

The evaluation of knowledge and activities of primary health care professionals in promoting breast-feeding

Giedra Levinienė, Aušra Petrauskienė, Eglė Tamulevičienė¹,
Jolanta Kudzytė¹, Liutauras Labanauskas¹

Laboratory for Social Pediatrics, Institute for Biomedical Research,

¹Department of Children's Diseases, Kaunas University of Medicine, Lithuania

Key words: breast-feeding; breast milk; breast-feeding promotion; primary health care.

Summary. The objective of this study was to evaluate the knowledge and activities of Kaunas primary health care center professionals in promoting breast-feeding.

Material and methods. A total of 84 general practitioners and 52 nurses participated in the survey, which was carried out in Kaunas primary health care centers in 2006. Data were gathered from the anonymous questionnaire.

Results. Less than half of general practitioners (45.1%) and 65% of nurses were convinced that baby must be exclusively breast-fed until the age of 6 months, but only 21.6% of general practitioners and 27.5% of nurses knew that breast-feeding with complementary feeding should be continued until the age of 2 years and longer. Still 15.7% of general practitioners and 25% of nurses recommended pacifiers; 7.8% of general practitioners advised to breast-feed according to hours. Half of the health professionals recommended additional drinks between meals; one-third of them – to give complementary food for the babies before the age of 6 months. One-third (29.6%) of the health professionals surveyed recommended mothers to feed their babies more frequently in case the amount of breast milk decreased.

Conclusions. The survey showed that knowledge of medical personnel in primary health care centers about the advantages of breast-feeding, prophylaxis of hypogalactia, and duration of breast-feeding was still insufficient.

Introduction

It is well recognized that healthy nutrition is essential to normal growth and development during childhood and central to establishing the foundation for lifelong health. Human milk is uniquely engineered for human infants and is the biologically natural way to feed infants. Breast-feeding is the only relevant method of nutrition of infant, determining harmonious growth and development. It is a process having a unique biological and emotional impact both on mother's and child's health (1–6). There are many health benefits and advantages of breast-feeding at all stages of life. Evidence shows that breast-feeding is protective against infectious diseases such as upper and lower respiratory tract infections, gastrointestinal illnesses, and otitis media during the infant period and beyond (7, 8). A recent meta-analysis of studies conducted in developed countries indicated more than tripling of severe respiratory tract illnesses requiring hospitalization for formula-fed infants compared with those exclusively breast-fed for at least 4 months (9).

Studies have found breast-feeding to be protective against asthma and allergy (10, 11). A number of recent meta-analyses and quantitative reviews indicate a protective effect of breast-feeding, even for a short duration, against childhood obesity (12, 13), against chronic diseases such as ischemic heart disease and atherosclerosis, diabetes (7, 8, 14, 15). Both short- and long-term breast-feeding is protective against childhood acute lymphoblastic leukemia and acute myeloblastic leukemia (16).

There is compelling evidence that breast-feeding is protective against developing breast and ovarian cancer (17, 18). Studies have shown that hormonal changes associated with breast-feeding help to recover after childbirth and suppress maternal fertility (19).

Breast-feeding has been consistently shown to be protective against a large range of immediate- and longer-term health outcomes that are a significant burden on individuals, the health system, and society. For these reasons, the Department of Health and Human Services Healthy People 2010 initiative has set a goal

of having 75% of mothers breast-feeding immediately postpartum, 50% up to 6 months, and 25% up to one year (20).

Data from recent surveys on breast-feeding prevalence and duration showed that year by year more mothers tend to breast-feed longer, but breast-feeding rates in Lithuania still are not high. According to the data of the "Program of Nutrition Improvement in Infants and Children till 3 Years of Life," even 30% of women stopped breast-feeding during the first month after delivery, though almost all of them were breast-feeding their babies while leaving maternity ward. Less than one-third (30.5%) of mothers were breast-feeding up to 6 months, and only 10% of them – up to 1 year (2). Therefore, further measures to promote, protect, and support breast-feeding must be taken. Mothers with arising problems in breast-feeding must get qualified support as early as possible. In this situation, the role of primary health care professionals is crucial.

Many studies evaluating the importance of Baby Friendly Hospital Initiatives in breast-feeding promotion were carried out, but still there are only few surveys regarding the knowledge and activities of primary health care professionals in breast-feeding promotion.

The aim of this study was to evaluate the knowledge and activities of professionals in primary health care centers (PHCCs) while promoting breast-feeding.

