Paediatr Croat. 2012;56:1-7

IZVORNI ZNANSTVENI RAD
ORIGINAL SCIENTIFIC PAPER

CHARACTERISTICS OF BREASTFEEDING PRACTICES IN SLOVENIA AFTER THE IMPLEMENTATION OF THE BABY-FRIENDLY HOSPITAL INITIATIVE

SILVESTRA HOYER, TANJA KRIŽAJ, ROBERT SOTLER*

Results are presented of a comparative study of breastfeeding practices among Slovenian mothers before and after the implementation of the Baby-Friendly Hospital Initiative. The research was designed as a comparative descriptive questionnaire-based study and included 592 mothers with children of a mean age of 18.18 months. The questionnaires addressing mothers' breastfeeding behaviors were administered to the mothers of children between one and two years of age. Results were compared with two previous research projects. Results were analyzed by use of the Systat for Windows, frequency distribution, t-test and correlation test. Over the past fifteen years, the percentage of women who decided to breastfeed before childbirth increased from 77.3% to 94.6% of the women included in the study. The frequency of breastfeeding in 24-hour period increased from 7.85 to 9.1 times within the first month. Considerable improvement was noted in exclusive breastfeeding behavior at the end of the first month. In 1993, it was not practiced at all, whereas in 1997 it increased to 16.4% and now to 83.1% of mothers. Accordingly, study results indicated that exclusive breastfeeding, initiation and duration of breastfeeding improved in Slovenia. It is necessary to apply policies to promote health education of parents and health care professionals.

Descriptors: BREAST FEEDING – trends; SLOVENIA

INTRODUCTION

Breastfeeding as the most natural human activity provides natural health benefits and advantages to children and should therefore be further promoted. However, in the name of progress, there was an attempt to substitute breast milk with artificial infant formula. Until experts in the field and zealous supporters of breastfeeding spoke against it, economic interests and high capital gains had taken priority. Then, the Baby-Friendly Hospital Initiative (BFHI), which is a global effort of the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), spread around the world to ensure that children are all born in an environment that protects, supports and promotes breastfeeding (1). The Ten Steps to Successful Breastfeeding (2) is an important document outlining the conditions that need to be fulfilled in order to become BFHI accredited.

The aim of this study was to compare breastfeeding practices among Slovenian mothers before and after the implementation of the BFHI. The research question was worded as follows: did the overall breastfeeding practices in Slovenia improve after the implementation of BFHI?

BACKGROUND

Based on the research made by various authors, BFHI has proven to have positive effects on breastfeeding prevalence and duration. Calldeira and Goncalves (3) report on a significant increase in exclusive breastfeeding and average breastfeeding duration after the implementation of the BFHI in Brazil (Montes Claros). Hannula et al (4) performed a systematic literature review on breastfeeding and breastfeeding support interventions. The results showed that BFHI and practical hands-off teaching were effective only when combined with support and encouragement. Hospital practices and policies greatly contribute to breastfeeding success or failure. A group of researchers from Taiwan (5) report that the level of breastfeeding increased when mothers delivered at a certified Baby Friendly Hospital (BFH) and considered most of the 10-step practices. A study carried out in Massachusetts, USA, found that women who stated intention to formula-feed but went on to breastfeed were significantly more likely to make this change if they delivered at BFH, compared to non-BFH (6). Murray et al (7) mention that five hospital practices supportive of breastfeeding significantly increased breastfeeding duration rates, regardless of the mothers' socioeconomic status. These five practices include the guidelines also encompassed in the Ten Steps to Successful Breastfeeding (2). Camurdan et al (8) report on an increased rate of breastfeeding upon implementation of the BFHI. Another study (9) found that the proportion of maternity units participating in the UNICEF UK

* Faculty of Health Sciences, University of Ljubljana

Correspondence to:
Silvestra Hoyer, PhD, BSc, RN, Faculty of Health Sciences, University of Ljubljana, Zdravstvena pot 5, 1000 Ljubljana, e-mail: silva.hoyer@zf.uni-lj.si

BFHI was likely to increase breastfeeding initiation but not duration. Another study reports on improved breastfeeding practices, i.e. higher breastfeeding rates, reduced complications and better maternal health as the result of the BFHI implementation (10). It has been reported that in Switzerland a general increase in breastfeeding since 1994 can partially be attributed to an increasing number of Baby-Friendly facilities whose clients breastfeed longer (11).

