

# Assessment of Breastfeeding Education by Face to Face and Small-Group Education Methods in Mothers' Self-Efficacy in Kazeroun Health Centers in 2015

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## Abstract

**Background:** Education is a process beginning with informing, followed by attitude-making and finally leading to appropriate behavior and performance in trainees. Breastfeeding self-efficacy, as a term, is originated from the social cognitive theory structures of Bandura. This theory refers to one's beliefs and confidence in her/his ability to perform health behaviors like exclusive and successful breastfeeding.

**Methods:** In this study, 270 pregnant women with gestational age over 30 weeks were selected among those referring to health centers by cluster sampling method. The subjects were randomly divided into 3 groups. One group was considered as the control group and the two other groups were educated through either face to face or small-group methods. Data were collected using a demographic questionnaire, performance assessment check list, and breastfeeding self-efficacy questionnaire. The collected data were analyzed using appropriate statistical tests in SPSS.

**Results:** Data analysis on breastfeeding self-efficacy showed that there was no significant difference between 3 groups before training. The mean scores of women attending face to face and small-group education were 2.89 and 2.88, which increased to 4.73 and 4.18, respectively. There was a significant difference between the intervention groups after education ( $P < 0.001$ ). Self-efficacy mean scores after delivery showed that face to face education is more efficient. The results showed that there was a significant association between self-efficacy and performance in mothers ( $P < 0.001$ ).

**Conclusions:** Face to face education method has positive effects on infant feeding pattern, mother performance, breastfeeding satisfaction and beliefs as well as self-efficacy.

**Keywords:** Face to Face Education, Small Group Education, Breastfeeding, Self-Efficacy, Performance

## 1. Background

Education is a process beginning with informing, followed by attitude making and finally leading to correct behavior and performance. There are different educational approaches, two of which are selected in this study as follows.

1- Small group education: In this method, teaching and learning take place in a small group consisting of 2-20 members. The most important advantages of this approach are deep learning, active partnership of all trainees in learning process, and improving the communication and verbal skills in students.

2- Face to face learning: A face-to-face session is one in which participants, instructors, and facilitators meet together in the same place and at the same time. In this ap-

proach, the participant can freely ask and answer (1).

### 1.2. Self-Efficacy

Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals. This concept can affect one's extent of effort and level of performance (2). Breastfeeding self-efficacy is one of the Bandura's social cognitive theory structures, indicating the extent of a mother's belief about her own ability in doing right health behavior including exclusive and successful breastfeeding. In this regard, Denis believes that higher self-efficacy is significantly related to longer exclusive breastfeeding (3). Society development depends on the health status of each member, and children as essential elements for future of the society should be considered with especial importance. The united nations children's

emergency fund (UNICEF), in its statement in 2007, mentioned that breastfeeding can save 1.3 million infants from death all over the world while malnutrition is the reason for more than 50% of mortality in children under 5 years of age. In a developing country, the infants fed through breastfeeding have 3 times more chance to live (4). The world health organization recommends exclusive breastfeeding for 6-month-old infants and states that mothers should continue breastfeeding with the supplementary feeding by age two. This pattern is essential for children's physical, mental, and cognitive development (5-7). In 2011, less than 40% of infants were exclusively breastfed, which reached to 37% in 2012. It has been planned to increase exclusive breastfeeding rate to at least 50% by 2025 (8). Based on the report published by ministry of health and medical education, only 28% of infants less than 6 months old were exclusively breastfed (4). Breastfeeding education has a pivotal role in promoting the mothers' knowledge, increasing breastfeeding rate, and preventing early termination of breastfeeding (9-11).

Although the effective role of education is undeniable, there is not enough research about the most effective approach in breastfeeding education. In a recent systematic review (September 2012), results from 13 studies showed that in order to select the best learning approach for breastfeeding, clinical trials should be done (12). Face to face and small group learning approaches are two common methods in breastfeeding promotion programs and there is no study to compare these two methods. This study aimed to assess the effects of face to face and small group learning approaches on self-efficacy and mothers' performance in the first pregnancy and the choice of the best approach.

