

The Importance of Breastfeeding Education (student's contribution)

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ABSTRACT

Background: Breastfeeding and breast milk nutrition is natural and non-substitutable food for a newborn. According to WHO, breast milk is the best food for all babies, including premature born and sick babies. To ensure correct and sufficient breastfeeding it is necessary to provide effective training for mothers.

Aim: The aim of this study is to analyze the existing range of educational programs and methods bringing the most impact on exclusive breastfeeding for babies less than six months.

Methods: Licensed electronic databases and freely accessible databases were used to obtain the data for the period 2004–2014. Study inclusion criteria covered education methods, breastfeeding support, education efficiency, exclusive breastfeeding for six months. From 38 previously identified studies only 19 studies met the study inclusion criteria.

Results: Illustrative and practical methods used in breastfeeding education programs appeared to be the most effective. At the same time it is necessary to pay more attention to the questions and enquiries made by women. Education in the field of breastfeeding should be initiated during the prenatal period to ensure complex education in this area.

Conclusion: Sufficient knowledge in the field of breastfeeding helps reduce the risk of various complications and breastfeeding disorders, it also promotes longer period (preferably 6 months) of breastfeeding.

KEY WORDS

Study review, newborn nutrition, midwife, prenatal care, breastfeeding education, breastfeeding support, effectiveness

ISSUE OF LITERATURE REVIEW

The aim of this study was to analyse the current use of educational interventions and methods that bring the effect of exclusive breastfeeding for children up to six months, for best evidence-based practice applicable in the Czech Republic conditions.

INTRODUCTION

Breastfeeding and nutrition with maternal milk are a natural and indispensable food for new-borns. Breastfeeding is also the most practical nutrition because it is immediately available always and everywhere. Breast milk is fresh, healthy and it has the required temperature. According to the WHO, breast milk is the best food for all children, including preterm born and sick children. In order to make the breast-feeding correct, sufficient and exclusive, it is necessary

to educate mothers effectively about it. Education, which is focused on breastfeeding, is a competence of many health professionals, especially nurses and midwives. These should provide mothers with the information about breastfeeding, its benefits, contraindications, correct techniques, gadgets, etc. Relationship, arising in the course of education, are based on the interaction between the subject of education (for example a midwife) and the object of education (for example a pregnant woman, postpartum woman, her family or the whole community). To increase the effectiveness of education, it is appropriate to follow the known didactic principles during its implementation. The principle of awareness and activity presents a responsible attitude of an individual to learning. According to the principle of comprehensive development, it is necessary to develop all

the basic components of personality and information provided to the client must be true and scientifically verified, according to the principle of scientism. Another principle is the integration of theory and practice. It is not enough to submit the information about the activity to the individual, it is necessary to be learned and practised. The principle of proportionality and the principle of individual approach is very important, as it is necessary to adapt the education to abilities, knowledge, skills and personality of the individual. The principle of emotionality represents a positive climate in the educational environment. The purpose of the principle of permanence is to learn the subject matter firmly and permanently. The principle of illustration is the oldest didactic principle, according to which the individual should gain knowledge in contact with things with all senses. Under the principle of consistency, the provided information must logically follow each other, from simple to more complex, from general to vocational, without skipping. The last principle is the principle of feedback, when it is necessary to gain information from the educated individual, whether he understands everything or whether something needs to be supplemented. During the educational activities, we should also have in mind that cognitive, affective and biological characteristics of the individual significantly affect the effectiveness of education.

Important characteristics, which can also affect the quality of education, are the social, socio-cultural and spiritual characteristics of all participants (1, 2, 3).

DESCRIPTION OF RESEARCH STRATEGY

In order to meet the objectives of contribution, we decided to use the search strategy for the period 2004-2014 in licensed and freely available electronic databases (Medline, ProQuest, Google, Google Scholar, Web of Science, Springer, Science Direct, and Cochrane Collaboration). We chose the following keywords for searching: newborn nutrition, midwife, prenatal care, lactation counselling, and breastfeeding support. To locate relevant sources, we used combinations of these keywords with involvement of Boolean operators. Criteria for inclusion of studies were the following: a method of education, breastfeeding support, efficiency of education, exclusive breastfeeding for six months. Finally, 19 studies of initially 38 identified meet the above criteria for inclusion in our analysis. Nineteen primary studies and abstracts were subsequently excluded for fulfil-

ling the objectives of the contribution, due to their lack of a source of information necessary for the elaboration of review. However, there were 1 surveillance study, 12 randomized studies (Table 1) and 6 pilot studies included in the processing of contribution.