Literature review allows for different theoretical frameworks that support the concept of BFHI to be found. It is important to acknowledge that BFHI is a health promotion program (12) that promotes and supports breastfeeding. However, there are also other views that support the initiative. Levin (13) has introduced a conceptual model of the "psychological and biological umbilicus". It was used to support a mother-infant unit established in 1979 at Tallin Children's Hospital in Estonia to provide care to preterm and full-term ill babies and their mothers. The author emphasizes that optimal development of the infant and the mother is ensured if the integrity of the biological umbilical cord is maintained as it represents the social and emotional bond between the baby and the mother, which develops during pregnancy and is very important in the early months of life and also during the years of the child's development. Among the leading principles of the unit is promoting breastfeeding whenever possible as well as 24-hour care by the mother. These are also included in The Ten Steps to Successful Breastfeeding. The author also mentions that a holistic and humanist approach in this unit represents a truly baby-friendly hospital, which could be linked to Johnston (12), who argues that the BFHI Ten Steps to Successful Breastfeeding should be understood "within the social/holistic model of midwifery care". In midwifery care, the care for the woman is the main focus, and the dynamic process of effective breastfeeding involves physical, psychological and social interaction between the mother, the baby and the community. Therefore, BFHI plays an important role in contributing to the acceptance of breastfeeding in the community.

In Slovenia, a cross-sectional analysis in a sample of 881 mothers was conducted in 1993 by Hoyer and Pokorn (14) and in 1997 by Hoyer and Horvat (15). A comparative research project on breastfeeding was conducted, including 203 mothers under individual guidance for two and a half years. The aim of the first study was to assess the influence that various factors have on breastfeeding. The results showed that mothers were more successful at breastfeeding if they were properly informed, if they were feeding eight or more times daily in the first month of breastfeeding, if they attended courses for parents, decided to breastfeed before giving birth, had completed secondary education and gave the first feed within 12 hours after delivery. During the second study, which lasted for two years, the mothers were encouraged to breastfeed and were offered help and support from pregnancy to the end of the child's first year or to the end of breastfeeding, respectively (15). The results of the second study showed that one third of mothers chose rooming-in, attended the course for parents, the rate of exclusive breastfeeding increased, and mothers were more able to recognize breastfeeding problems and difficulties. Both research projects were conducted before the implementation of the BFHI in Slovenia (Table 1). These results and the global trends in the field of breastfeeding induced Slovenia to join the BFHI through the National Breastfeeding Committee at UNICEF Slovenia. The first evaluation of the largest maternity hospital was performed in 1998 (16). Slovenia has around 2 million inhabitants and 19 000 births per year (17). Today, eleven of fourteen Slovenian maternity hospitals are BFH accredited and 85% of all children are delivered there, ranking Slovenia second among European countries, preceded only by Sweden with 100% and followed by Norway with 75% of deliveries at BFH (18).

METHODS

Study design, setting and data collection

A comparative descriptive design was used. Letters were sent to eight community health centers in Slovenia. Six of them that agreed to take part in the project were then sent 890 questionnaires, together with instructions, of which 643 or 72.25% were returned. Questionnaires with unanswered key questions were excluded from analysis (51 or 7.93%), and 592 (66.5%) questionnaires were processed. The guided questionnaire included twenty-five closed-response questions (the child's age, birth order, breastfeeding of other children, knowledge on breastfeeding, attendance of a prep-course for parents, respondent's opinion about the significance of breastfeeding, the first breastfeed, the exclusive breastfeeding duration, the number of breastfeeds, breastfeeding difficulties, motivation and encouragement of breastfeeding, reasons for stopping, mixed feeding and demographic data). The questionnaire was a repeat of the questionnaire from the 1993 research (14), although nine items were excluded because they were less relevant for the purpose of the present study.

Nurses at outpatient clinics and district nurses gave the questionnaires to mothers during their regular visits. The mothers who answered the questionnaires returned them at their next visit to the outpatient clinic to the previously prepared box for the present study.

Subjects

The sample included 592 mothers with children, mean age 18.18 months (SD= 3.83).

Ethical considerations

On July 15, 2008, the study was approved by the Medical Ethics Committee of the Republic of Slovenia. Every questionnaire included a statement which addressed voluntary participation, anonymity of the participants, the right to withdraw from the study by not returning the questionnaire, and contact information of the researchers. Mothers who took the questionnaires agreed to take part in the study and were considered as voluntary participants.

Data analysis

Data were processed by use of the Systat for Windows, ver. 5 statistical software (19). Frequency distribution, t-test and correlation test were used.

Rigor

Testing of the questionnaire was carried out on the basis of answers to the question of when the mothers exclusively breastfeed' and question 'when they began to add food to children'. To calculate validity, we used the Pearson (r) correlation factor and for the calculation of reliability Cronbach α coefficient. Validity was high ($r=0.967$, $P<0.001$) and so was the coefficient for reliability (Cronbach's α was 0.983).

