Short Report

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The Effect of Family-Oriented Educational-Supportive Programs on Adequacy of Exclusive Breastfeeding from the Perspective of Mothers

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ABSTRACT

BACKGROUND AND OBJECTIVE: Exclusive breastfeeding for the term infant during the first six months of life fulfills all infant's needs, enhances the immune system, defends the infant against the number and intensity of infections and enhances the development of cognitive systems, social development and intellectual development of children. One reason for early cessation of breastfeeding is that mothers think their milk is inadequate for their infant. Therefore, the present study was conducted to enhance the adequacy of exclusive breastfeeding from the perspective of mothers using family-oriented educational-supportive programs.

METHODS: In this randomized clinical trial, 70 pregnant women over 18 years old were selected with the following characteristics: first pregnancy, singleton, low risk and gestational age of 32 to 36 weeks. Mothers were randomly divided into intervention and control groups. Mothers in intervention group participated in 2 family-oriented educational sessions during pregnancy and participated in 1 family-oriented consultation session during the first week after delivery. Mothers in control group only benefited from routine educations. The adequacy of breastfeeding from the perspective of mothers and exclusive breastfeeding were assessed and recorded for both groups using a researcher-made questionnaire with a total score of 14-70. (IRCT2015081723657N1).

FINDINGS: During the first two weeks after delivery, the mean score of breastfeeding adequacy from mother's perspective in the intervention group (64.88±4.78) was significantly higher than the control group (56.57±6.91) (P= 0.000). In addition, the difference was still significant during the first two months after delivery (67.33±3.58 and 57.20±7.94 for intervention and control groups, respectively, p=0.000). Moreover, the level of exclusive breastfeeding at the end of the second week (p=0.003) and the second month (p=0.01) revealed a significant difference between intervention and control groups.

CONCLUSION: The results of this study demonstrated that family-oriented educations and consultations during pregnancy and after delivery significantly enhances breastfeeding adequacy from the perspective of mothers and exclusive breastfeeding.

KEY WORDS: *Breastfeeding, Adequacy, Education, Support, Family.*

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Introduction

Breast milk is the ideal food for children and its important benefits for mother, child and the society is accepted by everyone. Exclusive breastfeeding for the term infant during the first six months of life fulfills all infant's needs, enhances the immune system, defends the infant against the frequency and intensity of infections and enhances the development of cognitive systems, social development and intellectual development of children (1,2).

As the period of breastfeeding increases, these benefits will also increase and in case of decreased period of breastfeeding or early cessation of exclusive breastfeeding, numerous unfavorable effects will be observed in the health of children, mothers and society and additional costs on the health – care system (3). According to the World Health Organization, breastfeeding should continue for up to 2 years or more and The American Academy of Pediatrics suggests that infants should only be fed with mother's milk during the first 6 months (4,5).

Despite the emphasis on exclusive breastfeeding during the first 6 months of life and global efforts made to promote this, the percentages of exclusive breastfeeding are 37%, 36% and 10% in the world, Eastern Mediterranean and Australia, respectively. Although the percentage of exclusive breastfeeding during the first 6 months of life in Iran improved considerably by 1997, nowadays the percentage in 27.7% (6).

Several factors may affect mother's decision to continue breastfeeding including knowledge and skill about breastfeeding, support systems, economic, social and cultural status of mother and skills of health personnel (7, 8).

Studies indicate that mothers' false belief regarding signs of breast milk adequacy, subjective sense of inadequate milk and their concern regarding inadequate milk to fulfil the infant's needs are the most important causes of cessation of breastfeeding, usually diagnosed by mothers because of excessive crying, sleeping disorders in infants and changes in nutrition patterns (9–12).

According to a meta-analysis by Nelson et al., mothers' concern regarding their ability to produce enough and high quality milk for their infant is observed in all studies (13). Results of a qualitative study demonstrated that mother's feeling of adequacy of breastfeeding is a key factor for persistency of breastfeeding, which basically depends on their assurance of proper growth and health of children and receiving positive feedback from the people. Informing mothers of the signs of breastfeeding adequacy and analyzing these signs by health personnel each time the mothers refer to the hospital will improve breastfeeding (14).