Material and methods

The survey was performed in all Kaunas PHCCs ($n=26$) (except 5 largest outpatient clinics of Kaunas city: Dainava, Šilainiai, Kalniečiai, Centras, and Šančiai) in January 2006. A pilot study was carried out to evaluate the quality of the questionnaire before the survey. The data were obtained from two questionnaires about knowledge and activities in promoting breast-feeding. One was delivered for general practitioners (GPs) and nurses (included 22 questions) and another – for mothers (included 31 questions). The response rate was 60.7% ($n=51$) among general practitioners, 76.9% ($n=40$) among nurses, and 69.8% ($n=284$) among mothers. Mothers, having children up to one year of age, were included in the survey. Health professionals and mothers were questioned anonymously.

Statistical Package for the Social Sciences (SPSS) for Windows was used for data analysis. Differences between proportions of groups were compared using χ^2 test. For 2×2 tables, where an expected cell was less than 5, Fisher exact test was used. The differences were considered statistically significant, when

$P < 0.05$; highly significant, when $P < 0.01$; and very highly significant, when $P < 0.001$. Missing or inconsistent responses were excluded. The results of the statistical analyses are presented in the tables and figures.

The study was approved by the Ethics Committee of Kaunas Region.

Results

The data of our survey showed that approximately one-third of PHCC professionals (31.4% of GPs and 37.5% of nurses) had the program of supporting and promoting breast-feeding in their centers.

Although almost all surveyed GPs (90.2%) answered that they knew the benefits of breast-feeding, the obtained data showed that their knowledge was insufficient. Only one-fourth of respondents (25.6%) mentioned that mother's milk improves infant's immune system, 12.8% knew that it is most adequate nutrition for infants, and only 0.8% that it is beneficial to psychological development of infant and the health of mother. Not a single advantage of breast-feeding was mentioned by 5.6% of GPs.

The knowledge of the nurses was insufficient as well: the impact of breast milk on the health of infant was mentioned only by 5.6% of nurses, the impact on infant's immunity – by 16% of nurses; 11.2% of nurses knew that mothers milk satisfies the nutritional demands of infant. It is a pity that only few nurses knew that breast-feeding affects the health of mother positively.

The breast-feeding strictly by hours was recommended by 7.8% of GPs, though the WHO has already been recommending for more than 10 years breast-feeding on demand.

Only one-third (29.6%) of the health professionals recommended mothers to feed their babies more frequently when the amount of breast milk started to decrease and 26.3% recommended to increase the amount of liquids in the mother's diet (Fig. 1).

The survey showed that 51% of GPs and 45% of nurses recommended mothers to give additional liquids (water, tea) between breast-feeding of an infant.

The data of our survey showed that still one-third of health care professionals recommended mothers to give complementary food for infants before 6 months of age (Fig. 2).

The data analyses showed that approximately half of PHCC professionals knew that baby must be exclusively breast-fed until the age of six months (Table 1). Only 21.6% of GPs and 27.5% of nurses

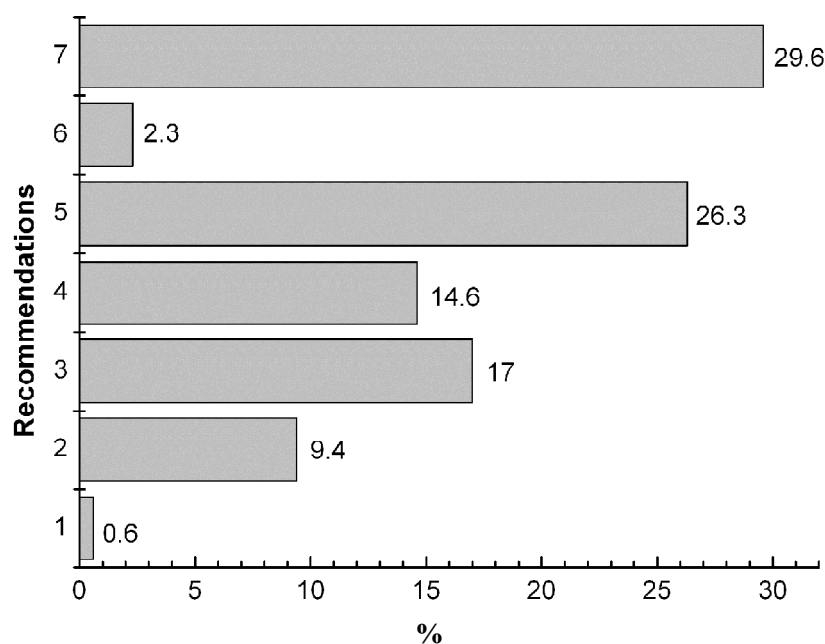


Fig. 1. Recommendations of health professionals for prophylaxis of hypogalactia

1 – to consult with successfully breast-feeding mother; 2 – to adjust mothers diet; 3 – to avoid stress; 4 – to rest more; 5 – to use more liquids; 6 – to use lactation “increasing” products; 7 – to feed infant more often.

