

Original Paper

The Effect of Cognitive-Behavioral Counseling on Breastfeeding Self-Efficacy of Pregnant Women



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ABSTRACT

Introduction: Breastfeeding has an essential role in providing maternal and infant health and as a result the society health. Breastfeeding self-efficacy is a powerful predictor of the duration of exclusive breastfeeding.

Objective: This study aimed to investigate the effect of cognitive-behavioral counseling during pregnancy on breastfeeding self-efficacy of pregnant women referring to comprehensive health centers in Qazvin City, Iran.

Materials and Methods: This study is a randomized controlled clinical trial conducted on 120 pregnant women referred to health centers in Qazvin City. The samples were randomly divided into intervention and control groups. The intervention group received 8 sessions of cognitive-behavioral group counseling during the third trimester of pregnancy. The breastfeeding self-efficacy Scale questionnaire was used for surveying samples before and after the intervention. For analyzing data, t-test and Chi-squared test were used.

Results: The two groups were not significantly different before the intervention in terms of demographic variables. Also, the Mean±SD breastfeeding self-efficacy scores in the control (47.55±5.92) and the intervention group (47.70±7.83) were not significantly different before counseling. After the intervention, the Mean±SD breastfeeding self-efficacy score of the intervention group (57.49±5.62) was significantly higher than that of the control group (48.8±5.94) (P=0.001).

Conclusion: Cognitive-behavioral counseling will increase breastfeeding self-efficacy of pregnant women. It is recommended that the results of the study be used to promote the empowerment of women in breastfeeding.

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Highlights

- Breastfeeding self-efficacy scores of the intervention and control groups were not significantly different before the intervention.
- After cognitive-behavioral counseling, breastfeeding self-efficacy score in the intervention group was significantly higher than that of the control group.
- Cognitive-behavioral counseling increases self-efficacy of breastfeeding in mothers.
- Breastfeeding counseling can empower women in breastfeeding.

Plain Language Summary

Breastfeeding plays a vital role in providing maternal and infant health and as a result, the health of the community. Breastfeeding self-efficacy is a powerful predictor of the duration of exclusive breastfeeding. We evaluated the effect of cognitive-behavioral counseling during pregnancy on breastfeeding self-efficacy of 120 pregnant women referring to the comprehensive health services in Qazvin City, Iran. Samples received 8 sessions of cognitive-behavioral group counseling during the third trimester of pregnancy. The results indicate that cognitive-behavioral counseling increases breastfeeding self-efficacy of pregnant women. We suggest that our results be used in empowering mothers in breastfeeding.

Introduction

Breastfeeding is a unique way to provide the ideal food for the growth and development of infants. It is also an integral part of the reproductive process with important implications for maternal health. The population studies have shown that exclusive breastfeeding for 6 months is a good feeding way for infants. After that, the infants should receive complementary foods with continued breastfeeding up to 2 years of age or more [1]. Breast milk is the best food for the infant. It contains rich nutrients and protects against diseases and leads to better infant development. American Academy of Pediatrics recommends breastfeeding as the standard nutrition for all infants [2]. Unfortunately, according to studies conducted in the world, the rate of exclusive breastfeeding worldwide is less than 40%. In this regard, at the 65th World Health assembly, it was agreed to increase this rate up to 50% by 2025 [3, 4].

According to the report of the World Health Organization (WHO), in many Eastern Mediterranean countries, the early initiation of breastfeeding of infants is above 60%, and more than 60% of them continue to breastfeed up to 1 year. However, only 40% or less of infants are being exclusively breastfed until 6 months [5]. According to the deputy health department of Qazvin

Province in Iran, in 2010, the percentage of exclusive breastfeeding in infants under 6 months was 53.1% in Iran and 39.1% in Qazvin Province [6].

Unfortunately, many mothers stop breastfeeding because of self-doubt on breastfeeding, problems with baby's sucking, chest pain, and their perception of insufficient milk supply. According to one study conducted in Iran, one of the reasons for discontinuation of exclusive breastfeeding is the low breastfeeding self-efficacy in mothers [3]. However, if mothers know the benefits of breastfeeding or receive counseling, some of these problems can be solved. So it is better for mothers to be prepared mentally for exclusive breastfeeding [7].

