

# A Comparison of Maternal Knowledge About Breastfeeding in Baby-Friendly Maternity Hospital and not as yet Baby-Friendly Hospital

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**Key words:** breastfeeding; maternal knowledge; first-time mothers; Baby-Friendly Hospital.

**Summary.** *The aims* of this study were to compare the level of knowledge about breastfeeding between the first-time mothers who gave birth in a Baby-Friendly Hospital and those who gave birth in a hospital that pursues this accreditation and to establish the intended duration of breastfeeding among the first-time mothers.

**Methods.** A descriptive and exploratory design was used. A study questionnaire was developed by researchers. The study was conducted at the Unit of Obstetrics, Hospital of the Lithuanian University of Health Sciences (HLUHS), that is accredited as a Baby-Friendly Hospital and the Kaunas P. Mažylis Maternity Hospital that pursues this type of accreditation. A total of 146 first-time mothers took part in this study.

**Results.** Having compared the level of knowledge about breastfeeding between mothers who gave birth in both hospitals, it was found that a significantly larger proportion of women who gave birth at the Kaunas P. Mažylis Maternity Hospital had correct knowledge about the composition of human breast milk. A significantly larger proportion of women who gave birth in the HLUHS had correct knowledge that in case of swollen breasts, a woman should breastfeed an infant more frequently. The majority (83.2%) of respondents pointed out that their level of knowledge about breastfeeding was closely or partly related to their decision to breastfeed an infant.

**Conclusions.** After comparison of knowledge about breastfeeding between women who gave birth in both the hospitals, significant differences in responses were established in case of two questions. There was no significant difference in responses among respondents who gave birth in both hospitals with respect to the women's decision on the intended duration of breastfeeding.

## Introduction

Breastfeeding could be seen as the final stage of pregnancy. During this process by means of breastfeeding, a little individual lays the foundations for the future physical, mental, and spiritual health. It is extremely important for an infant to receive everything that is beneficial and required for his or her well-being from the first days of life (1–3).

One of the main provisions of the Lithuanian Health Program adopted in 1998 by the Parliament of the Republic of Lithuania aims to promote the natural way of infant feeding and to achieve an exclusive breastfeeding rate of 40% for infants aged from 4 to 6 months (2). According to data of the World Health Organization, in Lithuania, infants up to 6 months of age were breastfed by 26.6% of mothers in 2002, by 31% in 2004, and by 34.8% in 2006. The number of mothers who breastfeed their newborns up to 6 months of age continues to increase; however, this number could be higher as it

is, for instance, in Albania or Moldova where 84% to 87% of mothers continue to breastfeed newborns until the age of 6 months (4).

**Relevance of This Study.** The protection, promotion, and support of breastfeeding are among top public health priorities throughout the world. Low breastfeeding rates and early discontinuation of breastfeeding have significant health and social consequences for women, children, the community, and the environment. It results in greater expenditures on national health care provision and increases inequalities in health (5). The Baby Friendly Hospital Initiative makes significant efforts to promote breastfeeding globally through the Ten Steps to Successful Breastfeeding program. This program mainly focuses on informing and training mothers about various aspects of breastfeeding. Children born in a baby-friendly health facility are more likely to be breastfed for a longer time (6) and a positive effect on a number of parameters as an increased rate

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of in-hospital exclusive breastfeeding, mothers and babies' health, maternal knowledge about the necessary measures in Baby-Friendly Hospitals (7). In Lithuania, eight hospitals were accredited as Baby-Friendly Hospitals.

To increase breastfeeding duration, it is a high priority that all health professionals who are in contact with women provide consistent breastfeeding information to assist and encourage women to continue breastfeeding. However, some researches indicate that medical staff lacks sufficient breastfeeding knowledge for their clinical role (8) or have insufficient counseling skills (9). In Lithuania, quite a few studies were dedicated to research of knowledge on infant feeding among health care professionals, pregnant women, and mothers after delivery (10, 11). However, there has been no extensive research on whether and in what way the women's knowledge about the natural way of infant feeding and intentions to breastfeed are related to the accreditation of a hospital where women give birth. After establishing what kind of knowledge is lacking among mothers, health care professionals would be able to provide this type of knowledge and to expect longer duration of breastfeeding in Lithuania.