TEXT OF LITERATURE REVIEW

We currently meet various approaches to measuring the effectiveness of lactation counselling in professional foreign sources. Experts around the world are exploring new interventions to support breastfeeding and methods to support the duration and exclusivity of breastfeeding. The National Longitudinal Study in the USA verified the influence of education by health professionals on the duration of breastfeeding in 2012. Authors of the study reached interesting results. Although health care providers, such as doctors, nurses or midwives had regular contact with the mothers, statistically significant relationship between the duration of breastfeeding and the knowledge of health professionals was not confirmed. The results probably reflect a lack of time and resources in clinical practice, but it can be a sign of the need to educate more the health care providers who themselves carry out education on breastfeeding. Social support, such as educational classes, support groups, friends or family members showed a positive correlation with prolonged breastfeeding, which stresses the importance of creating a positive environment around breastfeeding mothers (4). There was a surveillance study published in Finland in 2008, with the aim to find out, whether the longer interventions to support breastfeeding lasting from pregnancy through childbirth and beyond were more effective. The authors published a systematic review of technical interventions to support breastfeeding.

The aim of this systematic review was to describe the ways of professional support of breastfeeding during pregnancy, maternity and postpartum. The second objective was to evaluate the effectiveness of such aid. Preferred methods in this study were interactive, engaging actively the mothers in discussions. Baby Friendly Hospital and practical instruction combined with the support and active involvement of mothers were also proven as an effective initiative. Home visits, telephone support and breastfeeding centres combined with support for 'equals' - mothers to mothers appeared to be effective after childbirth (5).

Table 1 Overview of randomized studies

Author	Method of education A – experimental group B – control group	Results, conclusions
Rosen et. al. (7)	A – Video, group lessons with a lactation counsellor, support group with individual teaching before birth, lactation consultants led by a paediatrician. B – education only during prenatal visits.	Women who completed the courses had significantly higher proportion of breastfed infants at 6 months, compared with the control group.
Ekström et al. (10)	A – Education carried out by personnel trained in training of practical methods. B – Traditional education.	Group A showed significantly longer duration of exclusive breastfeeding.
Blixt et al. (11)	A – Education carried out by personnel trained in breastfeeding complications. B – Traditional education.	Women from group A were more satisfied with lactation counselling. The program for health professionals, focused on promotion of women's abilities to solve problems with breastfeeding, was proved to be effective, especially in women exclusively breastfeeding within three months.
Kresheh et al. (12)	A – Session with an instructor, dial controls the 2nd and 4th month after birth. B – Routine postnatal care.	Knowledge about breastfeeding has significantly improved, but there was no increase in the proportion of women fully breastfeeding within six months.
Mc Queen et al. (13)	A – 3 individual sessions with the researcher, telephone support. B – Standard hospital and community care.	In-group A personal effectiveness was perceived as higher and better. Duration of exclusive breastfeeding prolonged.
Simonetti et al. (14)	A – Telephone counselling to 6 months, 1 × week. B – Standard counselling.	In the fifth month, the exclusive breastfeeding was 25.5% in group A and 11.9% in group B.
Tahir et al. (15)	A – Telephone counselling twice a month. B – Standard counselling.	After the first month, the lactation counselling has been effective via phone. However, there were no significant differences between the groups in exclusive breastfeeding after four to six months after birth.
Pollard et al. (16)	A – Filling a daily record of breastfeeding for 3 weeks and breastfeeding were monitored over six months. B – Omitted the daily recording.	Women from group A did not breastfeed significantly longer than in group B, but a greater proportion of participants from the experimental group reported exclusive breastfeeding at six months of age compared to control group.
Kamran et al. (17)	A – Education during pregnancy by „faith in own health“ method. B – Traditional education.	In group A, the average weight of children was higher than in group B after four months, there were also more exclusive breast-feeding women.
Akbarzadeh et al. (18)	A – Education focused on attitudes, opinions and personal standards. B – Traditional way of education.	Model-based education had a positive impact on the conduct of the parties.
Bonuck et al. (20)	A – Postpartum lactation consultant visits and electronically sent instructions. B – Usual care.	In group A, the way of education had an effect on increasing the intensity of breastfeeding three months after birth.
Aksu et al. (21)	A – Education at home three days after giving birth. B – A traditional way of education in the first hours after birth.	In group A, there was a significant increase in exclusive breastfeeding and the percentage increase in two and six weeks and six months.