RESULTS

The sample included 592 mothers with children aged between one and two years, mean age 18.18 months (SD=3.83). There were 307 (51.9%) first-born, 211 (35.6%) second-born, 55 (9.3%) third-born and 19 (3.2%) fourth-born children or next in the birth order. On an average, 1.6 children were born per family. Of all mothers, 50.1% had completed twelve or more years of schooling.

Furthermore, 208 of 211 multiparae answered the question about whether they had breastfed their previous child/children. Finally, 192 (92.31%) mothers answered the question with "Yes" and 16 (7.69%) answered "No".

Table 1 shows comparison between some variables of three research projects: the present one, the 1997 research (15) (hereinafter Research 2) and the 1993 research (14) (hereinafter Research 1).

Of all respondents, 94.6% had decided to breastfeed before their child's birth. In this research, the respondents evaluated whether the information provided about breastfeeding before delivery was sufficient. Out of 591 mothers, 82.6% said they had been given enough information (about advantages of breastfeeding, daily breastfeeding routine, signs of the child's satiety or hunger, lifestyle of breastfeeding mothers), while the others said they had not been given enough or were given no information on breastfeeding before childbirth.

Literature, community health care and prep-courses for parents are among the most important sources of information on the importance of breastfeeding. The respondents evaluated the importance of breastfeeding for the child with the following: essential (52%), necessary (45%), not necessary (1%), no opinion (2%).

Out of 584 mothers, 73.5% breastfed for the first time within the first hour after delivery, while 26.5% breastfed later. Out of all 592 mothers who were included in the research, 586 (99.0%) commenced breastfeeding, whilst six (1.0%) mothers did not.

Special interest was paid to the information on exclusive breastfeeding (Table 2). Mothers who answered that they had breastfed for one month but were also feeding their children other food during the first month after delivery and mothers who had not breastfed at all were not included in the table (n=100, 16.9%). The biggest decrease in the rate of breastfeeding is noticed between the fifth and sixth month after delivery, since many mothers who still breastfed during the sixth month after delivery also introduced other food. Water/tea as non-energy drink is not included.

Table 1. *Comparison of the results from three research projects on breastfeeding in Slovenia, according to selected characteristics*
Tablica 1. *Prikazuje usporedbu između nekih varijabla triju istraživačkih projekata: sadašnje, istraživanje 1997. godine (15) (u daljnjem tekstu istraživanja 2) i istraživanje 1993. godine (14) (u daljnjem tekstu istraživanja 1).*

Characteristics Karakteristike	Actual sample Ovo istraživanje n = 592	Research 2 Sample 1997 Istraživanje 1997. godine n = 203	Research 1 Sample 1993 Istraživanje 1993. godine n = 881
Maternal mean age (yrs) Prosječna dob majke (godine)	29.4	27	26.2
Mothers employed Majke koje su zaposlene	80.4%	80.2%	83.3%
Place of living:urban area Mjesto življenja: urbano mjesto	60.7%	54.2%	48.4%
Primiparae Prvorotkinja	51.8%	49.3%	49.9%
Mean number of children per family Prosječan broj djece po obitelji	1.6	1.6	1.6
Rooming-in (24 h)	100%	35.6% (on their own wishes) (vlastita želja)	Only some mothers Neke majke
Attended a prep-course for parents Pohađali tečaj za roditelje	73.1%	72.3%	49%
Breastfeeding incidence Dojenje - učestalost	98.9%	100%	97.5%
Exclusive breastfeeding at the end of the first month Isključivo dojenje na kraju prvog mjeseca	83.1%	16.4%	0
Daily number of breastfeeds in the first month Broj obroka u prvom mjesecu	9.1	7.6	7.85
Mothers with breastfeeding difficulties at the end of the first month Majke s poteškoćama u dojenju na kraju prvog mjeseca	35.9%	33.5%	29.1%
First breastfeed Prvo dojenje	within one hour of delivery u roku od sat vremena nakon rođenja 73.5%	<8 hours after delivery <8 sati nakon rođenja 79.6%	<8 hours after delivery <8 sati nakon rođenja 82.6%

On an average, the respondents who had already stopped breastfeeding at the time of research had both breastfed and fed their children other food for 8.9 months. The research included 75 (12.7%) women who were still breastfeeding. The mean breastfeeding duration in these mothers was 16.5 months.

The reasons for stopping breastfeeding, among which shortage of milk is prevalent, are shown in Figure 1.