The aims of this study were to compare the level of knowledge about breastfeeding between first-time mothers who gave birth in a maternity ward accredited as a Baby-Friendly Hospital and those who gave birth in a hospital that pursues this accreditation and to establish the intended duration of breastfeeding among first-time mothers.

### Material and Methods

A descriptive and exploratory design was used. The study was conducted at the Unit of Obstetrics, Hospital of Lithuanian University of Health Sciences (HLUHS) Kauno Klinikos, that is accredited as a Baby-Friendly Hospital and the Kaunas P. Mažylis Maternity Hospital that pursues this type of accreditation. A total of 146 first-time mothers took part in this study: 113 from the Unit of Obstetrics of the HLUHS and 33 from the Kaunas P. Mažylis Maternity Hospital. The youngest mother was 18 years old, and the oldest was 38. The mean age of women was 26.3 (SD, 3.9) years. Respondents residing in a city accounted for 78.1% (n=114) of all participants, 13.0% (n=19) of respondents resided in small towns, and 8.9% (n=13) in rural areas. Of the 146 women who took part in this study, more than half (53.4%, n=78) had higher university level education.

**Selection Criteria.** The respondents meeting the following criteria were invited to participate in the study:

- First-time mothers;
- Women who delivered healthy newborns and remained together in the same ward;

- Women after 3 to 7 days after delivery;
- Women who could read and write in Lithuanian.

Data were collected between August and October 2009. All first-time mothers who gave birth at the Unit of Obstetrics of the HLUHS and at the Kaunas P. Mažylis Maternity Hospital and met the selection criteria were invited to participate in this study. Researchers provided the respondents with information about this study, answered their questions, obtained their consent to participate in the study, and agreed on time that was convenient for respondents to complete the study questionnaire. The questionnaire was made by researchers based on the literature analysis and their practical experience. The questionnaire consisted of 35 questions.

In the Unit of Obstetrics of the HLUHS, 136 women were invited to participate in this study, and 120 agreed to take part. A total of 113 questionnaires were returned completed and used for further analysis. The response rate was 89.7%.

In the Kaunas P. Mažylis Maternity Hospital, 38 women were invited to participate in this study, and 35 agreed to take part. Thirty-three questionnaires were returned completed and used for further analysis. The response rate was 86.8%.

A comparison between two groups was performed by applying the  $\chi^2$  test for independent samples. The reliability of statistical results was assessed by applying a 0.05 level of significance. A permission to conduct the study was granted by the Bioethics Center of the Lithuanian University of Health Sciences (former Kaunas University of Medicine). All the respondents signed informed consent form. The data were collected anonymously.

### Results and Discussion

**Maternal Knowledge About Breastfeeding.** This study aimed to establish whether there are differences in responses to questions on breastfeeding between first-time mothers who gave birth at the HLUHS and those who gave birth at the Kaunas P. Mažylis Maternity Hospital. Respondents were given several statements and then asked to choose the correct statement. An analysis of findings revealed that in case of assessment of respondents' knowledge on differences in composition between human breast milk and infant formula, the correct statement that human breast milk has a sufficient amount of water was indicated by 97% (n=32) of women who gave birth at the Kaunas P. Mažylis Maternity Hospital and by 79.7% (n=90) of women at the HLUHS ( $\chi^2=5.2$ ;  $P<0.05$ ) (Fig. 1).

More than 90% of women who gave birth in both the hospitals were aware of the fact that human breast milk did not cause infant allergy. It is interesting to note that according to the findings of the study by Kudzytė, only 24.4% of physicians knew

that infants could not be allergic to human breast milk (12).