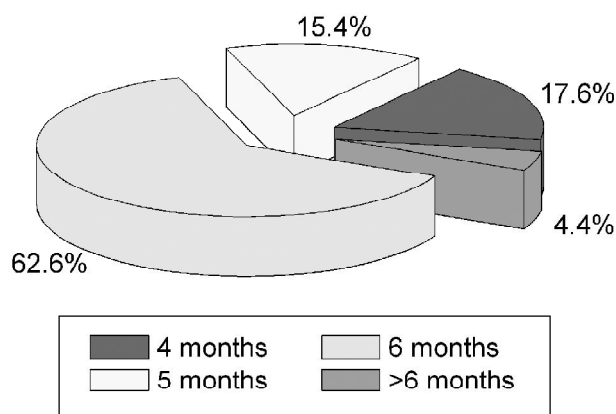


Fig. 2. Respondents' answers to the question, "From what age do you recommend mothers to give complementary food for infants?"

knew that breast-feeding accompanied with complementary food should be continued until the age of 2 years and longer.

The survey showed that most of GPs (84.3%) and nurses (75%) did not recommend mothers to use babies' pacifiers.

The data of our survey showed that almost all health care professionals answered positively that they provide mothers with information about the importance of breast-feeding on infant's development, health as well as on mothers' health, its economic benefit, and influence on family planning.

The data analyses showed that 52.5% of nurses and 47.1% of GPs answered that they were helping

Table 1. The answers of health professionals to the question, "According to your opinion, for how long should the exclusive breast-feeding last?"

Infant age	General practitioners		Nurses	
	n	%	n	%
<1 month	0	0.0	0	0.0
2 months	0	0.0	0	0.0
3 months	2	3.9	0	0.0
4 months	5	9.8	0	0.0
5 months	8	15.7	3	7.5
6 months	23	45.1	26	65.0
>6 months	13	25.5	11	27.5
Total	51	100	40	100

mothers to solve the arising problems and were giving advices concerning breast-feeding. The majority of women were eager to breast-feed their babies, but some of them just lacked confidence. Almost all GPs (96.1%) and nurses (97.5%) answered that they were convincing mothers to breast-feed. The special literature about breast-feeding for mothers was recommended by 70.6% of GPs and 80% of nurses. To the question why health care professionals were not promoting breast-feeding, they answered that main reasons were as follows: refusal of mothers to breast-feed, lack of special literature, and lack of time for discussions.

Data of the survey showed that 90.2% of GPs and 92.5% of nurses answered that they were encouraging family members to help mothers in breast-feeding. One-half of GPs and one-third of nurses (33.3%) have advertisements of infant formula, pacifiers, and bottles for feeding in their clinics.

It was revealed that knowledge of health professionals, providing the information about the benefits of breast-feeding, and the mothers, getting that information, differed a lot.

Distribution of the positive respondents' answers about providing/getting information on advantages of breast-feeding is shown in Fig. 3. Majority of GPs and nurses told that they provided mothers with in-

formation about the impact of breast-feeding on the mother's health, family planning, economic benefit of breast-feeding, but only approximately half of the mothers answered that they received that information from health professionals ($P<0.001$).

All surveyed nurses and majority of GPs answered that they provided mothers with information about positive influence of frequent breast-feeding and breast-feeding on demand on production of breast milk. Only 69% of mothers answered positively to the same question ($P<0.05$) (Fig. 4).

Data analyses showed the statistically significant differences ($P<0.05$) between the positive answers of health professionals and mothers to the question, "Have you provided/got information about the technique of breast-feeding?" (Fig. 4).

As we can see from the data presented in Table 2, almost all GPs and nurses answered and they often or almost always helped mothers to solve the arising problems and gave advices concerning breast-feeding. Table 3 gives the distribution of mothers' answers to the question, "Did health professionals help to solve the problems concerning breast-feeding?" Only half of mothers answered positively to this question.