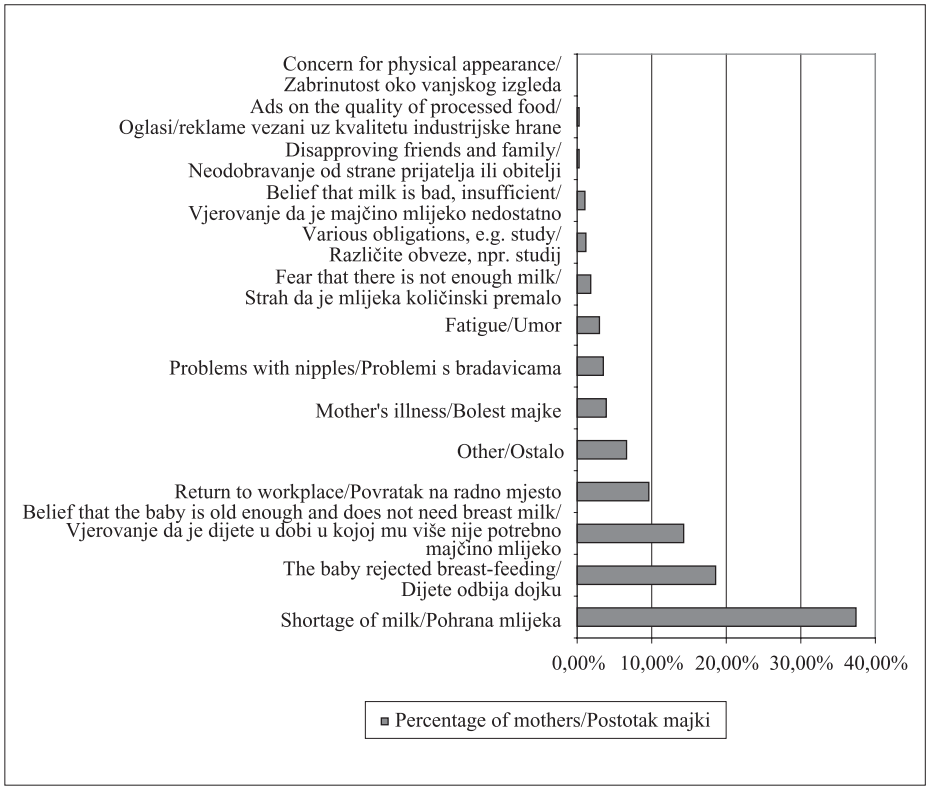
The respondents thought that health was the biggest motivation for breastfeeding, followed by the child's growth and development and their satisfaction. Most of the mothers did not express any breastfeeding problems. They are mainly a consequence of painful breastfeeding and work overload.

The time when the mothers introduced other food in their children's diet is shown according to the child's age in Table 3.

Data on adding milk supplements showed that 248 mothers started to add formula milk when the child was 2.9 months old on average, and 35 mothers started to add non-formula milk when the child was 4.8 months old on average.

Testing statistical characteristics

Women who stated that they had sufficient information on breastfeeding, breastfed longer than women who thought they



Other: repeated pregnancy 2.9%, too frequent nocturnal breastfeeding 1.3%, various diseases of the mother or infant 0.9%, infant biting the nipples 0.6%, mastitis 0.6%, premature infant 0.4%.
Ostalo: ponovna trudnoća 2.9%, prečesto noćno dojenje 1.3%, razne bolesti majke ili djeteta 0.9%, dijete grize bradavice 0.6%, mastitis 0.6%, prerano rođeno dijete 0.4%

Figure 1. *Reasons for stopping breastfeeding*
Slika 1. *Razlozi prestanka dojenja*

had insufficient or no information on breastfeeding (T=3.136; DF=128.0; P=0.002).

Women who stated to have experienced no breastfeeding difficulties breastfed longer than women who mentioned breastfeeding problems (T=3.067; DF=342.2; P=0.002).

Women who breastfed for the first time within an hour of delivery breastfed longer than women who commenced breastfeeding later.

Women who had breastfed eight or more times per day within the first month, breastfed longer than women who breastfed seven or fewer times *per* day within the first month (T=3.067; DF=342.2; P=0.002).

Table 2. *Exclusive breastfeeding according to months*
Tablica 2. *Isključivo dojenje po mjesecima*

	n	%
end of 1st month kraj prvog mjeseca	492	83.1
end of 2nd month kraj drugog mjeseca	456	77.0
end of 3rd month kraj trećeg mjeseca	404	68.2
end of 4th month kraj četvrtog mjeseca	336	56.8
end of 5th month kraj petog mjeseca	238	40.2
end of 6th month kraj šestog mjeseca	47	7.9
end of 7th month kraj sedmog mjeseca	17	2.9
end of 8th month kraj osmog mjeseca	6	0.8
9 months or more devet mjeseci i više	1	0.2

DISCUSSION

Study limitations

Drawbacks of the method (questionnaire) used in this study need to be considered. The participants tend to give answers they consider appropriate, and say what they think the researcher would like to hear although they may not actually do so in practice. Besides that, the answers relied on the memory of the mothers doing self-report.