A correct statement that in case of swollen breasts, a woman should breastfeed an infant more frequently was indicated by a significantly larger proportion of women who gave birth in the HLUHS than by those who gave birth at the Kaunas P. Mažylis Maternity Hospital (69.9% versus 39.4%;  $\chi^2=10.2, P<0.05$ ) (Fig. 2).

More than half of respondents who gave birth at the Kaunas P. Mažylis Maternity Hospital had no knowledge on how to treat swollen breasts. According to the findings of the study by Markūnienė (2003), 35% of women were incorrectly advised by physicians that they should drink less if they had swollen breasts (13). Therefore, it may be assumed that during this study, women either did not receive any information or were misinformed on breast care.

Nearly one-third of respondents in both groups, namely 30.1% (n=34) of women who gave birth in the HLUHS and 27.3% (n=9) of respondents at the Kaunas P. Mažylis Maternity Hospital, were aware of the fact that they ought to continue breastfeeding their infant as well as supplement complementary food up to 2 years of age and beyond. However, 42.5% (n=48) of women who gave birth at the HLUHS and 39.4% (n=13) of respondents at the Kaunas P. Mažylis Maternity Hospital were of the opinion that it was sufficient to continue breastfeeding an infant up to 1 year of age (Fig. 3).

A study by Finnish researchers (2010) reported that childbearing parents need more information about ways to increase lactation and reasons to start complementary feeding (14). According to the findings of other studies, only one-third of health care professionals knew that breastfeeding combined with complementary food should last until an infant is two years of age or longer (12, 15). Consequently, this might be one of the reasons why women have only as much knowledge on the recommended duration of breastfeeding as they are informed by health care professionals.

An analysis of benefits of breastfeeding revealed an interesting fact that a significantly larger proportion of women with higher university level education, namely 74.4% (n=58), chose the correct statement that there is a low probability of becoming pregnant while breastfeeding ( $\chi^2=16.1, P<0.05$ ) (Fig. 4).

The findings of this study demonstrated that respondents had insufficient correct knowledge about breastfeeding and its health benefits to the infant and the mother. One of the reasons explaining this situation, which is also supported by the findings of other researchers, is that health care professionals themselves have either little knowledge or not necessarily correct knowledge about breastfeeding

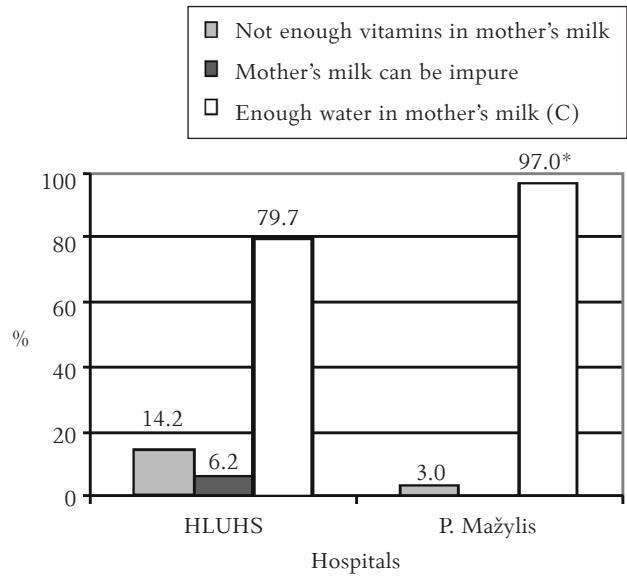


Fig. 1. Knowledge on the composition of human breast milk \* $P<0.05$ , compared with the Lithuanian University of Health Sciences (HLUHS). C, correct answer.

