

## Promoting Breastfeeding Self-efficacy through Role-playing in Pregnant Women

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### Abstract

#### Background

Breast milk is the best and most effective food for infants and their survival and health. Promotion of breastfeeding self-efficacy is a goal of breastfeeding education. The purpose of this research was to teach breastfeeding through role-playing and explore its effects on breastfeeding self-efficacy among pregnant women referring to healthcare centers of Isfahan, Iran.

#### Materials and Methods

This study was carried out in 2014 on 74 pregnant women who referring in two healthcare centers of Isfahan. Data collection tool was Denis and Fox's breastfeeding self-efficacy questionnaire. The intervention group was trained at the 36<sup>th</sup> week of pregnancy while the control group received routine care. Questionnaires were administered before the intervention and then one week and one month after delivery. Data were analyzed using SPSS-18.

#### Results

The mean score of self-efficacy, one month after delivery, was significantly higher in the intervention group ( $P < 0.05$ ). Also, the frequency distribution of breastfeeding self-efficacy differed significantly between the control and the intervention groups ( $P < 0.05$ ) and exclusive breastfeeding was higher in the intervention group ( $P < 0.05$ ).

#### Conclusion

Since role-playing method of teaching is directly related to breastfeeding self-efficacy it seems that laying the grounds for providing pregnant women with breastfeeding education could offer a solution for promoting self-efficacy and ultimately exclusive breastfeeding.

**Key Words:** Breastfeeding, Iran, Role-playing method, Self-efficacy, Training.

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## 1- INTRODUCTION

Breast milk is rich in nutrients and vitamins and ensures infant growth better than anything else. A well-nourished baby in his or her early stages of life would reach full physical growth in the future (1) and would also be protected against infectious diseases such as lower respiratory tract infection especially pneumonia and gastrointestinal infection especially diarrhea(2) such that breastfed infants would be healthier and experience less chronic diseases such as diabetes, obesity, asthma and high blood pressure. (3) Breast milk has positive impacts on physical, behavioral, emotional and social growth and development of the baby, hence the great importance of nutrition in infancy. Besides, breastfeeding has numerous benefits for the mother such as reducing the risk of breast cancer, ovarian cancer and type-2 of diabetes (4-6).

Failure to breastfeed in developing countries causes the death of one child each minute and eight hundred thousand each year. More than 13 percent of child mortality in these countries is associated with lack of breastfeeding (7). Islam also advises mothers to breastfeed their babies for two full years (8).

WHO and UNICEF, while underscoring breastfeeding in the first hour after birth, recommend exclusive breastfeeding for the first six months and thereafter, breastfeeding with complementary foods up to two years of age (9). Despite this, many countries including Iran have not reached exclusive breastfeeding. Reports show that the index of exclusive breastfeeding up to six months is below 40 percent in the world and 53.1 percent in Iran with 27.8 and 62.8 percent in urban and rural areas respectively (10). There have been studies to investigate factors of breastfeeding failure. Some variables have been proposed as risk factors; to improve, the results care givers should examine changeable variables like mother's

intention for breastfeeding, breastfeeding empowerment, type of received supports and breastfeeding self-efficacy (11, 12).

Breastfeeding self-efficacy is a construct of Bandura's social cognitive theory which includes one's faith and confidence in her abilities to perform hygienic behaviors and is affected by four sources of information: previous breastfeeding experience, observing successful nursing mothers, encourage and support from influential people (like friends and family) and previous counseling (13). Other effective positive and negative factors include mother's age, education, post-delivery immediate breastfeeding, family's support especially the husband's, information on breastfeeding, natural delivery, pregnancy cares, difficulty in breastfeeding initiation, stress, return to work and using formula milk(14-16).