The data of the survey showed that almost all GPs and nurses answered that they supported and encouraged mothers to breast-feed, but only 25% of

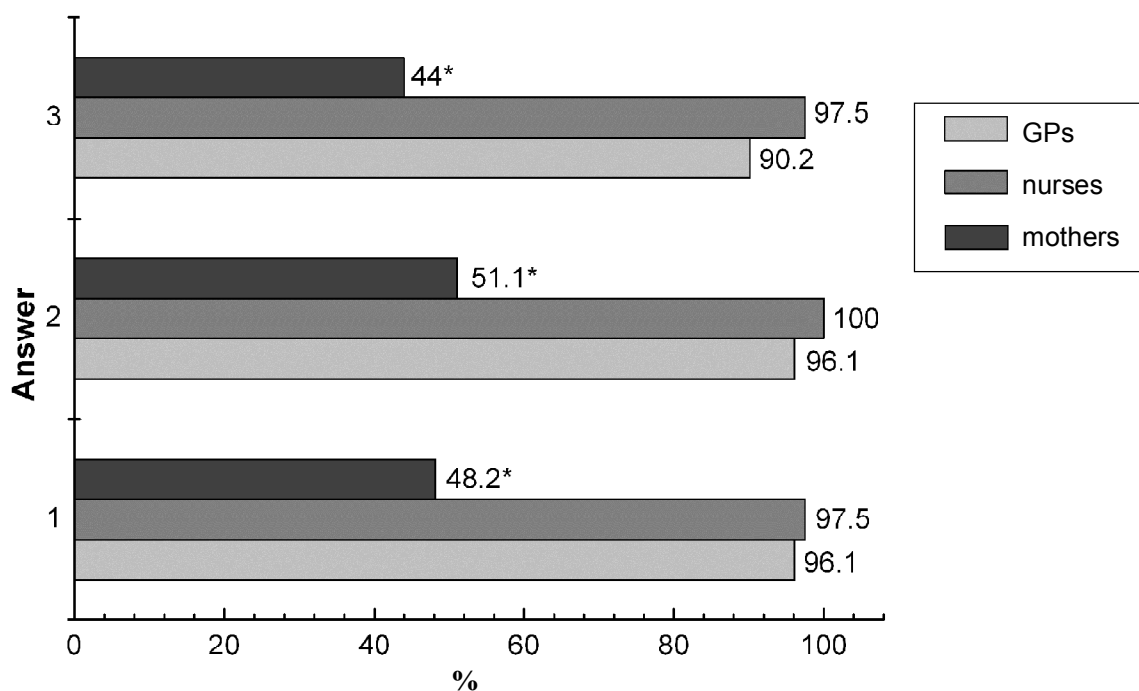


Fig. 3. The distribution of the respondents' positive answers about providing/getting information about advantages of breast-feeding

1 – positive influence to the health of mother; 2 – economic benefit; 3 – influence on family planning.

* $P<0.001$ compared with general practitioners and nurses.

