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Clinical Trial to Comparison the Effect of Family- centered Educational-supportive Program on Mothers' Empowerment in Breast-feeding

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Abstract

Background: Mothers' empowerment in breast-feeding is a key motivational and psychological factor for continuous breast-feeding. Therefore, this study was designed to examine the effects of family-centered educational-supportive program on mothers' empowerment in breastfeeding.

Materials and Methods: In this random clinical trial, pregnant women who met inclusion criteria were gradually selected and randomly put into a control and an intervention group. For the intervention group, two 2-hour educational breastfeeding sessions were held for each pregnant woman along with her key family members and breastfeeding training manual and software were given to them; then mothers and family members attended a breastfeeding counseling session one week after delivery. The control group received routine education. Mothers' empowerment was assessed by a researcher-made questionnaire two weeks after delivery.

***Results*:** Thirty-five mothers were in the intervention group and 35 were in the control group. The mean of the total score of breast-feeding empowerment and its seven areas in the intervention group was significantly higher than that of the control group. Moreover, exclusive breast-feeding was also significantly higher in the intervention group ($P<0.05$).

Conclusion: Results showed that family- centered education during pregnancy and post-delivery counseling and support could promote mothers' empowerment in breast-feeding and exclusive breast-feeding. It is therefore necessary for breast-feeding promotion to begin training of mothers and their families during pregnancy period while focusing on the importance of breast-feeding and to teach breast-feeding skills and family support after delivery and resolve related problems in collaboration with key family members.

***Key Words*:** Breast-feeding, Educational program, Family- centered.

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1-INTRODUCTION

Empowering women to control aspects of their health especially of reproductive health is a major topic of the Conference on Population and Development(1). Empowerment is a process by which women become aware of their needs and demands and reinforce the courage in themselves to reach their goals and develop the abilities required for actualizing their demands(2). This process engages people in identifying problems, setting goals and basic strategies to solve the problems and reach the goals(3). Results of empowerment include positive self-confidence, ability to reach goals, having a sense of control over life, processes of change and hope in the future(4). Psychological empowerment of women would promote the quality of maternal role and reduce families' psychological distress(5).

Mother's breastfeeding empowerment is a key motivational, psychological and changeable factor for continuous breastfeeding. Successful breastfeeding depends on various physiological and psychological factors in a mother. Physiological factors like age, socioeconomic status are less changeable and health workers, in order to improve the results, should take into account changeable effective variables such as mother's intention of breastfeeding, her knowledge and skill of breastfeeding, type of received support and self-efficacy and empowerment in breastfeeding(6, 7).

Empowerment in breastfeeding plays a key role in breastfeeding promotion such that exclusive breastfeeding increases with enhanced level of breastfeeding empowerment. Findings of Kangs' study showed that breastfeeding empowerment program, through encouraging participation and helping them solve their breastfeeding problems, led to mothers' self-efficacy and control, and by means of increased control over the environment and encouraging demand-based active participation, helped mothers find a solution for the situational problems in their environment(8). Findings of an Iranian qualitative study also, showed that mother's positive attitude and disposition to breastfeeding and her efforts to acquire knowledge and skill could make her more determined for breastfeeding and that these along with her perception of "positive attitude and participation of husband and family in breastfeeding" would facilitate breastfeeding empowerment(9).

Despite numerous advantages of breast-feeding for promoting the health of baby, mother and society(10, 11) and the emphasis WHO and UNICEF have put on the global campaign to promote breast-feeding(12); WHO report indicates that breastfeeding pattern is not favorable in the first six months of life and that only 37% of children in the world, 36% of East-Mediterranean and 28% of Iranian children are exclusively breastfed to the end of six months(13).

While there have been various actions globally to prolong breast-feeding duration, post-delivery and in-house problems and worries of mothers may result in discontinued breastfeeding(14). Research shows that reasons for discontinued exclusive breast-feeding include mothers' lack of or insufficient knowledge of advantages of exclusive breast-feeding, mothers' insufficient disposition to breast-feeding, lack of access to health workers when facing breast-feeding problems and lack of encouragement and support from family and healthcare staff(15-17). A study by Vafaee et al. showed that lack of knowledge and easy access to formula milk were factors escalating discontinued breast-feeding(18). Another research referred to other factors such as lack of breastfeeding education during pregnancy, mother's concerns about breastfeeding

sufficiency, lack of husband's support and mother's stress(7). In addition, studies suggest that mother's inability to breast-feed and uncertainty about her abilities as well as feeling of milk insufficiency are the principal reasons of breastfeeding failure(19, 20).

Although various breast-feeding promotion programs have already been proposed, they have not taken into account breast-feeding empowerment and family support. This clinical trials, therefore, is an attempt to explore the effects of family-centered educational-supportive program on mothers' empowerment in breast-feeding.