The questions were closed-response questions, which resulted in quite superficial answers. If the questions had been open-ended, the participants would have had a better opportunity to explain their opinions.

Furthermore, the non-returned questionnaires (298 of 890) could influence the results of the study.

Discussion of findings

Breastfeeding is a very complex process influenced by various factors including the lifestyle of the mother, her family and the society they live in. The authors of the Baby-Friendly Hospital Initiative presented the influence of breastfeeding in a document entitled The Ten Steps to Successful Breastfeeding (2). Perez-Escamilla (20) claims that after two decades, the BFHI now has a global impact on breastfeeding outcomes. Walker

Table 3. *Introducing other food while breastfeeding*
Tablica 3. *Uvođenje druge hrane uz dojenje*

	Milk Mlijeko	Fruits Voće	Vegetable Povrće	Meat Meso	Cereal-based nutrition Žitarice	Eggs Jaja	Water/Tea Voda/Čaj
n	485	562	555	542	526	504	541
Minimal value Minimalna vrijednost	0.500	2.500	3.000	3.000	3.000	4.000	0.500
Maximal value Maksimalna vrijednost	22.000	11.000	12.000	14.000	14.000	20.000	13.000
Mean Srednja vrijednost	5.836	5.492	5.805	7.439	7.489	9.646	3.647
Standard deviation Standardna devijacija	4.080	1.150	1.164	1.540	1.873	2.502	2.311
Standard error Standardna grješka	0.185	0.049	0.049	0.066	0.082	0.111	0.099

Legend: Data are expressed as months of the child's age/Podatci su navedeni u mjesecima dobi djeteta

(21) says that the BFHI and some other initiatives present an important return to breastfeeding and health protection in the United States, while Forster and McLachlan (22) emphasize that health professionals should implement the evidence-based practices that enhance breastfeeding practices.

Comparison between the three Slovenian research projects, i.e. the present research, Research 2 (15) and Research 1 (14), shows that some data have not significantly changed in fifteen years, e.g., the percentage of mothers with an independent income, the percentage of primiparae, the average number of children per family, breastfeeding incidence and the number of mothers experiencing breastfeeding problems. However, the mean age of mothers increased from 26.2 years in 1993 to 29.4 in 2008.

Over the past fifteen years, great changes have occurred in the variables, which are directly related to breastfeeding, e.g., rooming-in, attending a prep-course for parents, exclusive breastfeeding at the end of the first month and the duration of breastfeeding. These changes could be attributed to the implementation of the BFHI across Slovenia, which had a direct influence on breastfeeding patterns. Moreover, it also exerted an indirect influence on the awareness of breastfeeding as the best and most natural source of infant nutrition. It ensured an on-going breastfeeding education of health professionals, expectant mothers and their partners, publications on breastfeeding and the events organized for the World Breastfeeding Week.

It has been established that the claim to inform all pregnant women about the benefits and management of breastfeeding has been satisfied in several ways. Now, 73.1% of responding mothers attended the prep-course for parents, compared to only 49.0% in 1993 (14). Mothers also gained information from community nurses, at regular examinations at a gynecologist, in a pediatric outpatient clinic, maternity hospital, from friends and the Internet. Some mothers wished to be offered more information on breastfeeding techniques, lifestyle of a breastfeeding mother, breastfeeding ill children and weaning the infant off the breast.

Rooming-in is available to all women in childbed (also in the three hospitals which are not BFH accredited; two are in the process of acquiring the accreditation), while it was not possible in 1993 (14). In 1997, 24-hour rooming-in was available only on special request by those mothers who were studied and educated for research purposes (15). It has been indicated that rooming-in improves breastfeeding practices since it enables breastfeeding on demand (11).

Making a decision to breastfeed before the child's birth has a favorable effect on breastfeeding initiation and maintenance. Over the past fifteen years, the percentage of women who decided to breastfeed before childbirth increased from 77.3% (14) to 94.6% of the women included in this research. Declercq et al (23) report on a higher percentage of pregnant women who opt for exclusive breastfeeding in hospitals that satisfy six or more of the Ten Steps to Successful Breastfeeding.