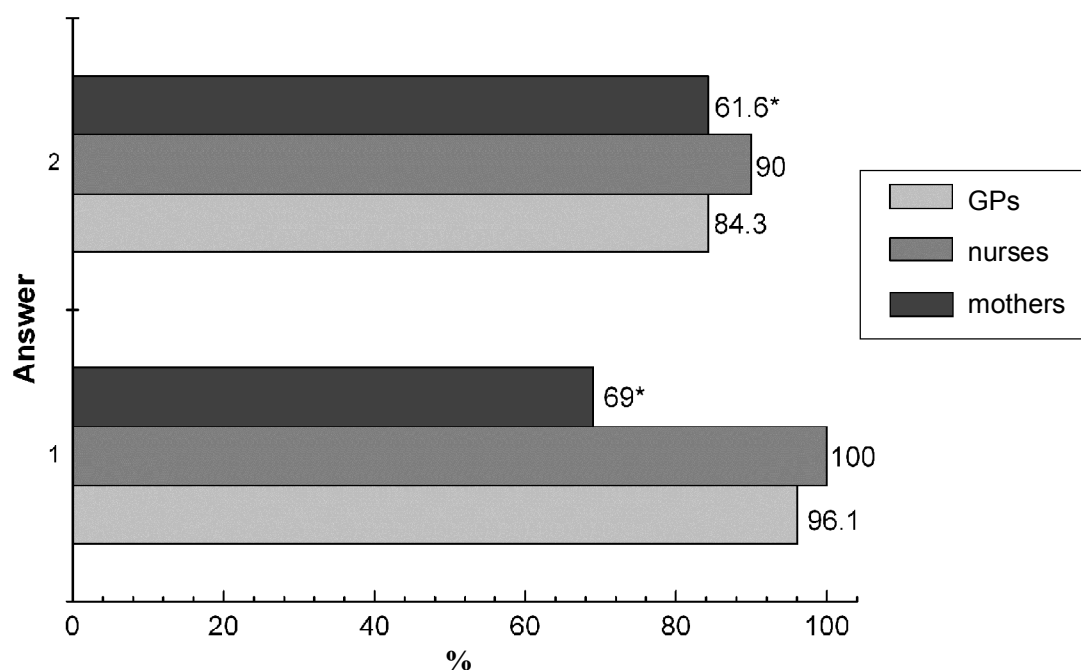


Fig. 4. The distribution of the positive respondents' answers about providing/getting information about positive influence of frequent breast-feeding on production of breast milk (1) and technique of breast-feeding (2)

* $P < 0.05$ compared with general practitioners and nurses.

Table 2. Distribution of the answers of health professionals to the question, "Did you help mothers to solve the problems concerning breast-feeding?"

Help mothers to solve the problems	Nurses		General practitioners	
	n	%	n	%
Always	21	52.5	24	47.1
Often	19	47.5	25	49.0
Sometimes	0	0.0	2	3.9
Never	0	0.0	0	0.0
Total	40	100	51	100

Table 3. Distribution of the answers of mothers to the question, "Did health professionals help to solve you the problems concerning breast-feeding?"

Helped to solve the problems	n	%
Never	11	6.9
Always	79	49.4
Insufficiently	27	16.8
Did not ask for help	43	26.9
Total	160	100

mothers answered that they felt that support from health professionals ($P < 0.05$) (Fig. 5).

We found statistically significant differences ($P < 0.001$) between the answers of health profession-

als and mothers to the question, "Did health professionals encourage family members to help mothers in breast-feeding?" (Fig. 6).

Discussion

The protection, promotion, and support of breast-feeding should be the priority of public health as exclusive breast-feeding for the first 6 months of life ensures optimal growth, psychomotorical development, and health. Later on, breast-feeding, with appropriate complementary foods, continues to contribute to the infant's and young child's nutrition and health. Breast-feeding could prevent one million or more child deaths a year, but it requires support that is skilled care for mothers to build their confidence

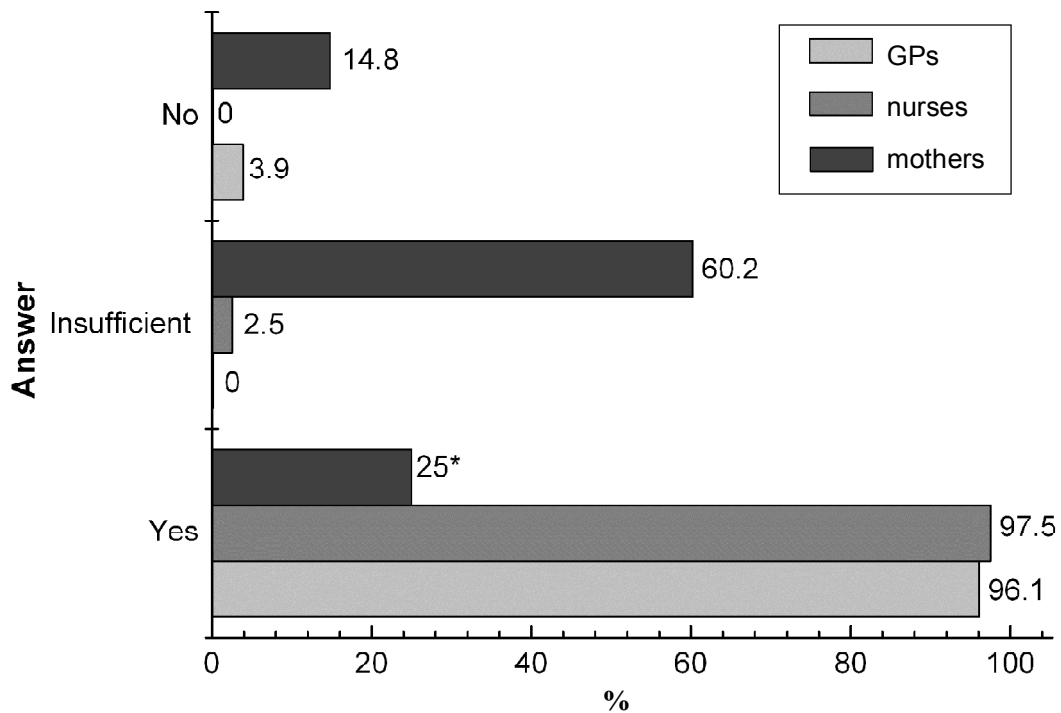


Fig. 5. Distribution of the respondents' answers to the question, "Did you provide/get support and encouragement on breast-feeding?"