In addition, mother needs to acquire the right knowledge and skills, peace and confidence to have successful breastfeeding and studies show that education and counseling for breastfeeding improved breastfeeding and increases exclusive breastfeeding (15, 16).

Considering the role and significance of the adequacy of exclusive breastfeeding from the perspective of mothers and given the current policy of encouraging fertility and increasing the number of births in Iran, the present study was conducted to improve the adequacy of exclusive breastfeeding from the perspective of mothers using family-oriented educational-supportive programs.

Methods

This single – blind randomized clinical trial was conducted using two control and intervention groups consisting of pregnant women referring to selected healthcare centers in Isfahan in 2015 – 2016 after obtaining permission from the ethics committee of Isfahan University of Medical Sciences (No. 393472) and clinical trial registration number, IRCT: 2015081723657N1.

Pregnant women above 18 years old were included with the following characteristics: first pregnancy, singleton, low risk, gestational age of 32 to 36 weeks, the ability to understand and complete the questionnaire, lack of mental disorders and willingness to participate in the study. In cases of unwillingness to continue cooperation, lack of continuous presence in 3 sessions of education and consultation and contraindications to start breastfeeding in the hospital such as prematurity of infant, the patients were excluded from the study. Based on the study of Kang et al. (17), the required sample size with 10% loss was calculated to be 35 participants for each group.

The pregnant women with the inclusion criteria were randomly divided into two groups of control and intervention. The mothers who participated in the study were justified regarding the confidentiality of their information and informed written consent was obtained from them. In the intervention group, two 2-hour sessions of breastfeeding education for two weeks during gestational age of 32 to 36 weeks were held for

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mother and a member of the family who plays a key role in breastfeeding. These sessions were held in the form of lectures, questions and answers and shows with puppets about the benefits of breastfeeding, the correct techniques of breastfeeding, signs of breastfeeding adequacy, the method of milking and storing milk, nutrition during of breastfeeding and increasing milk, common problems of breastfeeding, baby care and the support and involvement of family in breastfeeding.

The questions were answered at the end of each session and the participants were provided with booklets and educational software on breastfeeding so that the mothers and their families can study at home. Then, 3 to 5 days after delivery, when mothers referred for neonatal thyroid screening, 1 session of breastfeeding consultation was held for the breastfeeding woman, her husband and a key person in the family, mother's breastfeeding technique was observed, and signs of breastfeeding adequacy, the method of drawing a child's growth curve and its analysis was taught.

The address of breastfeeding counseling centers was given to mothers. In addition, the researchers' phone number was given to the participants so that they could contact them if they needed support and counseling at any time. The control group received the routine education and care.

The adequacy of breastfeeding from the perspective of mothers was assessed using a researcher-made questionnaire. The questionnaire was designed based on a qualitative study (14) and included demographic characteristics, delivery status, exclusive breastfeeding status and 14 questions about breastfeeding adequacy assessed by five-point Likert item (from strongly disagree to strongly agree) and the total score of questions was a number between 14 and 70. Content validity was used to determine the validity of questionnaire, and Cronbach's alpha coefficient was used to determine the reliability of questionnaire, which was 90%. The reliability was also assessed and was found to be 92%.

The questionnaire was completed by mothers in control and intervention groups, 2 weeks and 2 months after delivery. The control group mothers and mothers who fed their infants with artificial milk were also referred to breastfeeding counseling centers. SPSS ver. 20 and Mann Whitney, chi-square and T-Test were used to analyze the obtained data, while $p<0.05$ was considered significant.

Results

According to the results of this study, the mean age of mothers in the intervention group and control group was 27.25±3.79 years and 27.73±3.99 years, respectively. The two groups were homogenous in terms of demographic characteristics, age, occupation, the education level of mother and her husband, method of delivery, the infant's gender and receiving breastfeeding educations in the hospital and there was no significant difference between them.