Continuous education

Team of authors from the USA published the results of a pilot education program in 2007. The educational program was implemented as part of the family practice consisting of nine general practitioners, three nurses, with three of the doctors were experts in low-risk obstetrics, and one of the nurses was a certified lactation consultant. The program involved 42 mothers, but nine of them did not complete it because of problems related to pregnancy, for example a spontaneous abortion. Education took place in the context of prenatal visits and in paediatric examinations during the first year of a child, unless the breastfeeding ceased earlier. Printed educational materials were distributed to mothers. The mother was informed of key elements during each visit of a doctor and there was a space for her questions at the same time. Effectiveness of the education program was evaluated using questionnaires. The authors evaluated the program's impact on the duration of breastfeeding and maternal perceptions of success. The resulting data showed that the pilot training program had a significant impact on the duration of breastfeeding, increased perception of the woman as a mother, allowing her to experience a fulfilling relationship. There was an increase in 200% in exclusive breastfeeding up to 4-6 months and in 160% in the exclusive breastfeeding up to 6 to 12 months of age. The results showed that 100% of the women nursed at the very beginning, 88% at three months of age, 73% at six months and 33 % in one year. More than 75% of mothers had a feeling of accomplishment (6). Team of authors from the United States focused on the area of prenatal education about breastfeeding in a retrospective cohort study in 2008, evaluating the duration of exclusive breastfeeding. The aim of this study was to compare the results of three groups, each of which had participated in other method of education. Group A participated in the course with a video demonstration and group instruction led by a lactation consultant. Group B was a supportive one, with the individual instruction before childbirth and weekly meeting after it. Group C was a control group educated only at prenatal visits. The result of the research was that women, who attended classes with the lactation consultants, had a significantly higher proportion of breastfed infants in six months compared with the control group. There were not significant differences among the different types of courses (7).

Group education

The author from West Virginia dealt with the issue of support of self-efficacy perception of the so-called "self-confidence in breastfeeding" in her

study from 2010. This study used a group education, in which 168 women were involved. It was found that for example, group education in low-income and high-risk groups has a positive impact on the perception of personal effectiveness and generally improved results in breastfeeding (8).

Development of educational skills of healthcare professionals

There was a retrospective study focused on the medical staff published in Croatia in 2010, realized by UNICEF/WHO in the years 2007 to 2009. The resulting data showed that only one-fifth of health professionals was convinced of necessary preparation of women to breastfeed during pregnancy before the course, the number of convinced healthcare professionals rose to 57% after the course. Education also had an impact on the implementation of support of breastfeeding in hospitals and the number of health professionals, who realized the support, doubled after the education. Paramedical personnel with a positive attitude towards breastfeeding increased from 65% to 79% while staff with a neutral approach decreased from 26.6% to 9.9%. We can conclude that the twenty-hour UNICEF/WHO course is an effective tool for improving knowledge, practices and attitudes towards breastfeeding (9). A Swedish study published in 2012, was focused on healthcare professionals and covered the practical training program on breastfeeding with a view to period of the first attaching, substitutes for breast milk, solid foods and during of lactation. It concerned ten Swedish maternity hospitals; there were 540 primiparae two control and one intervention group. The data was collected three days, three months and nine months after giving birth. A significantly longer duration of exclusive breastfeeding was demonstrated in the intervention group, even though the first attaching of baby to the breast was later than two hours after birth. In this group, fewer children received supplements during the first week without a medical indication and the breast milk substitutes were given to children a month later than in the control groups, an average of three and a half months. The program, a workflow for midwives and neonatal nurses, how to educate mothers about breastfeeding, has proved to be effective. The intervention group, managed by the program, showed a lower number of infants receiving breast milk substitute and longer period of exclusive breastfeeding (10). Another Swedish study from 2014 was tasked to evaluate the effect of process-oriented training for healthcare professionals in lactation counselling and to assess the satisfaction of