Counseling is a communication and a process to help people choose their ways and solve their problems [8]. Among the various presented counseling techniques is cognitive-behavioral counseling which is a combination of cognitive and behavioral approaches. It can help people identify patterns of distorted thinking and ineffective behavior. Cognitive-Behavioral counseling focuses on the interaction of an individual's cognition, emotions, and behaviors [9].

The results of Safaralinezhad et al. study support the effectiveness of cognitive-behavioral therapy in the reduction of gestational depression [10]. Sikander et al. reported that cognitive-behavioral counseling increased

the duration of exclusive breastfeeding, and this technique was useful in exclusive breastfeeding [11].

On the other hand, breastfeeding self-efficacy is one of the constructs used in this technique. It is one of the constructs of Bandura's social cognitive theory which refers to believe in one's ability to successfully perform health practices, including exclusive breastfeeding [12]. Dennis [13] reported that breastfeeding self-efficacy had a significant association with the duration of exclusive breastfeeding. Breastfeeding self-efficacy is a suitable theoretical framework to guide interventions that are expected to increase duration and level of breastfeeding. It is also a reliable tool for identifying mothers at risk of breastfeeding cessation [14]. It seems that by conducting educational interventions during pregnancy, breastfeeding self-efficacy and duration of breastfeeding can be increased [12, 15].

According to Rahmatnejad and Bastani, one of the reasons for cessation of exclusive breastfeeding is the low breastfeeding self-efficacy in mothers [3]. Considering the importance of exclusive breastfeeding, its impact on mother and infant health, the decline in the global rate of exclusive breastfeeding, and the reasons for early discontinuation of breastfeeding, we attempted to investigate the effect of cognitive-behavioral counseling on breastfeeding self-efficacy of pregnant mothers living in Qazvin City, Iran.

Materials and Methods

This study was a randomized controlled clinical trial conducted in Qazvin City, Iran, in 2016. The study population consisted of all pregnant women referred to health centers in Qazvin. Six health centers were selected randomly out of 26 centers in this city. The sample size was determined 120 (60 for the intervention group and 60 for the control group) according to the study of Karbandi et al. and considering a standard deviation of 8 for self-efficacy score, 5% alpha coefficient, 0.8 test power, and at least 20% sample drop [16].

For sampling, the researchers referred to the health centers, and by reviewing the records and the inclusion criteria, 1100 mothers were initially selected for the study. The inclusion criteria were as follows: being 18-35 years old, having a gestational age of 24-28 weeks according to their last menstrual period and ultrasound records, being in a low-risk group for prenatal care, having at least a middle school education, being able to communicate, and lacking lactation problems in the previous pregnancy. On the other hand, the exclusion

criteria were as follows: having any pregnancy complications (e.g. preeclampsia), premature delivery, or having any disorder and illness that prevents communication.

The data collection tool was a two-part questionnaire; the first part surveyed demographic characteristics (age, occupation, education of samples, and their husbands). The second part was the Breastfeeding Self-Efficacy Scale, Short Form (BSES-SF) which was used before and after the intervention (last session). This 14-item scale was designed by Bandura in 1997 and first used in breastfeeding assessment by Dennis (Figure 1) [13]. We used its Persian version prepared by Araban et al. for the Iranian population who reported its good validity and reliability ($\alpha=0.91$) [17]. They omitted one item, "comfortably breastfeed with my family members present", because of religious norms after obtaining permission from the main author, and then performed the psychometric assessment on 13 items. The items are rated based on a 5-point Likert scale, and the total score ranged from 13 to 65.

The samples were divided into two groups of intervention ($n=60$) and control ($n=60$) using quadruple blocks. There were 6 possible outcomes for the blocks: AB BB, BB AA, AB AB, BA BA, AB BA, and BA AB. The letters were written on six cards and put in the deck. Then, to select 20 people from each health center, a card was drawn four times, and their order was written on a sheet. The samples were divided into two groups according to the written order. This study was approved by the Research Ethics Committee (Code: IR.QUMS.REC.1396.113). It is also a registered clinical trial (Code: IRCT2017050533823N1).