Mothers with higher rate of self-efficacy are more likely to choose and insist on breastfeeding and when faced with problems, tend to react positively and will not stop breastfeeding because of those problems (17). Researchers such as Baghurst et al. suggested using an instrument which evaluates breastfeeding self-efficacy (16). Some researches indicated that breastfeeding self-efficacy could be promoted through educational interventions (16, 18). Choosing the best educational method along with active participation of learners is now one the important principles of education in health care and plays a significant role in educational planning (19). Role-playing method could be used for enhancing skills. According to learning principles, adults would learn most through active participation. Experimental methods of teaching are more effective than other methods and role-playing is an experimental method. It is a novel method and a part of social family pattern. People communicate rationally and emotionally through performing and playing roles, and

concentration and induction of feelings which enhance effective learning are its unique features. Group discussions could be facilitated by people's participation. Successful implementation of this method is contingent upon the right way to conduct its stages which consist of: choosing a topic, writing a play, selecting the roles, providing necessary facilities and equipment, preliminary rehearsal and preparation, playing, discussion and exchange of experiences and mother's lack of sufficient knowledge and information about exclusive breastfeeding (19-23).

Given the low rate of exclusive breastfeeding which indicates the small impact of common educational methods, and lack of research on role-playing method in Iran, this study was conducted to explore the impact of education by means of the role-playing method on breastfeeding self-efficacy in the last month of pregnancy. We hope to promote mother's self-efficacy for continuing breastfeeding by implementing the results of this research.

## 2- MATERIALS AND METHODS

### 2-1. Study Design and Population

This research is a clinical trial that was conducted in 2014 at Baharestan and Amir Hamzeh healthcare centers in Isfahan city, Iran. The population consisted of all pregnant women who referred to these two centers; 74 pregnant women were selected by means of random sampling using Kukran Formula. A total of 37 patients as the control group and 37 patients as the case group were selected. Sample size was calculated using the following formula:

$$N = (Z_1 + Z_2)^2 (2S)^2 / d^2$$

where, **Z1** was the 95% confidence interval equal to 1.96, **Z2** was the 80% power of test equal to 0.84, **S** was the estimated standard deviation of breastfeeding self-efficacy in both groups and **d** was the least difference between the

mean scores of self-efficacy to show the significant difference which was equal to 0.7. Samples were finally calculated by reviewing the literature and considering a 30% sample loss, using the above formula. In order to respect ethical principles, besides observing religious and cultural values of the society, written informed consent was obtained from all participants and their information was collected privately and anonymously. In addition, necessary permits were obtained from Isfahan University of Medical Sciences.

### 2-2. The Inclusion Criteria

Inclusion criteria were: being in the third trimester of pregnancy, being Muslim and resident of Iran, being able to read and write, being mentally healthy, having healthy breasts in terms of anatomy and appearance and having no history of addiction to cigarette, alcohol and drugs.

### 2-3. The Exclusion Criteria

Exclusion criteria were: mother's or baby's need for special care, death of mother or baby, affliction of mother or baby with diseases which, as doctor would suggest, would lead to discontinuation of breastfeeding or use of formula milk and mother's need for special cares during pregnancy or after delivery.

### 2-4. Measuring Tool

Data collection tool was the standard breastfeeding self-efficacy questionnaire. Its validity had already been confirmed in various studies (28-30, 33) and its reliability obtained a Cronbach's alpha value of 0.85. Prior to beginning the study, the questionnaire was completed by both groups as self-reports one week and one month after delivery and all pieces of information were extracted.

### 2-5. Methods

At first the researcher prepared a scenario for the roles of breastfeeding mother, grandmother, aunt and the training

midwife according to the instructions by World Health Organization (2013) (26) and the latest guidelines by Ministry of Health and Medical Education (27) and got approval. The main topics were discussed in two sections: the first part was about training the right methods of breastfeeding. The second part was about the problems during breastfeeding (mother's and infant's problems), mother's concerns about infant's nourishment and the special needs of each mother during breastfeeding. After preparing the scenarios as mentioned, role selection, rehearsal and coordination of role players were conducted at the 35<sup>th</sup> week of pregnancy (one week before performing).