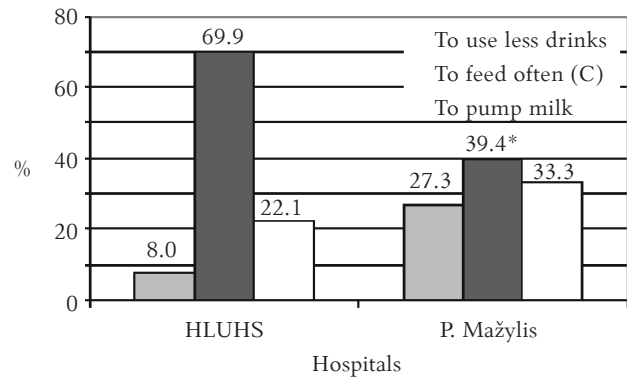


Fig. 2. Knowledge on breast care after childbirth \* $P<0.05$ , compared with the Hospital of Lithuanian University of Health Sciences (HLUHS). C, correct answer.

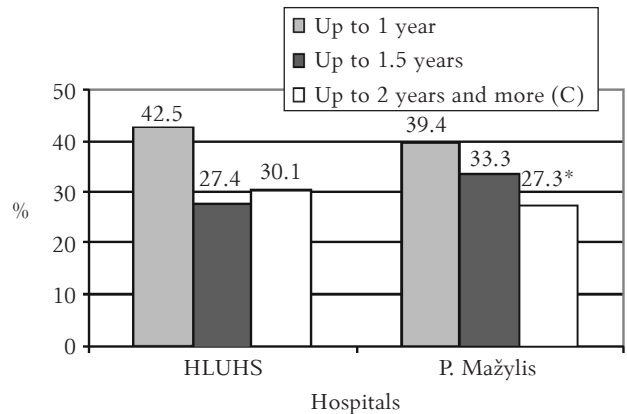


Fig. 3. The duration of infant breastfeeding with complementary food C, correct answer.

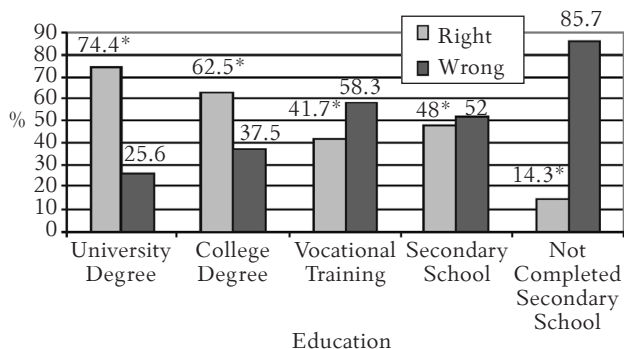


Fig. 4. Relationship between women's education and the choice of the correct statement on breastfeeding benefit for women's health

\* $P < 0.05$ , compared with wrong answers.

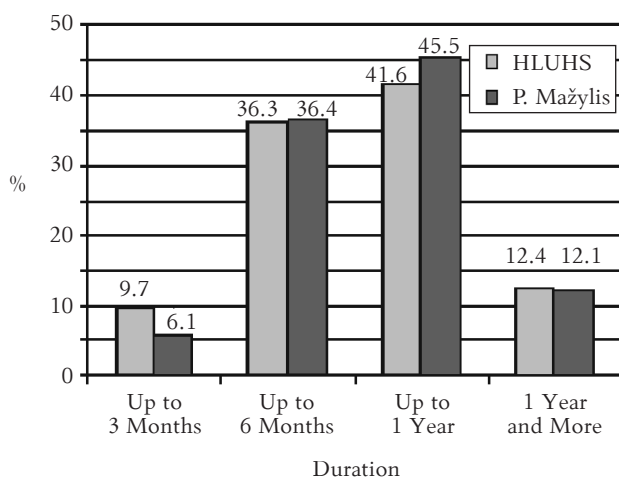


Fig. 5. Intended duration of breastfeeding

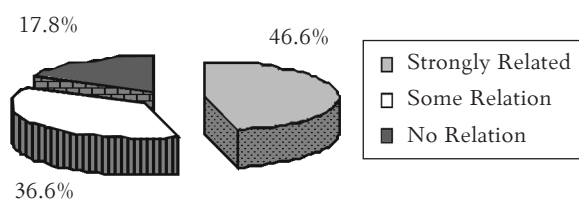


Fig. 6. Distribution of respondents' answers to the question, "Does the duration of breastfeeding depend on your knowledge about breastfeeding?"