women with counselling concerning breastmilk substitutes and problems with the nipples. Women from the intervention group were more satisfied with the lactation counselling and had fewer problems than women had in the control group, where exclusive breastfeeding lasted less than three months. In women breast-feeding for more than three months, significant differences between women from the intervention and control groups were not demonstrated. The program for healthcare professionals to support women's ability to solve problems with breastfeeding, proved the effectiveness in women exclusively breastfeeding within three months (11).

Telephone education

The telephone support and control was part of a randomized controlled trial in Jordan in 2011. The aim of this study was to determine whether an educational program would increase the number of women who were fully breastfeeding to six months of age, and whether the level of knowledge about breastfeeding would increase. The research involved 90 primiparae. Women were randomly assigned to the intervention group, where they were offered antenatal teaching sessions with instructor and follow-up phone controls 2 and 4 months after giving birth. The other women were assigned to a control group, where they received routine postnatal care. However, the proportion of women, who fully breastfeed at six months of age, did not differ significantly between the two groups. At the end of this study we can say that although postnatal educational and support program led to a deeper knowledge about breastfeeding, there was no increase in the proportion of women fully breastfeeding to six months (12). The aim of another study, which took place in Northwestern Ontario, was to test a new intervention to promote breastfeeding. The aim of the randomized study was to determine whether a new intervention would have positive effect on perception of personal efficacy, duration and exclusivity of breastfeeding. The study surveyed 150 primiparae, who were divided into two groups. One group was the experimental and there were three individual sessions of women with the researcher. Two sessions were held in the hospital and one by phone. The second group was the control one, with standard hospital and community care. The study results suggest that this method of education is acceptable. Mothers in the experimental group perceived their personal effectiveness to be higher, This group also reported better results in duration and exclusivity of breastfeeding, namely four and eight weeks after giving birth (13). An Itali-

an study, lasting from February to March 2009, dealt with telephone counselling in relation to exclusive breastfeeding of healthy infants from birth to six months. The study included only new mothers (114 women). The women were randomly divided into two groups. 55 women used the telephone counselling on breastfeeding for six weeks, wherein the frequency of the calls was at least once a week. The remaining 59 women were provided with standard counselling. This research evaluated the rate of exclusive breastfeeding, influence of the level of education of the mother and her employment status on exclusive breastfeeding of children through questionnaires in the first, third and fifth month after giving birth. Data of the Italian study demonstrated the effectiveness of telephone counselling. In the first (experimental) group, 76.4% of women exclusively breastfed for the first month compared with 42.4% in the control group. The resulting data in the third month were 54.5% vs. 28.8% in favour of the experimental group. 25.5% of children from the first group were exclusively breastfed in the fifth month and 11.9% in the control group (14). Malaysian study, published in 2013, was also focused on the impact of the phone lactation counselling. The study was initiated by the fact that exclusive breastfeeding in Malaysia is still low, despite the efforts of hospitals having the „Baby Friendly Hospital Initiative“ title. The study involved 357 mothers, each of which gave a spontaneous birth to one healthy child. Mothers were divided into two groups, an intervention and a control one. The intervention group received a phone lactation counselling, regarding postpartum breastfeeding support, from a certified lactation consultant twice per month. The control group was provided with a standard postpartum breastfeeding support. Effectiveness of the study was evaluated through questionnaires, completed by the mother at the beginning of the study and by phone during the first, fourth and sixth month after giving birth. Results for the first month showed that lactation counselling by telephone was effective (84.3% of the mothers in the intervention group practiced exclusive breastfeeding compared with the control group with 74.7%), but there were no significant differences between the groups in exclusive breastfeeding four to six months after birth. Malaysian study also examined the most common reasons for discontinuation of breastfeeding. Mothers reported a small amount of breast milk as the reason for stopping breastfeeding in the early postpartum period. The main reason for stopping breastfeeding later in the postpartum period was the return to work (15).