* $P < 0.05$ compared with general practitioners and nurses.

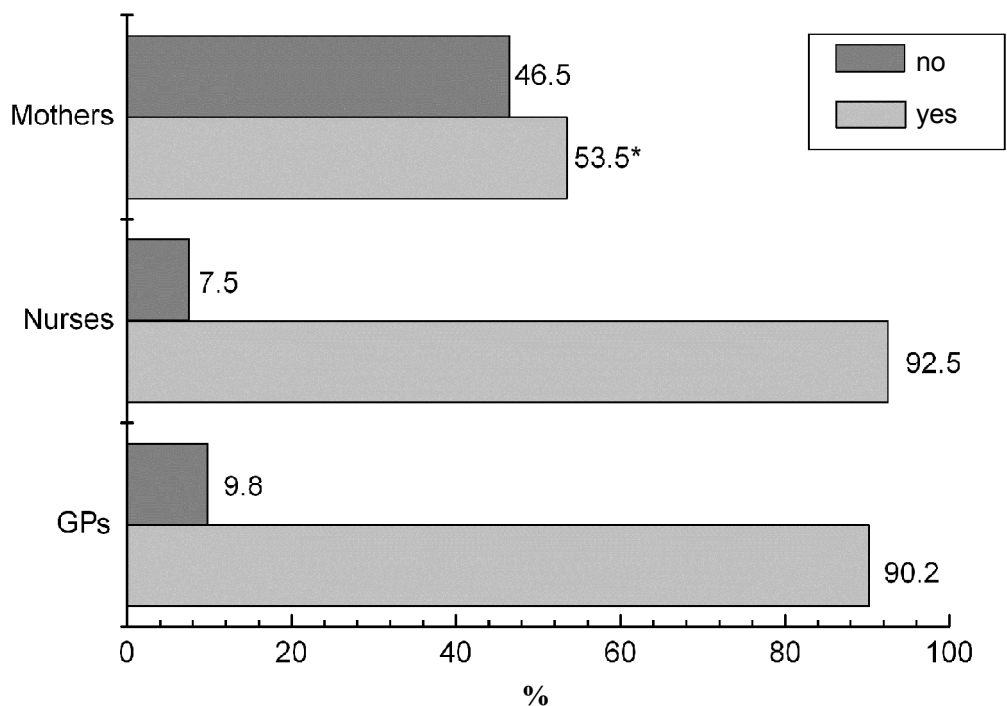


Fig. 6. Distribution of the respondents' answers to the question about encouragement of family members to help a mother in breast-feeding

* $P < 0.001$ compared with general practitioners and nurses.

and show them what to do, as well as protection from harmful practices (21).

Public health initiative to protect, promote, and support breast-feeding should be based on the Global Strategy on Infant and Young Child Feeding, adopted by all WHO Member States at the 55th World Health Assembly in May 2002 (22). Unfortunately, it is not fully promoted and supported. Many health care and social institutions provide services that often represent obstacles to the initiation and continuation of breast-feeding (21). As a result, not all children get this ideal start to life. Low rates and early cessation of breast-feeding have important adverse health and social implications for women, children, community, and the environment, result in greater expenditure on national health care provision, and increase inequalities in health (8).

In Lithuania, low rates of breast-feeding were observed when pediatricians took care of children in the 1970–90s. Baby-Friendly Hospital Initiative was of high importance in promoting and supporting breast-feeding in maternity services. Many studies evaluating the importance of this initiative were carried out, but still there are only few surveys regarding the knowledge and activities of primary health care professionals in breast-feeding promotion. Now GPs more than pediatricians are responsible for child health, but still there are no data if they are ready to promote and protect breast-feeding. Therefore, the task of our study was to find out about the real our days' situation.

Overall, meta-analyses and narrative systematic reviews indicate that well-conducted educational and support interventions have substantial and significant effects on breast-feeding duration. Postnatal home visiting appears to be particularly beneficial. Support during the early weeks, when difficulties may arise, is critical (23). The data of our survey showed that approximately one-third of PHCC professionals (31.4% of GPs and 37.5% of nurses) knew about ongoing program of supporting and promoting breast-feeding and had it at their workplace.