Pregnant women from the intervention group who were prepared and physically able were selected for the role of breastfeeding mother, the researcher played the role of the training midwife and

the other two roles were played by two other colleagues (preferably two masters in midwifery). At the 36<sup>th</sup> week of pregnancy, the intervention group received trainings for breastfeeding during a 90-minute session and the participants exchanged their experiences and views after the trainings. The control group received routine cares (**Table.1**).

## 2-6. Data Analysis

The collected data were analyzed using SPSS- 18 with descriptive statistics (frequency and mean) and inferential statistics (Pearson's correlation coefficient and t-test). To determine and compare the mean score of breastfeeding self-efficacy for each group before and after the intervention variance analysis with repeated measurements and to compare the mean score of breastfeeding self-efficacy between both groups covariance analysis was used.

**Table 1:** Stages of the educational intervention

Stage No.	Stage Title	Description
1	Warm UP	At the beginning, 10 minutes were spent to talk about the importance of breastfeeding
2	Selecting the participants and introducing the roles	The researcher, with the help of two of her colleagues who were playing the roles of grandmother and aunt and a volunteer pregnant woman who played the role of breastfeeding mother, prepared themselves for their roles.
3	Preparing the scene	At the third stage, the scene was prepared based on the opinions of observers by presenting specific people or objects (doll, pillow, breast massage equipment, electric milk pump, breast shield, milk container, chair, stool, breast pad, cup, ...) for enhancing the play
4	Preparing the observers	All the observers were asked to accurately review the scenario and judge the players' behaviors and their decisions and also write down the important notes about each role
5	Performance	The scenario would be performed at three stages and the pregnant mother would learn about breastfeeding from what she sees and hears during the performance and also from the dialogues of the training midwife
6	Discussion	The observers would discuss the problems of the breastfeeding mother and would judge about the pros and cons of breastfeeding
7	Exchanging experiences	At the end of the session, the participants were asked to talk about a situation or memory from their families, friends or acquaintances that was similar to the play so that they could realize the risks of not breastfeeding, not exclusively breastfeeding and early weaning

### 3- RESULTS

A total number of 74 subjects participated to the end of the research whose average age was 25 and most of them had a bachelor's degree (52.7%) and were housewives (64.86%) (**Table.2**).

Mothers' age, age of marriage, education and job, baby's gender and type of delivery did not differ significantly between both groups. Results showed that the mean and standard deviation (SD) of self-efficacy scores were not significantly different between the intervention (76.7±8) and the control (77.2±8.1) group before the intervention (P=0.79). However, the score was significantly higher in the intervention group (87.4±4.3) compared to the control group (81.8±4.7) one week after delivery (P=0.001); breastfeeding self-efficacy was

also significantly higher in the intervention group (90.4±3.6) compared to the control group (84.1±5.1) one month after delivery (P=0.001). Given the significant change in self-efficacy score before and after the intervention, it was necessary to compare the differences in the mean score of self-efficacy of both groups one week and one month after delivery.

The increase in mean score one week and one month after delivery in comparison to the time before the intervention was significantly higher in the intervention group than the control group (P=0.001) (**Table.2**). Also, results showed that continuation of breastfeeding with breast milk in the intervention group was significantly higher than the control group (P=0.003) (**Table.3**).

**Table 2:** Demographic information of pregnant women who participated in the study

Variables		Number (%)
Age (year)	20<	10 (12.2)
	21-30	41 (55.4)
	31-40	24 (31.1)
	41<	1 (1.3)
Education	No high school diploma	4 (5.4)
	High school diploma	26 (35.2)
	Bachelor's degree	39 (52.7)
	Master's degree	5 (6.8)
	PhD and above	-
Employment	Housewife	48 (64.86)
	Employed	26 (35.14)