The women in the intervention group received counseling in groups of 10. The control group received routine prenatal care. The intervention included eight 90-minute sessions of cognitive-behavioral counseling offered by a psychologist and a midwife. Table 1 presents the details of the intervention program. The data analysis was conducted in SPSS V. 22 using the t-test and the Chi-squared test. The normality of data distribution was examined by the Kolmogorov-Smirnov test.

Results

Based on the results, the intervention and the control groups were not significantly different from each other before cognitive-behavioral counseling in terms of demographic and gestational characteristics. The Mean \pm SD age of the samples was 28.47 \pm 4.37 years in the control group and 28.28 \pm 4.52 years in the inter-

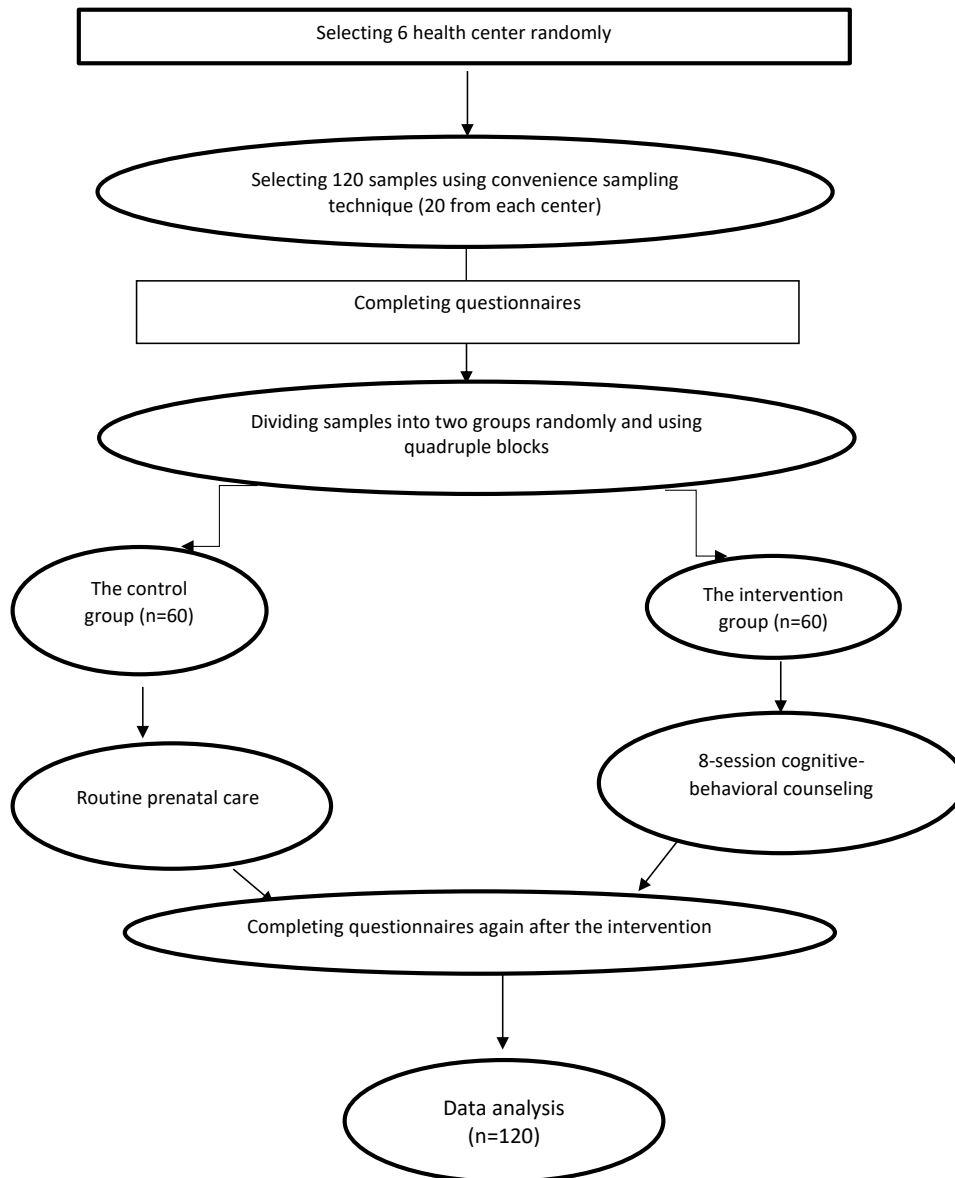


Figure 1. The flowchart of the research process

vention group. Most of the samples had high school education (36.5%) and were housewife. Based on the Chi-squared test, there was no significant difference between groups concerning their education and occupation. Moreover, the majority of samples reported that it was their first pregnancy, and no significant difference was found between two groups in this regard, too (Table 2).

