraneniya I istorii meditsiny [Problems of social hygiene, health and the history of medicine]. - 2010. - 3: 34-37.
- Prokopieva S.I. Pitaniye I sostoyaniye zdorovia detey pervogo goda v Respublike Sakha [Nutrition and health status of children in the first year of life in the Republic Sakha (Yakutia)] / S.I. Prokopieva, M.V. Handu, O.K. Netrebenko // Food as the basis of lifestyle and health in the North: collected scient.papers. - Yakutsk, 2012. - P. 38-42.



6. Regional'nye I etnicheskie osobennosti vskarmlivaniya I sostoyaniya zdorovia detey [Regional and ethnic peculiarities of feeding and health status of children / V.L. Gritsinskaya [et al.] // Russian pediatric journal. - 2011. - 5: 51-54.

7. Tutelyan V.A. Kharakterpitaniya detey grudnogo I rannego vozrasta v Rossiyskoy Federatsii: praktika vvedeniya prikorma [The nature of the nutritional status of children and infants in the Russian Federation: practice of feeding up / V.A. Tutelyan [et al.] // Pediatrics. – 2009. - 6 (88): 77-83.

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