Brazilian study showed the positive impact of a breast-feeding promotion program on duration of exclusive breast-feeding. Mothers were helped with breast-feeding problems using group discussions supervised by a pediatrician. Results showed that at 4 months, 43% of mothers attending the lactation centers were exclusively breast-feeding, compared to 18% of non-attending mothers (24).

The first thing what the World Health Assembly expects health workers to do in the area of infant feeding is to encourage and protect breast-feeding.

Health workers should be able to explain clearly the benefits and superiority of breast-feeding. It is not sufficient just to say that breast is best. A woman needs to know that only by breast-feeding she will provide her baby with the antibodies that will give protection against a variety of illnesses. She should be also aware that breast-feeding reduces her own risk of breast and ovarian cancer (25). The data of our survey showed that knowledge of health workers in PHCCs about the benefits of breast-feeding was insufficient: only one-fourth of GPs and 16% of nurses mentioned that mother's milk improves infant's immunity, and only 0.8% of GPs and few nurses knew that breast-feeding effects the mother's health positively.

The results of national survey of physicians practicing in pediatrics, obstetrics, and family medicine carried out in South Carolina (the United States) showed that all groups of doctors had poor knowledge of breast-feeding benefits and management, and that doctors rated their own training as inadequate: more than 25% of all respondents surveyed did not believe that exclusive breast-feeding was the best for optimal infant's nutrition. The authors concluded that current training inadequately prepared pediatricians for their role in breast-feeding promotion and management (26).

For breast-feeding to be successfully initiated and established, mothers need the active support. Ideally, all health workers with whom mothers come into contact would be committed to promoting breast-feeding and would be able to provide appropriate and truthful information as well as demonstrate a thorough practical knowledge of breast-feeding management. The results of our study showed that knowledge of primary health care professionals about breast-feeding management was insufficient and sometimes incorrect. The WHO has already been recommending for 10 years breast-feeding on demand (2, 27). It is a pity that still there are doctors who follow back-looking information and give it to the mothers. The results of our study showed that breast-feeding strictly by hours was still recommended by 7.8% of GPs.

We found that only one-third of the health professionals recommended mothers to feed their babies more frequently when the amount of breast milk decreased and even 26.3% recommended to increase the amount of liquids in the mother's diet. These results show an insufficient and incorrect health professionals' knowledge about breast-feeding problems and their elimination. Such wrong information can strike the confidence of the mother. More often breast-feeding is indicated as the most sufficient measure for prophylaxis of hypogalactia; on the contrary, more liquids in the mother's diet has no significant influence

on the production of milk (2).

Additional liquids (water, tea) between breast-feeding of an infant are not recommended by the WHO, because of negative impact on lactation (2, 27, 28). Our survey showed that only one-half of GPs and nurses followed these recommendations. This means that lactating mothers get inappropriate information, because of lack of knowledge of some health professionals.

Breast milk fully satisfies the nutritional and liquid demands of an infant until the age of 6 months. So mothers have to get this very important information that baby must be exclusively breast-fed during that period (28). The data of our survey showed that still 33% of primary health care professionals recommended mothers to give complementary food for infants before the age of 6 months.

The exclusive breast-feeding of infant for the first 6 months as recommendation for world community health was announced in the resolution of the World Health Assembly in 2001. The optimal duration of breast-feeding for infants and young children consists of exclusive breast-feeding for the first 6 months followed by breast-feeding accompanied with supplementary feeding continued till the age of 2 years and longer (28–30). This meets with the requirements of the recommendations to health care specialists, prepared by the Ministry of Health of the Republic of Lithuania (2). Our survey revealed that not all health professionals knew the correct breast-feeding recommendations: only 45.1% of GPs and 65% of nurses knew that baby must be exclusively breast-fed until the age of 6 months, and only 21.6% of GPs and 27.5% of nurses knew that breast-feeding with complementary food must be continued until the age of 2 years and longer.

The literature sources emphasize the importance of family member support to successful mother's breast-feeding (5, 31). Data of our survey showed that 90.2% of GPs and 92.5% of nurses answered that they were encouraging family members to help mothers in breast-feeding, but on the contrary, only half of mothers answered that health professionals encouraged members of their families.

The World Health Assembly concerning the aggressive marketing of artificial feeding that has a negative impact on infant health and survival adopted the International Code of Marketing of Breast Milk Substitutes in 1981 (32). Improper practices in the marketing of breast milk substitutes were contributing to inappropriate feeding practices and causing infant malnutrition, morbidity, and mortality in all countries. The advertisement of infant formulae, pacifiers, and other products related to artificial feeding is prohibited in PHCCs, according the order of the Ministry of

Health of the Republic of Lithuania, No. V-612 (33). Data analysis showed that half of GPs and one-third of nurses have advertisements of infant formulae, pacifiers, bottles for feeding in their clinic. It means that international recommendations and even governmental orders are ignored at most PHCCs.