## 2. Methods

This experimental study was conducted on primigravida women with gestational age over 30 weeks who referred to Kazeroun health centers between March 2015 and March 2016. Considering the confidence interval of 95%, test power of 90%, and attrition rate of 6%, the sample size was determined to be 270 that were equally distributed in control group, small-group education, and face to face education. 6 health centers were selected by cluster sampling method, and 45 pregnant women were selected randomly per each center by the help of the prenatal care office and divided equally into 3 mentioned groups (15 women for each group). Therefore, based on the learning approach, the women in the intervention groups attended either face to face or small group education. After obtaining the written consent forms, the learning sessions were scheduled. The intervention groups were educated theoretically and

practically by the researcher in three 2-hour sessions. The control group received routine prenatal care without specified intervention.

The content of educational issues for the intervention groups was as follows:

DAY1 lecture/discussion: Islamic views on the importance of breastfeeding, recommendations for breastfeeding, benefits of breastfeeding, exclusive breastfeeding, initiating breastfeeding, evaluating the adequacy of breastfeeding, and signs of infant hunger and satiety.

DAY2 role-playing, exercise: the correct way of breastfeeding, assessing position and latch-on, maintenance of breastfeeding after return to school or work, and use of a breast pump.

DAY3 lecture/discussion: management of common lactation problems including cracked, bleeding, or sore nipples, maternal nutrition, perceived barriers to breastfeeding and risks of artificial feeding.

Breastfeeding instructor for pregnant women and mother consultation book were used as references. Pre- and post-tests were taken to analyze data after each training session. In the first session, the questionnaires for breastfeeding self-efficacy and demographic information were completed by all participants. For the intervention groups, the breastfeeding self-efficacy questionnaire was completed at the end of the third session, too.

Denise standard self-efficacy questionnaire consists of 13 questions which are scored based on the Likert scale from 1 to 5. The Likert scale included completely agree (5), agree (4), no idea (3), disagree (2), completely disagree (1). After the end of the educational sessions, the participants were followed till the birth time.

Based on the infant care program, mothers should attend health centers 3-5 days and one month after the child birth. The second part of the demographic questionnaire, breast feeding self-efficacy questionnaire as well as infant breastfeeding assessment checklist were completed after the child birth. In order to validate the infant breastfeeding assessment checklist, it was reviewed by 10 pediatricians. The reliability was determined by a pilot study on 30 pregnant women. Cronbach's alpha coefficient was obtained as 0.85.

The checklist was coded according to pediatricians' opinions. To avoid bias, the assessment was done by a family health expert who was blind to participant grouping. The inclusion criteria for this study were: completed questionnaires, singleton pregnancy, having a term birth, complete health of both mother and infant, and availability of mother after childbirth. Exclusion criteria included: mothers' unwillingness to continue the survey, unavailability of mother after delivery, infant death, and any medical condition which limited breastfeeding.

Data were analyzed using SPSS16 and statistical tests including descriptive statistics and inferential analyses such as Chi-square, Kruskal Wallis, McNemar, Mann-Whitney and LSD post hoc tests. The mothers were assured that their information will be kept confidential. At the end of the study, the participants were acknowledged. This study has been approved by the ethics committee of Shiraz University of Medical Sciences.

### 3. Results

270 pregnant women with gestational age of more than 30 weeks took part in this study; 6 mothers (3%) withdrew after delivery and the study continued with 264 mothers.

The participants' age ranged from 17 to 41 year with the mean of  $24.66 \pm 3.1$ . In terms of education level, 36.74% had Diploma. There was no significant difference in age ( $P = 0.082$ ) and education level ( $P = 0.384$ ) between the three groups.