Breastfeeding incidence was high in all three Slovenian research projects. In the present study, 73.5% of women initiated breastfeeding within one hour of delivery. It is not possible to compare these results to the 1993 findings, when breastfeeding initiation was measured within eight hours of delivery (14). Merewood et al (24) report on an 83.8% breastfeeding initiation rate in BFH compared to the US breastfeeding initiation rate, which was 69.5%. Another study from Taiwan (5) report on improved breastfeeding results after the implementation of the BFHI in three areas – breastfeeding initiation, breastfeeding in the first month and at three months after delivery.

However, it is possible to compare the frequency of breastfeeding in a 24-hour period within the first month, which increased from 7.85 (14) to 9.1 (maximum was as high as 32 breastfeeds). This could be explained by the introduction of breastfeeding on demand, which is a condition for establishing good lactation and successful future breastfeeding.

Considerable improvement has been noted in exclusive breastfeeding behavior at the end of the first month. In 1993, it was not practiced at all (14), while in 1997 it increased to 16.4% of mothers (15) and to 83.1% today. Consequently, exclusive breastfeeding continues to be practiced in the following months. The rate of exclusive breastfeeding (Table 2) was high at the end of the second month (77.0%) until the end of the fifth month (40.2%). In the sixth month, mothers began to feed their children other food and exclusive breastfeeding dropped significantly to 7.9% in the present research, while it was 3.1% in the 1997 research (15). The reason for this seems to be the lack of maternal knowledge on breastfeeding or an inaccurate formulation of instructions. Women are recommended to practice exclusive breastfeeding until the end of the sixth month but due to linguistic misunderstanding, they already begin to introduce other food in the sixth month. Most mothers occasionally added a non-energetic liquid such as water or tea, which is not recommended. Hofvander (25) reports that after the implementation of the BFHI in Sweden, 80.2% of mothers practice exclusive breastfeeding by the end of the second month and 33.4% by the end of the sixth month. Labbok et al (26) report on the improvement of the exclusive breastfeeding rate in the developing world by 15% with children aged 4 months after the implementation of the BFHI. Exclusive breastfeeding of children born in BFH is significantly higher than that of other children born in the US (24). Broadfoot et al (27) report on similar results in Scotland. Children born in BFH are exclusively breastfed more often than those born in non-accredited maternity hospitals. The duration of exclusive breastfeeding was significantly longer if the delivery occurred in a BFH exhibiting high compliance with the UNICEF guidelines (11). Nakar et al (28) discuss the role of family physicians, pediatricians and gynecologists in encouraging breastfeeding and supporting the lactating mothers during routine clinic visits in pre- and postnatal period. This indicates that their role may also influence the duration of breastfeeding.

Data show that milk supplements in the form of milk formula were already used within the first month, however, in a much lower number than a study from Canada (29) reports for Canadian newborns, of which half were already fed milk formula at the hospital.

It is disturbing that at the end of the first month adding non-formula milk is noted. On an average, milk formula was added at the age of 2.9 months and non-formula milk at the age of 4.8 months. The reason for this could be the price, the accessibility or even the wrong belief that it is more natural and, therefore, healthier. It is our aim to put into practice the introduction of non-formula milk at the end of the twelfth month.

Mothers who had already stopped breastfeeding at the time of the research breastfed for 8.9 months on an average, which is significantly longer than in pre-

vious studies (14,15). Hofvander (25) reports on similar results in Sweden where the average six-month breastfeeding duration increased from 50% to 73% of all mothers after the implementation of the BFHI. The same holds true for Switzerland (11) where the average duration was 35 weeks in comparison to 29 weeks for children born in BFH non-accredited hospitals.

On the other hand, there are some authors who do not think that the BFHI is of such significance. For the UK, it has been reported (9) that the implementation of the BFHI resulted in a higher breastfeeding incidence in maternity hospitals, but without any significant influence on breastfeeding duration.

In the mothers who were still breastfeeding at the time of the research, the mean breastfeeding duration was 16.5 months. However, the results are not conclusive as the data are not available for children after twenty-four months of age.

The introduction of other foods is presented in Table 3. It has been established that, on an average, mothers began feeding their children all other foods at the end of the fifth month, e.g., fruit at 5.5 (minimum 2.5) months, vegetables at 5.8 (minimum 3) months, meat at 7.4 (minimum 3) months, cereals at 7.5 (minimum 3) months and eggs at 9.6 (minimum 4) months. The average values indicate a too early commencement and minimum is especially disturbing. Kramer et al (30) claim that the optimal duration of breastfeeding is six months and they have not found any reason for introducing other food within this period. Further health education of mothers is essential.