(10, 12). Therefore, it may be presumed that women are not sufficiently informed about breastfeeding during pregnancy and after delivery. A study done in India (2010) found that of the 945 respondents, only 212 (22.4%) were advised by the multipurpose health worker on the benefits of breastfeeding (16).

**The Intended Duration of Breastfeeding.** A similar proportion of women who gave birth in both the hospitals intended to breastfeed their infants up to

6 months of age: 36.3% ( $n=41$ ) in the HLUHS and 36.4% ( $n=12$ ) in the Kaunas P. Mažylis Maternity Hospital. The same proportion of women who gave birth in both the hospitals intended to breastfeed their infants for longer than 12 months (12.4%,  $n=14$ , in the HLUHS and 12.1%,  $n=4$ , at the Kaunas P. Mažylis Maternity Hospital) (Fig. 5).

The findings of studies done by other researchers show that in Lithuania in 2005, infants up to 6 months of age were breastfed by 30.5% of mothers, and every tenth mother breastfed her infant up to 12 months of age. A significantly larger proportion of mothers with higher education had longer duration of exclusive breastfeeding (17, 18).

This study aimed to establish whether the opinion of first-time mothers on the duration of breastfeeding was influenced by their knowledge about the natural way of infant feeding. According to the findings, 46.6% ( $n=68$ ) of women indicated that their knowledge was closely related to their decision to breastfeed their infant longer, 36.6% ( $n=52$ ) of respondents pointed out that their knowledge was partly related to their decision, and 17.8% ( $n=26$ ) of women stated that their decision was not influenced by their knowledge (Fig. 6).

A Baby-Friendly Hospital that aims at practical implementation of the Ten Steps to Successful Breastfeeding Program makes significant efforts to ensure that all health care professionals employed at this type of hospital have sufficient theoretical knowledge and practical skills to encourage women who just gave birth to choose breastfeeding as the best way of infant feeding. Family physicians and obstetricians are responsible for motivating pregnant women to attend maternity classes and read relevant literature on breastfeeding. Findings of this study revealed that women had insufficient knowledge about breastfeeding; therefore, it may be assumed that health care professionals did not provide them with knowledge and information on this matter. It has to be noted that 83.2% of women pointed out that their knowledge about breastfeeding was closely or partly related to their decision to breastfeed; therefore, it is essential to seek that women should have sufficient knowledge on this matter and be able to make an informed decision to breastfeed an infant up to 2 years of age or more.

## Conclusions

Comparison of the knowledge about breastfeeding between mothers who gave birth in the HLUHS that is accredited as a Baby-Friendly Hospital and those who gave birth in the Kaunas P. Mažylis Maternity Hospital that pursues this type of accreditation showed that a significantly larger proportion of women who gave birth at the Kaunas P. Mažylis Maternity Hospital had correct knowledge about the composition of human breast milk. A signifi-

cantly larger proportion of women who gave birth in the HLUHS had correct knowledge that in case of swollen breasts, a woman should breastfeed an infant more frequently. In case of the assessment of other knowledge about breastfeeding, no significant differences were found.

There was no significant difference in responses among respondents who gave birth in both the hos-

pitals with respect to the decision on the intended duration of breastfeeding. The majority (83.2%) of respondents pointed out that their level of knowledge about breastfeeding was closely or partly related to their decision to breastfeed an infant.

#### Statement of Conflict of Interest

The authors state no conflict of interest.

## Moterų žinios apie žindymą Naujagimiui palankios ligoninės vardą turinčioje ir jo dar siekiančioje ligoninėse

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**Raktažodžiai:** žindymas, moterų žinios apie žindymą, pirmą kartą gimdanti moteris, Naujagimiui palanki ligoninė.