**Table 3:** Mean (SD) and self-efficacy scores of Control, Intervention groups at different time intervals

Time interval	Intervention group		Control group		Independent t-test	
	Mean	SD	Mean	SD	t-test	P-value
Before the intervention	77.2	8.1	76.7	8	0.27	0.79
One week after delivery	87.4	4.3	81.8	4.7	5.34	0.001
One month after delivery	90.4	3.6	84.1	5.1	6.18	0.001
One week after delivery compared to before the intervention	10.2	5.9	5.1	7.5	4.23	0.001
One month after delivery compared to before the intervention	13.2	6.9	3.3	4.01	4.12	0.001

#### 4- DISCUSSION

In the present study, both groups were almost similar regarding their demographic characteristics which would confirm random allocation of both groups. In the present study, the rate of breastfeeding self-efficacy in the intervention group was significantly different from that of the control group and the mean score of self-efficacy was higher in the intervention group one week and one month after delivery, which reflects the effectiveness of the role-playing method on promoting the level of self-efficacy.

Mirmohammad et al (19) conducted a study about methods of breastfeeding trainings. They revealed that direct communication with caregivers and participation in educational process would make mothers more successful at breastfeeding. Findings of the present study also showed that successful implementation of breastfeeding training through role-playing could bring about better and deeper effects on breastfeeding by actively engaging mothers in the educational session. Nekavand et al. (24) also found that in-person training during a 45-minute session after delivery would enhance breastfeeding self-efficacy; which supports the present findings.

Other researchers have used different methods such as workshop and electronic educations and improved willingness to breastfeed, breastfeeding self-efficacy, duration of exclusive breastfeeding and breastfeeding behaviors (25-27). Awano and Shimada showed that breastfeeding self-efficacy would be increased through implementation of self-care program which is in line with the results of the present research (28).

Maycock et al. (29) showed that educational intervention would lead to increased score of breastfeeding self-efficacy for 4 to 8 weeks after the intervention. In the present paper, breastfeeding self-efficacy showed an

upward trend in the first week and first month after delivery; results of Maycock et al., was in agreement with this finding (29). There are opposing studies on the issue such as a research by Henderson et al. (30). Their findings showed that the score of breastfeeding self-efficacy in the intervention group, who received one-on-one breastfeeding trainings, was lower than that of the control group. The likely reason of the discrepancy could be the time of training in their research where intervention was conducted during the first 24 hours after delivery while in the present study mothers were trained during their pregnancy. Also, Azhari et al. (20) argued that there is a significant correlation between the score of mother's pain and breastfeeding self-efficacy. Since there is a possibility of post-delivery pain in mothers, trainings might have had less effects on breastfeeding self-efficacy.

In a clinical trial by McQueen et al. (31), educational intervention was in the form of holding two face-to-face sessions for training breastfeeding and one session of telephone counseling after discharge from hospital which promoted breastfeeding self-efficacy. Kamran et al. (32) stated that breastfeeding self-efficacy is significantly correlated with duration of exclusive breastfeeding; these studies support the findings of the present study. Breastfeeding training during pregnancy by means of role-playing is therefore a fitting method for enhancing mothers' breastfeeding self-efficacy.

Enhanced self-efficacy in this research might be associated with the fact that mothers were allowed to discuss their questions, needs and beliefs, and they were provided with the right practical ways of breastfeeding; these played a significant role in promotion and enhancement of breastfeeding self-efficacy and consequently exclusive breastfeeding.

##### 4-1. Limitations of the study

One of the limitations of this study was environmental problems such as noises that were made due to communication of clients and staff at the study environment

## 5. CONCLUSION

Breastfeeding education through role-playing can be used as an effective educational method for promotion of breastfeeding self-efficacy. It therefore seems that laying the grounds for implementation of this method and training of care givers could provide a proper solution for group education in health centers. Along with continuing to breastfeed, this method should be taught to all mothers so that through promotion of breastfeeding self-efficacy, exclusive breastfeeding could also be enhanced.

**6- CONFLICT OF INTEREST:** None.

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