Daily records of breastfeeding

Authors of the study from 2011, carried out in the USA, focused on the impact of daily records of breastfeeding on length and exclusivity of breastfeeding. The aim of this study was to test the effect of a daily record of breastfeeding, according to the theory of learning by Bandura, on the duration and exclusivity of breastfeeding in primiparous women. Randomized controlled study involved 86 primiparae divided into two groups. The experimental group was filled daily record of breastfeeding for at least three weeks and breastfeeding was observed within six months. The control group omitted the record of breastfeeding. Participants in the experimental group did not breastfeed much longer than those in the control group, but a larger proportion of participants from the experimental group reported exclusive breastfeeding at six months of age compared with the control group. Furthermore, the authors monitored the planned duration of breastfeeding, its frequency and duration in the first week of age of the child. The study results suggest that recording of breastfeeding can be a useful tool in breast self-regulation and support of exclusive breastfeeding (16).

Psychosocial models of education

A study from Iran about the effectiveness of lactation counselling from 2011 included 88 primiparae divided into control and experimental groups. Women in the experimental group were educated during pregnancy within the program based on psychosocial model “The health belief model” (showing how one behaves towards his own health when instructed). The data was collected before birth, thirty days after giving birth and four months after giving birth. The average age of women was 22 years, plus or minus three years. The experimental group showed significantly better results on the self-assessment of knowledge and attitude towards breastfeeding. The average weight of children in this group was higher than in the control group after four months, and there more exclusively breastfeeding women. The conclusion is clear: Education during pregnancy has been verified effective in all attributes, thus demonstrating its suitability as a method for increasing the level of knowledge and skills of women about breastfeeding (17). The study called “The impact of the BASNEF educational program on breastfeeding in Iran” was published in Iran in 2013. The trial involved a hundred of women in two hospitals. Participants were randomly divided into experimental and control groups. The study examined the effect of educational program based on the

BASNEF model, which is a simplified approach to understanding acting focused on the views, attitudes and personal standards of participants. Attitude of mothers to breastfeeding was analysed after four educational sessions. It was found that model-based education had a positive impact on the behaviour of participants in comparison with the traditional way of education (18).

Traditional approaches to breastfeeding

An interesting study from Nepal of 2014 took place in a typical community of natives and involved 701 pregnant women. The data was collected four weeks, twelve weeks and twenty-two weeks after birth through interviews and questionnaires. The women gained access to information on breastfeeding, breastfeeding and complementary feeding methods from their surroundings. Eighty percent of women reported that their husband, mother and mother-in-law preferred breastfeeding. Average age of the child when introducing complementary feeding was 6.1 months. A quarter of children passed in twelve weeks on cow or buffalo milk and half of the children in the twenty-two weeks. 6.3% of children passed to artificial milk in the twelfth week and 13.4% of children in the twenty-second week. Eleven percent of women reported that breastfeeding was uncomfortable for them. Over 98% of women continued breastfeeding even after the end of the study, the average duration of breastfeeding was around 28 months. In this community, there is the universal approach to child nutrition, and that is breast-feeding (19).