2- MATERIALS AND METHODS

This study is a random clinical trial. The population under study consists of pregnant women who have referred to selected healthcare centers of Isfahan city in 2015-16. The sample is determined according to the sample size formula and expected efficiency in each group based on Kang's study(8). It is a single blind clinical trial for research samples in two intervention and control groups.

2-1.Inclusion criteria

Inclusion criteria were being over 18 years of age, first and singleton pregnancy, 32 to 36 weeks' gestational age, low-risk pregnancy and willingness to participate in the research, ability to understand and complete questionnaires, and lack of mental disorders.

2-2. Exclusion criteria

Exclusion criteria were failure to complete three educational and counseling sessions and contraindications to breast-feeding in hospital such as prematurity.

2-3. Methodology

Participants were gradually selected and randomly divided into the control and intervention groups. Intervention was explained for the latter group as being in the form of two educational sessions during pregnancy and one post-delivery breast-feeding counseling session and then informed consent was obtained. In the intervention group, each woman along with her key family members attended two 2-hour small group educational breast-feeding sessions during pregnancy held in two weeks. The contents of sessions drawn upon views of mothers, key family members and breastfeeding counseling providers about breastfeeding empowerment(9). Issued covered in these sessions included: advantages of breast-feeding, right breast-feeding techniques, prevention and treatment of common breast-feeding problems, how to pump and store milk, nutrition during breast-feeding and milk boosters, taking care of the baby and family's support and collaboration in breast-feeding; these were presented in the form of lecture, Q&A and breast-feeding doll. Questions were answered at the end of each session and participants were given a manual and software on practical breastfeeding techniques so that they could review further at home. The researcher then regularly contacted participants through SMS until their delivery and while reminding them of reviewing the manual and software, asked them to check with her the night before their thyroid screening. Then, in the day 3-5 after giving birth and once women referred for infants' thyroid screening, one breast-feeding session was held for nursing moms, their husbands and one key family member and their breast-feeding technique was observed and guidelines were practically offered and common problems and questions and the collaborative role of the family in breast-feeding were discussed. Mothers were provided with addresses to breast-feeding counseling centers. Researcher's phone number was also up for participants 24 hours a day, so they would call if they needed any support or advice. Mothers could contact the researcher based on their needs with no number and timing limit.

The control group received routine educations and cares. Mothers' breast-feeding empowerment was assessed by completing the researcher-made questionnaire two weeks after delivery in both the control and intervention groups. The questionnaire was designed on the basis of a qualitative study and according to the Iranian cultural context and mothers' view-points on breast-feeding empowerment, as well as literature review.

2-5. Validity and Reliability

Content validity was used to ensure validity of the questionnaire and it was judged and confirmed by 15 reproductive health experts and faculty members of nursing and midwifery faculty. The questionnaire measured demographic information, delivery condition, exclusive breast-feeding and consisted of 45 items with 7 items about mothers' empowerment in breast-feeding, 5 about knowledge, 6 about attitude, 11 about skills of proper breast-feeding technique, 6 about skills of preventing and solving breast-feeding problems, 4 about breast-feeding sufficiency, 6 about negotiation and receiving family support and 7 items about breast-feeding self-efficacy; items were measured by a five-point Likert scale (ranging from totally agreed to totally disagreed) and the sum of scores was a number between 45-225. Re-test method was employed to confirm reliability of the tool such that 15 nursing mom completed the questionnaire after 14 days and the reliability was confirmed at 90% confidence level.

2-6. Data analysis

The data were analyzed by means of SPSS-20 using independent t-test, Mann-Whitney test and Chi-square. Significance level of the tests was set at $P<0.05$.

2-7. Ethical consideration

The research was approved by the university's committee of ethics with the number 393472 and registered in Iranian Registry of Clinical Trials with the ID-number: IRCT2015081723657N1. Moreover, written informed consent was obtained from participants after explaining goals of the research and they had the right of voluntary withdrawal of the study at any time.

3- RESULTS

Seventy mothers (equally divided into two groups) participated in this research. Average ages of the control and intervention groups were 27.73±399 and 27.25±3.79 respectively. No significant difference was found between the two groups in terms of variables such as age, job, mothers and husbands' education, delivery method, infant's gender, and breastfeeding education in hospital.

The mean total score of breast-feeding empowerment, two weeks after delivery was 174.5±22.35 in the control and 199.8±20.62 in the intervention group. Independent t-test indicated that this difference in the scores was significant ($P=0.000$). In addition, family- centered education and support resulted in significance increase of mean scores of the seven areas such that the mean score of knowledge, attitude, skills of proper breast-feeding technique, skills of preventing and solving breast-feeding problems, breast-feeding sufficiency, negotiation and receiving family support and breast-feeding self-efficacy was significantly higher in the intervention group than the control group (Table. 1).