In terms of delivery type, 73.9% had normal delivery. In terms of job status, 94.32% of mothers in the three groups were housekeepers. There was no significant difference in delivery type ( $P = 0.662$ ) and mothers job ( $P = 0.423$ ) between the three groups (Table 1).

Mean gestational age was  $33 \pm 3$  weeks. 73.86% had natural childbirth. The mean birth weight was  $3250 \pm 307$  g. 100% of the mothers became roommate with their newborn child. The rate of beginning the breastfeeding in the first 30 - 60 minutes after delivery was 53.78%. There was no significant between-group difference in the method of childbirth and the first breastfeeding after delivery ( $P = 0.371$ ).

Comparison of pre- and post-test scores showed significant differences in the mothers' knowledge after education in both groups of intervention ( $P < 0.001$ ).

Data showed that the mothers' performance in exclusive breastfeeding as well as correct way of breastfeeding were significantly better in those who attended face to face education (Table 2).

The satisfaction with breastfeeding among women attending face to face education, small group education, and control group was 95.5%, 91%, and 54.5%, respectively. The difference was statistically significant in the three groups.

Our results showed that fortunately all mothers were supported by family members. They all had access to four main food groups, and both mothers and infants were healthy with optimal infant growth curve. The frequencies of breastfeeding in the intervention and control groups were 10 and 9 times a day, respectively, which was not significantly different from each other (Table 3).

Mothers' self-efficacy was assessed before and after education as well as after childbirth. There was no significant difference before education between the three groups. However, self-efficacy increased significantly after education in the intervention groups, indicating the positive significant effect of education on the self-efficacy level. After childbirth, self-efficacy was significantly higher in educated mothers compared to those in the control group. Also, comparison of self-efficacy scores in both intervention groups after child birth showed a significant difference between women attending face to face education and those attending small group education ( $P < 0.001$ ). Thus, self-efficacy scores after child birth increased more significantly in face to face educated mothers than small-group educated mothers.

### 4. Discussion

The present study was an experimental research on the effects of two educational approaches including face to face education and small group education on the mothers' self-efficacy. Despite all efforts and advertisements regarding the benefits of breastfeeding, its rate is still low. This could be due to different factors such as mothers' knowledge, family support, health center staff, health macroeconomic policies, etc. Pre- and post-test comparison in the intervention groups implied the significant effect of education on the promotion of the mothers' knowledge in terms of advantages of breastfeeding for both mother and infant, exclusive breastfeeding, mothers' milk composition, common troubles in breastfeeding, adequacy, duration, frequency, and the right way of breastfeeding, as well as the effect of right and wrong beliefs on breastfeeding continuation. Our results in this regard are consistent with those of Mokhtary et al. (13), Aghababaei et al. (14), Bernaix et al. (15), and Bahri et al. (16). Based on our results, the highest frequency of breastfeeding was observed in face to face education group. Our results are in agreement with the results of Sakkaki et al. (17), Colson et al. (18), Ingram et al. (19), and Azhari et al. (20), indicating that exclusive breastfeeding is significantly related to educational interventions. Face to face education method showed better results compared to small group education; this result is similar to those of other researches conducted by Mokhtary et al. (13), Saba et al. (21), and Azhari et al. (20).

In order to assess the right way of breastfeeding and mothers' performance based on the breastfeeding observation form, 3 items were considered including: establishing a good latch, hugging, and sucking. Based on these items, our results showed better performance in mothers educated with face to face method compared to those educated with small group approach, which marked the

**Table 1.** Variables in Three Groups

Variable	Face to Face	Small Group	Control	P Value	
Mothers' job	Housekeepers	85 (96.6)	83 (94.3)	81 (92)	0.423
	Working Mothers	3 (3.4)	5 (5.7)	7 (8)	
Delivery type	Normal delivery	63 (71.6)	68 (77.3)	64 (72.7)	0.662
	Caesarean section	25 (28.4)	20 (22.7)	24 (27.3)	

**Table 2.** Mothers Performance Assessment in Three Groups<sup>a</sup>

Mothers performance assessment	Face to Face (N = 88)	Small Group (N = 88)	Control (N = 88)	P Value
Exclusive breastfeeding	94.9	90.4	58.5	< 0.001
The correct way of breastfeeding	92	87.5	56.8	< 0.001

<sup>a</sup>Values are expressed as %.