Postnatal education

Effectiveness of pre and postnatal interventions to support breast-feeding in primary care was investigated in gynaecological and obstetrical surgeries in the Bronx, New York between 2008 and 2011. The study called Provider Approaches to Improved Rates of Infant Nutrition & Growth Study (PAIRINGS) included two groups: usual care versus pre and postnatal visits lactation consultant and instructions from the provider of prenatal care sent out electronically. The study called Best Infant Nutrition for Good Outcomes (BINGO) included four groups: usual care, only a lactation consultant, only electronic support, lactation consultant + electronic support. Inclusion of lactation consultants or a combination of consultants and electronic support had an impact on increasing the intensity of breastfeeding three months after giving birth (20). Turkish randomized study from 2011 verified the effect of postnatal education and support, provided three days after giving birth

at home, on duration of breastfeeding and knowledge about it. The study included 60 women; all received a standard lactation counselling in the first hours after childbirth in a Baby-friendly hospital, but the women from the intervention group received further lactation counselling at home. Both groups were comparable in terms of the characteristics of mothers and new-borns. Finally, lactation counselling with the support of breastfeeding woman three days after giving birth at home was associated with a significant increase in exclusive breastfeeding, there has been a percentage increase in two and six weeks and six months, and the total duration of breastfeeding. Knowledge of women from the intervention group after two and six weeks after giving birth were better than corresponding score in the control group. In conclusion, we can say that post-natal education and support of breastfeeding three days after giving birth at home was successful (21). Finally, we may mention, for interest, also a realized validation of flipchart from Brazil. The aim was to evaluate the content and form of flipchart headed "Can I breastfeed my baby?" among parturient women at rooming-in department. 21 mothers participated. Illustrations were used as part of a tool to evaluate the content and visual appearance of the flipchart and motivation and socioeconomic characteristics of the participants. All illustrations were considered clear and understandable. The authors reported that flipcharts appear to be useful in other studies and in community and hospital daily practice, e.g. at rooming-in department (22).

OUTCOMES

The above-mentioned international studies provide incentives for experts who participate in the education of women in relation to breastfeeding. Found studies are aimed at testing new, systematic and prolonged educational methods of breastfeeding emphasize the visual methods, emphasize communication with mothers during education and their active participation, including support. Furthermore, they confirm the positive effect of lactation counselling already in the prenatal period and point to the very significant effect of telephone advice. Finally, they show positive effect of postnatal counselling. We do not find studies similar to the aforementioned foreign ones in Czech magazine literature, developing the educational methods or the efficiency of lactation consulting in any other way. Regarding this topic, we located mostly studies at the level of bachelor or master thesis, without sophisticated methodologies and focused on mapping the problems of educational counselling. We do not have e.g. randomized trials, which would

verify the effectiveness of educational methods, in our conditions. There is just one recommended procedure of Czech Neonatology Society "Breastfeeding of full-term new-borns" available. Enumeration of knowledge and skills that mothers should know and understand before leaving the hospital is a part of the recommended procedure (23). The WHO/ UNICEF initiative to promote breastfeeding "Baby-friendly hospital" (BFHI) has been promoted in the Czech Republic since 1991 and many hospitals own the title of Baby-friendly hospital. However, there is no control mechanism that would objectify, whether the devices were authorized to continue to possess this title. Lactation consultant, who work in medical facilities and in the field, are trained, but according to our experience, there are only few e.g. prenatal courses with a broader issue of lactation and breastfeeding incorporated into their lessons. Despite these facts, we can say that the conditions for implementation of effective education in the field of breastfeeding are created in the Czech Republic. Institute of Health Information and Statistics (IHIS) publishes annually the proportion of children exclusively breastfed for more than 6 months after giving birth. The proportion of children breastfed six months or more has oscillated around 40% in the long term. If we considered this indicator as the outcome of effective education on breastfeeding, then we have reserves in the Czech Republic certainly. Therefore, we believe that there should be research surveys carried out, whose results would objectified the most effective educational methods.

CONCLUSION

Based on findings from foreign sources, we can recommend healthcare professionals in the field of lactation counselling to devote enough time and patience to women during education. It is necessary to support, praise and encourage women after childbirth. The choice of educational method is a very important factor for effective education. The content of education about breastfeeding offers the use of various teaching methods, not just a lecture. It is necessary to demonstrate some practical skills to mothers and ensure them to try it themselves. The feedback is another important factor for effective education. Woman in a new role as a mother needs to experience new knowledge and skills. The task of the medical professional is then to find out, whether the mother has adopted new knowledge and to supplement or clarify it if necessary. Finally, the continuing education of healthcare professionals in the field of lactation counselling is a very important element for effective education as well.

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