Having compared the data of answers of PHCC professionals about their activities and knowledge in promoting breast-feeding and opinion of mothers about the help and information they have received, we conclude that this help was insufficient.

The data of our study showed the real situation of the attitude, knowledge, and activities of Kaunas PHCC professionals in promoting breast-feeding. Conclusions of this survey have to motivate GPs and nurses to support and promote breast-feeding.

The Convention of the Child Rights says that breast-feeding knowledge and the implementation of good breast-feeding practices are basic rights. The Convention has become one of the international instruments that advocate the use of breast-feeding promotion.

Conclusions

1. The knowledge about the advantages of breast-feeding among health professionals surveyed in primary health care centers was insufficient: only one-fourth of general practitioner and even fewer nurses have mentioned that mother's milk improves infant's immunity, one from ten knew that it is most adequate for infant's nutrition, and only few mentioned that it is useful to the mother's health.

2. Only one-third of the health professionals surveyed knew correct prophylaxis of hypogalactia. Knowledge about duration of exclusive breast-feeding as well as breast-feeding accompanied with complementary feeding was better among nurses than doctors (65% and 45.1%, 27.5% and 21.6%; respectively).

3. In many cases in practice, the promotion of breast-feeding was even incorrect: half of health professionals (51% of general practitioners and 45% of nurses) recommended additional liquids between feedings; one-third (33%) recommended complementary feeding for infants before the age of 6 months; some of them recommended pacifiers or breast-feeding by hours.

4. Although almost all health professionals told they informed mothers about the importance of breast-feeding, giving instructions of correct breast-feeding technique, prophylaxis of hypogalactia, persuading family members to help the lactating women, most of mothers answered that information was insufficient or even they did not get it at all.

Pirminės sveikatos priežiūros specialistų žinių ir veiklos, skatinant kūdikių žindymą, įvertinimas

Giedra Levinienė, Aušra Petrauskienė, Eglė Tamulevičienė¹,
Jolanta Kudzytė¹, Liutauras Labanauskas¹

Kauno medicinos universiteto Biomedicininų tyrimų instituto Socialinės pediatrijos laboratorija,

¹Vaikų ligų klinika

Raktažodžiai: žindymas, motinos pienas, žindymo skatinimas, pirminė sveikatos priežiūra.

Santrauka. *Tyrimo tikslas.* Įvertinti Kauno miesto pirminės sveikatos priežiūros centrų specialistų žinias ir veiklą skatinant kūdikių žindymą.

Medžiaga ir metodai. Kauno miesto Šeimos klinikose buvo apklausti bendrosios praktikos gydytojai (n=84) ir slaugytojos (n=52). Vienmomentė anoniminė apklausa vyko 2006 m. sausio mėnesį.

Rezultatai. 45,1 proc. bendrosios praktikos gydytojų ir 65 proc. slaugytojų mano, kad maitinti kūdikį tik motinos pienu reikia iki 6 mėn. amžiaus ir tik 21,6 proc. bendrosios praktikos gydytojų bei 27,5 proc. slaugytojų mano, kad tęsti maitinimą motinos pienu kartu su papildomu maistu reikia iki dviejų metų ir ilgiau. 15,7 proc. bendrosios praktikos gydytojų ir 25 proc. slaugytojų vis dar rekomenduoja čiułptuką, 7,8 proc. bendrosios praktikos gydytojų rekomenduoja žindyti pagal režimą. Pusė apklaustų medikų dar rekomendavo duoti papildomų skysčių tarp maitinimų, trečdalis – duoti papildomo maisto jaunesniems nei 6 mėn. kūdikiams. Tik trečdalis (29,6 proc.) apklaustų medikų rekomendavo, pradėjus mažėti pieno kiekiui, mamoms dažniau pridėti kūdikį prie krūties.

Rezultatai. Pirminės sveikatos priežiūros centrų specialistų žinios apie žindymo privalumus, hipogalaktijos profilaktiką, maitinimo krūtimi trukmę buvo nepakankamos.

Adresas susirašinėti: G. Levinienė, KMU BMTI Socialinės pediatrijos laboratorija, Eivenių 2-515, 50009 Kaunas
El. paštas: giedrale@gmail.com

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