**Santrauka.** *Tyrimo tikslas.* Palyginti pirmą kartą gimdžiusių moterų žinias apie žindymą Naujagimiui palankios ligoninės vardą turinčiame gimdymo stacionare ir ligoninėje, siekiančioje šio vardo, bei nustatyti pirmą kartą gimdžiusių moterų ketinimo žindyti savo kūdikius trukmę.

*Tyrimo medžiaga ir metodai.* Tyrimas buvo atliekamas Lietuvos sveikatos mokslų universiteto ligoninės (tuometinių Kauno medicinos universiteto klinikų) (LSMUL), kuriai yra suteiktas Naujagimiui palankios ligoninės vardas, Akušerijos skyriuje ir Kauno P. Mažylio gimdymo namuose, kurie tokio vardo siekia. Tyrime dalyvavo 146 pirmą kartą pagimdžiusios moterys. Tiriant buvo naudojama tyrėjų parengta anketa, kurią sudarė 35 klausimai. LSMUL Akušerijos skyriuje dalyvauti tyrime sutiko 120 moterų. Atsako dažnis – 89,7 proc. Kauno P. Mažylio gimdymo namuose dalyvauti tyrime sutiko 35 moterys. Atsako dažnis – 86,8 proc.

*Tyrimo rezultatai.* Teisingą teiginį, jog motinos piene pakanka vandens, pažymėjo 97,0 proc. (n=32) Kauno P. Mažylio gimdymo namuose ir 79,7 proc. (n=90) LSMUL gimdžiusių moterų ( $\chi^2=5,2$ ) (p<0,05). Tai, jog esant išbrinkusioms krūtims, moteris turėtų dažniau žindyti kūdikį, pažymėjo reikšmingai didesnė dalis LSMUL 69,9 proc. (n=79) nei Kauno P. Mažylio gimdymo namuose 39,4 proc. (n=13) gimdžiusių moterų ( $\chi^2=10,2$ ) (p<0,05). 30,1 proc. (n=34) LSMUL ir 27,3 proc. (n=9) Kauno P. Mažylio gimdymo namuose gimdžiusių moterų žinojo, jog reikėtų tęsti kūdikio maitinimą motinos pienu kartu su papildomu maistu iki dvejų metų ir ilgiau. Reikšmingai didesnė dalis moterų, turinčių aukštąjį universitetinį išsilavinimą – 74,4 proc. (n=58) dažniau pasirinko teisingą atsakymo variantą, jog žindyvei pastoti yra maža tikimybė ( $\chi^2=16,1$ ) (p<0,05). 36,3 proc. (n=41) LSMUL ir 36,4 proc. (n=12) Kauno P. Mažylio gimdymo namuose gimdžiusių moterų ketino žindyti kūdikius iki 6 mėn. amžiaus.

*Išvados.* Lyginant LSMUL, kuriai yra suteiktas Naujagimiui palankios ligoninės vardas, ir Kauno P. Mažylio gimdymo namuose, kur šio vardo siekiama, gimdžiusių moterų žinias apie žindymą, nustatyta, kad reikšmingai didesnė dalis Kauno P. Mažylio gimdymo namuose gimdžiusių moterų žinojo apie motinos pieno sudėtį. Reikšmingai didesnė dalis moterų, gimdžiusių LSMUL, žinojo, jog, pabrėžus krūtims, jos turėtų dažniau žindyti kūdikį. Vertinant kitas moterų žinias apie žindymą, reikšmingų skirtumų nustatyta nenustatyta. Moterų apsisprendimas dėl ketinimo žindyti savo kūdikius trukmės reikšmingai nesiskyrė tarp abiejuose stacionaruose gimdžiusių moterų. 83,2 proc. tyrimo dalyvių nurodė, jog jų turimos žinios apie žindymą susijusios su apsisprendimu dėl kūdikio maitinimo krūtimi.

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