The Independent t-test was used to compare breastfeeding self-efficacy score between the two groups. The Mean±SD pretest breastfeeding self-efficacy score was 47.55±5.92 in the control group and 47.70±7.83 in the intervention group (showed no significant difference between the two groups). After the interven-

tion, the Mean±SD breastfeeding self-efficacy score was 48.8±5.94 in the control group and 57.49±5.62 in the intervention group. The Independent t-test results showed that both groups were not significantly different from each other before the intervention, but after receiving cognitive-behavioral counseling, their difference in breastfeeding self-efficacy was significantly different ($P<0.001$) (Table 3). The breastfeeding self-efficacy scores of the intervention group considerably increased after counseling, but for the controls, the difference was not noticeable (Figure 2).

Table 1. The educational content of the intervention sessions

Session	Training Sessions
1	Greeting, completing the study questionnaires, acquaintance, familiarity with the rules and objectives of the program, and conducting an educational needs assessment
2	Familiarity with the ABC model (A: Activating event, B: Beliefs, and C: Consequences) and the effect of thoughts and beliefs on behaviors and emotions, answering to questions, homework assignment, and feedback
3	Self-awareness training and familiarity with cognitive errors, reviewing previously assigned homework, new homework assignment, and feedback
4	Training other thoughts (alternatives), teaching the role of attorney, reviewing previous assignments and assigning new homework
5	Teaching a problem-solving method (changing negative thoughts by changing behavior), teaching how to deal with breastfeeding problems
6	Consultation on the physiology of milk production, the mechanism of milk withdrawal, the benefits of breastfeeding and its positive effects on mother and baby
7	Consultation on how to properly breastfeed, and how to hug a baby during breastfeeding
8	Managing breastfeeding problems (e.g. nipple fissure, breast milk accumulation, breast pain, infection or abscess)

Discussion

The results of this study indicate that cognitive-behavioral counseling increases breastfeeding self-efficacy of mothers. The difference in breastfeeding self-efficacy scores in the control and the intervention groups after counseling was significant. Parsa et al. in a study on

the effect of 4-session lactation counseling on the self-efficacy and continuation of breastfeeding in primipara mothers, found out that those underwent counseling had higher self-efficacy scores [18]. Their results are in agreement with our results. The difference is that they carried out the intervention after delivery. Dodt et al. reported that educational intervention could increase

Table 2. Demographic and gestational characteristics of the samples before the intervention (n=120)

Variables	N (%)			Sig.*	
	Control	Intervention	Total		
Education	Junior high school	9(15)	10(16.6)	19(15.9)	0.340
	High school	27(45)	22(36.7)	49(40.8)	
	Associate degree	8(13.3)	5(8.3)	13(10.8)	
	Bachelor's degree or higher	16(26.7)	23(38.3)	39(32.5)	
Occupation	Housewife	55(91.7)	55(91.7)	110(91.7)	0.574
	Employed	5(8.3)	5(8.3)	10(8.3)	
Number of pregnancy	First time	33(55)	34(56.7)	67(55.8)	0.769
	Second time and more	27(45)	26(43.3)	53(44.2)	

* The Chi-squared test.

Table 3. The Mean±SD of Breastfeeding Self-efficacy in both groups before and after intervention

Breastfeeding Self-Efficacy	Mean±SD		Sig.*
	Control	Intervention	
Before the intervention	47.55±5.92	47.70±7.83	0.341
After the intervention	48.8±5.94	57.49±5.62	0.001

* The paired sample t-test

breastfeeding self-efficacy and the duration of breastfeeding [15].