Some statistically characteristic variables influencing breastfeeding duration were the same as in the 1993 research (14). Women who were well informed about breastfeeding breastfed longer, as did the women who reported no breastfeeding problems and who were generally feeling well. Likewise, Merten et al (11) report that good well-being of mothers importantly contributes to better breastfeeding pattern. The same is true for mothers with eight or more breastfeeds per day within the first month, which is comparable to the 1993 research (14). Another study (11) found that the first breastfeed within one hour of delivery also had an important effect.

Implications for practice

The present study confirms the appropriateness of the new approach to breastfeeding and can serve as the grounds for further implementation of the BFHI. The findings of the study might influence further promotion of health education of parents and health care professionals contributing to better health of children and parents' satisfaction. Encouragement of breastfeeding should continue also after mothers have been discharged from maternity hospitals. The follow-up of women should be done by nurses in home care services.

CONCLUSION

The results of the study indicate that the breastfeeding practices in Slovenia have significantly improved over the last fifteen years, since most children have been born in BFH.

Breastfeeding has been advocated and recognized as the best choice for infants and the most natural form of infant nutrition. Furthermore, it can be practiced in public and has been accepted as normal behavior. However, active participation, support and encouragement by informed healthcare professionals are needed in the initiation and establishment of breastfeeding. All the BFH accredited maternity hospitals should adhere to and comply with the Ten Steps to Successful Breastfeeding articulated by the UNICEF and WHO in 1991 (11). Additional information and counseling of mothers and their partners about breastfeeding techniques, maternal lifestyle, weaning the baby off the breast, the introduction of mixed food after the sixth month, not adding non-formula milk before twelve months and the non-requirement for additional fluids during exclusive breastfeeding period is required. The results of the study might influence the remaining three small Slovenian maternity hospitals in their decision to become BFH accredited.

Acknowledgments

Authors would like to acknowledge Faculty of Health Sciences, University of Ljubljana, for partial financial support to the study. The authors also thank all the mothers who took time to participate in the study.

Authors declare no conflict of interest.
Autori izjavljuju da nisu bili u sukobu interesa.

REFERENCES

1. UNICEF WHO. Baby-friendly hospital initiative. WHO Press, Geneva, 2006.
2. World Health Organisation. Protecting, promoting and supporting breast-feeding: the special role of maternity services. WHO, Geneva, 1989.
3. Calldeira AP, Goncalves E. Assesment of the impact of implementing The Baby-Friendly Hospital Initiative. J Pediatr. 2007;83:127-32.
4. Hannula L, Kaunonen M, Tarkka MT. A sistematic review of professional support interventions for breastfeeding. J Clin Nurs. 2008;17:1132-43.
5. Chien LY, Tai CJ, Chu KH, Ko YL, Chiu YC. The number of Baby Friendly Hospital practices experienced by mothers is positively associated with breastfeeding: a questionnaire survey. Int J Nurs Stud. 2007;44:1138-46.
6. Navidi T, Chaudhuri J, Merwood A. Accuracy of breastfeeding data on the Massachusetts birth certificate. J Hum Lact. 2009;25:151-56.
7. Murray EK, Ricketts S, Dellaport J. Hospital practices that increase breastfeeding duratio: results from a population-based study. Birth. 2007;34: 202-11.
8. Camurdan AD, Ozkan S, Yuksel D, Pasli F, Sahin F, Beyazova U. The effect of the baby-friendly hospital initiative on long-term breastfeeding. Int J Clin Pract. 2007;61:1251-5.
9. Bartington S, Griffiths LJ, Tate AR, Dezateux C. Are breastfeeding rates higher among mothers delivering in baby friendly accredited maternity units in the UK? Int J Epidemiol. 2006;35:1178-86.
10. Phillipp BL, Radford A. Baby-Friendly: snappy slogan or standard of care? Arch Dis Child Fetal Neonatal Ed. 2006;91:F145-F9.
11. Merten S, Dratva J, Ackerman-Liebrich U. Do Baby-Friendly hospitals influence breastfeeding duration on a national level? Pediatrics. 2005;116: E702-E8.
12. Johnston J. Midwives, breastfeeding, and baby friendly Australia. Aust Coll Midwives Inc J. 1996; 9:21-4.
13. Levin A. The mother-infant unit at Tallinn Children's Hospital, Estonia: a truly Baby-Friendly unit. Birth. 1994;21:39-44.
14. Hoyer S, Pokorn D. The influence of various factors on breast-feeding in Slovenia. J Adv Nurs. 1998;27:1250-6.
15. Hoyer S, Horvat L. Successful breast-feeding as a result of a health education programme for mothers. J Adv Nurs. 2000;32:1158-67.
16. Bratanič B. Baby friendly hospital initative as breastfeeding promotion tool in Slovenia. In: Felc Z, Skale C, ed. Breastfeeding in contemporary praxis. Association of lactation and breastfeeding consultants of Slovenia. Celje, 2008;109-19.
17. Trdič J, Moravec Berger D, Pribaković Brinovec R. Health statistical yearbook 2007. Institute of Public Health of the Republic of Slovenia, Ljubljana, 2009.
18. Cattaneo A, Yngve A, Koletzko B, Guzman LR. Protection, promotion and support of breast-feeding in Europe: current situation. Public Health Nutr. 2005;8:39-46.
19. SYSTAT for Windows, version 5.0. SYSTAT, Evanstone, 1992.
20. Perez-Escamilla R. Evidence based breast-feeding promotion: the baby-friendly hospital initiative. J Nutr. 2007;137:484-7.
21. Walker M. International breastfeeding initiatives and their relevance to the current state of breastfeeding in the United States. J Midwifery Womens Health. 2007;52:549-55.
22. Forster AD, McLachlan HL. Breastfeeding initiation and birth setting practices: a review of the literature. J Midwifery Womens Health. 2007;52: 273-80.
23. Declercq E, Labbok MH, Sakala C, O'Hara MA. Hospital practices and women's likelihood of