Two mothers were excluded after the second month because of feeding the infant with milk powder and the information of 70 mothers (35 women in control group and 35 women in intervention group) was finally analyzed. There was a significant difference between the mean score of breastfeeding adequacy from mother's perspective in the intervention group (64.88±4.78) and the control group (56.57±6.91) within 2 weeks after delivery; the mean score of breastfeeding adequacy from mother's perspective in the intervention group was significantly higher than the control group within 2 weeks after delivery ($p=0.000$).

Moreover, the mean scores of breastfeeding adequacy from mother's perspective in the control and intervention groups were 57.20±7.94 and 67.33±3.58 within 2 months after delivery, respectively. In other words, family-oriented educational-supportive programs significantly improved breastfeeding adequacy from mother's perspective in intervention group ($p=0.000$). Moreover, the rate of exclusive breastfeeding after 2 weeks was 94% and 66% in intervention and control groups, respectively ($p=0.003$). In addition, the rate of exclusive breastfeeding after 2 months was 94% and 66% in intervention and control groups, which was significantly higher in intervention group ($p=0.01$).

Discussion

Results of the study demonstrated that the mean scores of breastfeeding adequacy from mother's perspective, 2 weeks and 2 months after delivery, was significantly higher in the intervention group, which received family-oriented educational-supportive programs ($p=0.000$). In other words, family-oriented educational-supportive programs during breastfeeding, expressing signs of breastfeeding adequacy, false beliefs about the rate of breastfeeding and postpartum family-centered consultation significantly increased

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the score of breastfeeding adequacy from mother's perspective in intervention group within 2 weeks and 2 months after delivery.

The results of other studies were also consistent with our results and indicated that breastfeeding education and counseling increases continuation of breastfeeding and improves the performance of breastfeeding (18–20). As WHO has recommended, results of this study demonstrated that analyzing the signs of breastfeeding adequacy and educating child's growth curve to mother and family in breastfeeding counseling session and mother's participation in analysis and interpretation of a child's growth curve improves exclusive breastfeeding and breastfeeding adequacy from mother's perspective (21).

Nielsen et al. also reported that supporting breastfeeding mothers according to recommendations of WHO increases mother's milk and improves the growth of the infant (22). Results of the present study indicate that educating breastfeeding during pregnancy and continuing these educations until the first days after delivery plays a significant role in improving exclusive breastfeeding and breastfeeding adequacy from mother's perspective. According to Abdeyazdan et al., the mean exclusive breastfeeding in mothers who received educational program before delivery was significantly higher than those who received the program after delivery (23).

According to the study of Liu et al., breastfeeding consultation and education increased self-efficacy in mothers and increased exclusive breastfeeding within 4 and 8 weeks after delivery (24).

These studies are somehow different from our study, because the educations are only provided for mothers in these studies, whereas education and counseling is family-centered in this study. In addition, results of this study demonstrated that providing booklets and instructional videos about breastfeeding including the method of checking signs of breastfeeding adequacy to be studied and watched by mothers and families at home had considerable influence on improving the adequacy of exclusive breastfeeding and the mean score of breastfeeding adequacy from mother's perspective.

Results of the study by Mojalli et al. also demonstrated that providing educational breastfeeding videos to be watched by mothers and families at home has more considerable effects on breastfeeding performance compared with education at the hospital (25). Moreover, in our study, the researchers' phone number was given to the participants so that they could contact them if they needed support and counseling at any time. Results of other studies also demonstrated that telephone breastfeeding consultation has a significant relationship with the period of exclusive breastfeeding (26,27).

This research showed that family-oriented education and counseling during pregnancy and after delivery is effective in improving the breastfeeding adequacy from mother's perspective and exclusive breastfeeding. Therefore, considering the importance of breastfeeding adequacy from mother's perspective in exclusive breastfeeding, it is suggested that teaching the signs of breastfeeding adequacy, the method of drawing a child's growth curve and its analysis to mothers and families during pregnancy and after delivery be addressed more attentively. In addition, it seems that considering the problems of breastfeeding mothers, particularly nulliparous women, during the first days after delivery, they can be supported by breastfeeding consultants using telephone and this is an effective step in improving exclusive breastfeeding and improving the health of family.

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