Moreover, at the end of two weeks of age, two infants in the intervention group and 13 infants in the control group did not receive exclusive breastfeeding and the rates of exclusive breastfeeding were 94% and 66% in the intervention and control groups respectively and results of chi-square tests showed a significant difference in the two groups in terms of exclusive breastfeeding ($P=0.003$).

Table 1: The mean score of the total breast-feeding empowerment, its seven areas and exclusive breast-feeding in the intervention and control groups

Variables	Intervention group (Mean± SD)	Control group (Mean± SD)	P- value
Total breastfeeding empowerment	199.80±20.62	179.03±22.35	0.000
Knowledge	21.42±2.30	19.15±2.26	0.000
Attitude	27.25±2.91	25.31±3.32	0.010
Skills of proper breastfeeding technique	50.25±9.93	42.15±7.83	0.000
Skills of preventing and solving breastfeeding problems	24.82±3.57	20.31±4.54	0.000
Breastfeeding sufficiency	17.42±2.35	15.23±2.92	0.001
Negotiation and receiving family support	26.08±3.98	23.57±3.80	0.008
Breastfeeding self-efficacy	31.88±3.51	27.92±4.04	0.000
Exclusive breastfeeding	94%	66%	0.003

4- DISCUSSION

The present paper is a clinical trial that was first carried out in Iran to explore the effects of family- centered educational-supportive program on mothers' empowerment in breast-feeding. Findings indicate that family-centered education and counseling resulted in increased mean score of breastfeeding empowerment and that mothers who had been trained during pregnancy and then received post-delivery breast-feeding counseling became more empowered in breast-feeding and their mean score was higher in terms of knowledge, attitude, skills of proper breast-feeding technique, skills of preventing and solving breast-feeding problems, breast-feeding sufficiency, negotiation and receiving family support and breast-feeding self-efficacy. Findings of Kang et al. in Korea are in the same line. In the present study, the score of breast-feeding empowerment in the intervention group was significantly higher than that of the control group. It is also found that the mean score in the area of personal, political and social empowerment was significantly higher in the intervention group; however, no significant difference was found in the group empowerment between the two groups. Furthermore, less breastfeeding problems were reported in the intervention group(8). A study by Mclelland et al. also showed that full breast-feeding education for mothers such as methods of prevention and treatment of common breast-feeding problems is a key factor in increased continuing breast-feeding(21).

In the present study, proper breast-feeding technique, observation of mothers' breast-feeding and correcting wrong breast-feeding techniques led to increased breast-feeding empowerment and promoted continuing exclusive breast-feeding. Another study showed that after fully teaching proper breast-feeding techniques to mothers who had C-section delivery, the number of mothers who exclusively breast-fed their infants increased(22). Participants in a study by Hall et al. also underscored the importance of providing detailed information and practical guidelines about breast-feeding for mothers(23).

Findings also show that family support and participation in the breast-feeding process were key factors in exclusive breast-feeding promotion. In many cultures including Iranian culture, breast-feeding is heavily influenced by advice from others such as family members. Most Iranian mothers are taken care of after delivery by their families and their advice and recommendations about breast-feeding are invaluable to them. Therefore, teaching

husbands and key family members plays a significant role in breast-feeding promotion. Present findings suggest that the rate of exclusive breast-feeding in the intervention group where mothers and key family members had attended educational and counseling sessions was significantly higher than that of the control group. These findings are in line with those in the literature. The rate of exclusive breast-feeding, in the study of Sakkasi et al., was significantly higher among mothers who had their husbands and families' supports(22). In another research examining the effects of support for women with successful breast-feeding on the patterns and duration of breast-feeding among first-time pregnant women, the rate of exclusive breast-feeding in the first, second and third months was significantly higher in the intervention group. In addition, reduced duration of breast-feeding from the time of discharge until the third month was greater in the control group(24).

Present findings also show that family-centered education and counseling resulted in increased exclusive breast-feeding and that the percentage of exclusive breastfeeding was 94 in the intervention group as opposed to 66 in the control group. Findings of Shrifirad et al. also showed that prenatal teaching to mothers would significantly increase exclusive breast-feeding (25).

5- CONCLUSION

Results of this study showed that family-centered education during pregnancy as well as counseling, family support and solving post-delivery breast-feeding may enhance exclusive breast-feeding promotion. It therefore seems that in order to promote breast-feeding, teaching to mothers and their family members should begin during pregnancy period, breast-feeding skills should be taught practically after delivery with family members present, mothers and families' problems should be resolved in joint sessions and breastfeeding service delivery infrastructures should be revisited from the perspective of family and women empowerment.

6- CONFLICT OF INTEREST: None.

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