**Table 3.** Self-Efficacy in Three Groups<sup>a</sup>

Self-efficacy	Face to Face	Small Groups	Control	P Value
Before education	2.88 ± 0.49	2.89 ± 0.46	2.88 ± 0.92	0.47
After education	4.73 ± 0.47	4.18 ± 0.56		< 0.001
After child birth	3.89 ± 0.86	3.75 ± 0.89	2.75 ± 0.77	< 0.001

<sup>a</sup>Values are expressed as mean ± SD.

efficacy of theoretical and practical education on mothers' performance. The significant relationship between the mothers' education and doing the right way of breastfeeding has been also reported by Sakaki and Khairkhan (17), Rahmatnejad and Bastani (22), Shishegar (23), and Marques et al. (24).

Satisfaction means feeling good and having positive image of something. In the case of breastfeeding, mothers' satisfaction plays a pivotal role in breastfeeding continuation. In this research, similar to the Mokhtary et al. (13), Saba et al. (21), Azhari et al. (20) and Marques et al. (24), we showed that satisfaction was higher in women attending face to face education, followed by women in small group education and control women. Other effective factors on the feeding pattern and breastfeeding continuation including family support, mother and infant health, and mothers' nutritional status were also studied; fortunately, there was no problem in the the study population in this regard. Breastfeeding showed no significant relationship with the mothers' age and education level, as well as family income in all the three groups. This finding is in agreement with the reports by KhoramiMarekani et al. (13), Bahri et al. (16), Naser-pur et al. (25), and Tol et al. (26). Mothers' job and delivery type had a significant re-

lationship with breastfeeding; this result is similar to that of Shishegar (23) study.

In this study, the mothers' self-efficacy in terms of infant breastfeeding, breastfeeding troubles, the right way of breastfeeding, nursing satisfaction, breastfeeding continuation while infant is crying, and feeding based on infant demand was studied before and after education as well as after childbirth. Self-efficacy scores before education were low in all the three groups; this is in line with the published results of Mirmohammad et al. (27), Tol et al. (26), Azhari et al. (20), Dennis (28), and Noel-Weiss et al. (29). The significant increase of self-efficacy in the intervention groups is also in the same line with Bahri et al. (16) and McQueen et al.'s (30) reports. Similar to Bahri et al. (16) and Dennis et al. (28) studies, this study showed that there was a significant relationship between mothers' self-efficacy and the infant breastfeeding, breastfeeding troubles, the right way of breastfeeding, nursing satisfaction, breastfeeding continuation while the infant is crying and feeding based on the infant demand. Better self-efficacy scores in face to face educated mothers imply the higher effectiveness of face to face approach compared to small group method of education.

#### 4.1. Conclusions

In this study, the effect of education on primigravida mothers' performance and self-efficacy was assessed. There was no significant difference between the two intervention groups in terms of effective factors on self-efficacy and mothers' performance including family support, mother and infant health, four main nutritional groups availability, delivery type, age, education level, and mothers' job. However, our results showed that face to face education more significantly affected infant feeding pattern, mothers' performance and satisfaction with nursing as well as mothers' attitude about breastfeeding and self-efficacy. Our results also showed a direct relationship between self-efficacy and mothers' performance and these two items were significantly higher in face to face educated mothers.

#### 4.2. Suggestions

Based on our results, it is suggested that breastfeeding education be presented by face to face method for pregnant women. Considering the active participation of subjects in discussions of small groups, it can be also suggested that successful mothers in breastfeeding be invited to share their experience with those who are in the first pregnancy.

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