fulfilling their intention to exclusively breastfeed. Am J Public Health. 2009;99:929-35.
24. Merewood A, Mehta SD, Chamberlain LB, Philip BL, Bauchner H. Breastfeeding rates in US Baby-Friendly hospitals: results of a national survey. Pediatrics. 2005;116:628-34.
25. Hofvander Y. Breastfeeding and the Baby Friendly Hospital Initiative (BFHI): organization, response and outcome in Sweden and other countries. Acta Paediatr. 2005;94:1012-6.
26. Labbok MH, Wardlaw T, Blanc A, Clark D, Terreri N. Trends in exclusive breastfeeding: findings from the 1990s. J Hum Lact. 2006;22:272-6.
27. Broadfoot M, Britten J, Tappin D, MacKenzie J. The Baby Friendly Hospital Initiative and breast feeding rates in Scotland. Arch Dis Child Fetal Neonatal. 2005;90:F114-6.
28. Nakar S, Peretz O, Hoffman R, Grossman Z, Kaplan B, Vinker S. Attitudes and knowledge on breastfeeding among paediatricians, family physicians, and gynaecologists in Israel. Acta Paediatr. 2007;96:848-51.
29. Gagnon AJ, Leduc G, Waghorn K, Yang H, Platt RW. In-hospital formula supplementation of healthy breastfeeding newborns**.** J Hum Lact. 2005;21: 397-405.
30. Kramer MS, Kakuma R. The optimal duration of exclusive breastfeeding: a systematic review. WHO Press, Geneva, 2001.

S a ž e t a k

KARAKTERISTIKE DOJENJA U PRAKSI U SLOVENIJI NAKON PROVEDBE INICIJATIVE BABY-FRIENDLY HOSPITAL

S. Hoyer, T. Križaj, R. Sotler

Cilj: usporediti studije vezane za praksu dojenja prije i poslije provođenja inicijative "Bolnica prijatelj djece" u Sloveniji. Design studije: komparativna deskriptivna studija temeljena na upitnicima. Sudionici: 592 majke, srednja dob djece od 18,18 mjeseci. Metode: upitnici koji se odnose na dojenje dani su majkama čija su djeca u dobi između 1 i 2 godine. Rezultati su uspoređeni s rezultatima dviju prije provedenih studija. Statistika: primijenjeni su: Systat program za Windowse, raspodjela frekvencije, t-test i testovi korelacije. Rezultati: u posljednjih 15 godina, od ukupnog broja žena uključenih u ovu studiju, postotak žena koji se prije djetetova rođenja odlučio na dojenje porastao je sa 77,3% na 94,6%. Frekvencija majki koje su dojile dijete 24 sata na dan tijekom prvog mjeseca djetetova života porasla je 7,85-9,1 puta. Značajan porast hranjenja djece isključivo dojenjem u prvih mjesec dana također se uočava: 1993. dojenje se kao jedini način prehrane djeteta nije uopće prakticiralo, 1997. godine 16,4% majki u prvih mjesec dana isključivo doji, dok danas taj postotak iznosi 83,1%. Dojenje kao isključiv način prehrane, započinjanje i duljina dojenja u Sloveniji su se poboljšali. Potrebno je provesti mjere promicanja zdravstvene edukacije roditelja i zdravstvenih djelatnika.

Deskriptori: DOJENJE – trendovi; SLOVENIJA

Primljeno/Received: 15. 3. 2011.
Prihvaćeno/Accepted: 25. 5. 2011.