In Azhari et al. study, it was found that breastfeeding without the direct intervention of educator could increase breastfeeding self-efficacy [19]. However, the results of Mirmohammad Ali et al. study support the effect of education with the direct intervention of educators on increasing self-efficacy of breastfeeding [20].

Studies of Muhammad Owais et al. [8], Sikander et al. [11], and Raeisi Dehkordi et al. [21] also support the effectiveness of counseling on exclusive breastfeeding; Raeisi Dehkordi et al. used telephone counseling, and others employed direct counseling. However, only in the study of Sikander et al. cognitive-behavioral counseling was used. Since exclusive breastfeeding is one of the items of BSES-SF and in the case of exclusive breastfeeding, the self-efficacy score was higher; therefore, regardless of the type of intervention, the results of this study are consistent with the above studies.

The results of Hasanpoor et al. [22] indicate that the breastfeeding self-efficacy score decreases during the last month of pregnancy, while the results of the present study indicate that self-efficacy can be increased with counseling.

Most studies have examined the impact of counseling and education on exclusive breastfeeding and its duration. The present study was conducted considering that breastfeeding self-efficacy could be a powerful predictor of exclusive breastfeeding and identifying mothers at risk of early cessation of breastfeeding. Therefore, considering the importance of lactation, we suggest that more and broader studies be conducted in this regard. This study led to a significant increase in breastfeeding self-efficacy score compared to routine care that the control group received. According to the WHO report on the low rate of exclusive breastfeeding in the world, including Iran and Qazvin, the related interventions will be necessary [6, 23, 24].

Given that breastfeeding self-efficacy can be a determinant factor in exclusive breastfeeding, it is recom-

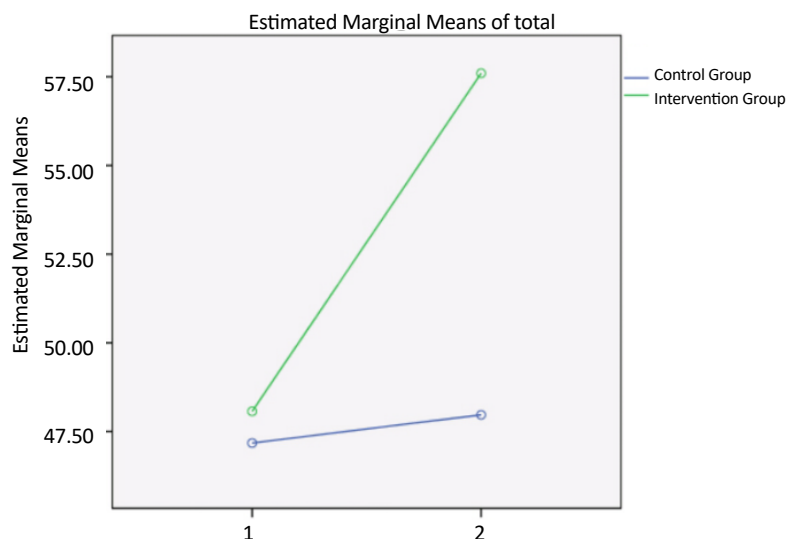


Figure 2. Comparing the breastfeeding self-efficacy before and after the intervention

mended that cognitive-behavioral group counseling be prepared by the maternal health departments at comprehensive health centers and midwifery counseling centers to improve the health of mothers and the community. Furthermore, about the study results and promotion of breastfeeding, the counseling is better to be conducted at mothers' homes. Also, it is recommended that future studies examine breastfeeding self-efficacy and exclusive breastfeeding up to 6 months after delivery. Because our study data have been collected by a questionnaire before delivery, the results may not be predictive of all lactation behaviors of postpartum women. Thus, we suggest that breastfeeding behavior be assessed up to 6 months after delivery and counseling intervention.

Ethical Considerations

Compliance with ethical guidelines

Before collecting data, written consent was obtained from samples, and they were assured of the confidentiality of their information. This study was approved by the Research Ethics Committee of Qazvin University of Medical Sciences (Code: IR.QUMS.REC.1396.113). It is also a registered clinical trial (Code: IRCT2017050533823N1).

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Authors' contributions

All authors contributed in designing, running, and writing all parts of the research.

Conflict of interest

The authors declared no conflict of interest.

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