

## Effects of Companionship in Training Sessions on Primiparous Women's Knowledge, Attitude and Performance toward Breastfeeding

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### Abstract

#### Background

The present study aimed to explore effects of companionship in training sessions on primiparous women's knowledge, attitude and performance toward breastfeeding.

**Materials and Methods:** In this case-control interventional study, 105 primiparous women in the 30th to 34th weeks of pregnancy were selected and assigned to three groups, namely the intervention group without a companion (n=35), the intervention group with a companion (n=35), and the comparison group (n=35). Data gathering tools was a questionnaire and breastfeeding observational checklist. The control group received routine training in the hospital, but the other groups were trained by the researcher in four 90-minute sessions. Data were collected before and after the education, immediately after childbirth, and four and eight weeks after childbirth and analyzed using SPSS(version 20.0) software and appropriate statistical tests.

**Results:** No significant difference was observed in terms of demographic variables such as: maternal and paternal educational level and occupation status between control and intervention groups ( $P > 0.05$ ). There was a significant difference between the mean scores of knowledge and attitude toward breastfeeding in the two intervention groups before and after the educational intervention, right after child birth, 4 weeks and 8 weeks after child birth ( $P < 0.001$ ). There was also a significant difference between the three groups in the mean score of performance of breastfeeding right after, 4, and 8 weeks after childbirth ( $P < 0.001$ ).

**Conclusion:** According to results of this study, education during pregnancy and support from the accompanying person, before and after childbirth expand knowledge of breastfeeding, reinforce attitude toward it, and boost its performance.

**Key Words:** Attitude, Breastfeeding, Education, Knowledge, Performance, Primipara.

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## 1- INTRODUCTION

Breast milk is regarded as ideal food. It is one of the crucial factors contributing to the healthy growth of newborn babies and their cognitive development (1). It has many immunological benefits and plays an important role in reducing infant mortality (2). Breast milk is recommended as the best food for infants because it is readily accessible, has an appropriate temperature, is fresh and free from any bacterial contamination, and, therefore, minimizes chances of developing digestive problems (3). Breast milk has additional benefits. For example, it provides the body with immune-enhancing agents, contains essential amino acid and nutrients, provides adequate fat and liquid contents in colostrum and mature milk, and has most necessary minerals. Moreover, it forges a psychological relationship between the infant and the mother (4).

Generally, the mother's milk has an enormous influence on the infant's growth chart (5). On the other hand breastfeeding is beneficial to the mother's health, too. In fact, it reduces postpartum hemorrhage, lowers the risk of breast and ovarian cancers, accelerates a physical recovery from pregnancy and childbirth, improves family-planning efforts (5), and reduces the risk of developing osteoporosis in the mother (7). Breastfed babies hardly ever face the risk of diarrhea, gastrointestinal bleeding, reflux, colic, atopic eczema, specific allergies, and chronic illnesses throughout their life (8, 9). Furthermore, breastfed babies are less likely to develop asthma, obesity, and diabetes (3, 10).

More than 3,000 infants die daily due to infectious diseases caused by bottle-feeding and 1.5 million newborn babies lose their lives annually because they are not breastfed (11). According to statistics, failing to breastfeed infants has increased their mortality rate in developing countries so that one infant dies per 30 seconds. In addition, 70% of infant mortality in these

countries is due to the fact that mothers do not breastfeed their children there (12). Owing to this, the Healthy People 2020 initiative aims to increase the proportion of mothers who breastfeed their infants to 82% (13). Exclusive breastfeeding not only affects the mother and her infant positively but also has profound effects on the economy of the family and the community because formula is not used (14, 15). The estimated annual costs of not breastfeeding in New South Wales are \$20-40 million for illnesses such as gastroenteritis, lower respiratory infection, otitis media, asthma, and necrotizing enterocolitis (16). The rates of breastfeeding exclusively and sustaining it vary in different countries and cultures.

A wide range of factors affect mothers' decision to breastfeed and sustain it. These include cultural, social, and psychological factors, policies, the media, the availability of health services, and the social support (17). The fastest way to maintain public health is training people in preventive medicine and enhancing public knowledge. Given the emphasis of the World Health Organization (WHO) on maternal and newborn health, it is necessary to improve the parental knowledge, particularly maternal knowledge (18). If a mother is well-trained in good breastfeeding positions, the breastfeeding rate will rise and the mother's perception that her milk is inadequate will change. Successful breastfeeding in the first weeks after her discharge from the hospital is closely linked with the encouragement and support she receives from the midwife at home, the husband, and other family members (19).

In a study, Tork Zahrani et al. explored effects of support from mothers with successful breastfeeding experiences on primiparous breastfeeding duration and patterns (20). Mothers' knowledge about benefits of breast-feeding and breast milk is not enough to motivate them to choose

the best way to feed infants. Thus, mothers need more information, particularly culturally relevant information, which could empower them to willingly choose the best feeding for their infants (21). Holding postnatal educational sessions about breastfeeding alone has no effect on the duration of breastfeeding (22). Mothers are provided with educational materials shortly after childbirth, especially in baby-friendly hospitals. The materials are based on some proven facts and offer recommendations with respect to breastfeeding for a short period of time (23). The postpartum period is a stage during which the mother remains susceptible to many physical and mental problems which make her tired and anxious, has to meet the newborn's needs, and becomes preoccupied with the way she can communicate with her husband well. Due to these, she cannot fully concentrate on training at this stage (24). Moreover, the postpartum period is quite short. The mother is discharged from the hospital 24 hours after normal birth and 48-72 hours after Caesarean birth. Therefore, education and consultancy services cannot be sufficiently delivered in this short period. Apparently, the most effective interventions for breastfeeding successfully and sustaining it are those which include both theoretical and practical training in breastfeeding and provide face-to-face consultations outside of normal visiting hours in clinics (25).

In the Al-Zahra Hospital in Tabriz, Iran, most mothers of premature infants (75%) who failed to breastfeed had not been trained in breastfeeding during pregnancy. In fact, one of the reasons why they did not continue breastfeeding was that they had not received any training in breastfeeding during pregnancy (23). The Australian Breastfeeding Association (ABA) concur that, during pregnancy, women should be well-informed about the benefits of breastfeeding for both the mother and the

infant. Knowledge of breastfeeding empowers mothers to succeed in breastfeeding (16). In order to cope with the early termination of breastfeeding and continue exclusive breastfeeding, mothers should be supported by health professionals both when they are hospitalized and after they are discharged (19); because breastfeeding mothers face problems during this period and require support from social and professional resources so as to overcome problems and succeed in breastfeeding (26). Considering the importance of social relationships and healthcare services, it is said that receiving support from anyone other than professionals has become widespread (27).

One of the crucial factors in breastfeeding is women's subjective norms, including attitudes of the husband, the mother, friends, and healthcare providers, who play a decisive role in initiating and sustaining breastfeeding (28, 29). Results of some studies demonstrate that mothers' attitude toward breastfeeding, support from social networks, and the availability of favorable conditions for breastfeeding in the community are regarded as effective factors in the initiation of successful breastfeeding (30, 31). Definitely, primiparous women encounter problems due to lack of breastfeeding experience. Hence, it is necessary to introduce interventions which could help to support primiparous women and increase the breastfeeding rate. Considering a reduction in the breastfeeding rate in recent years in Iran, it is very important to devise effective strategies for increasing the breastfeeding rate, particularly among primipara; moreover, healthcare providers are advised to consider this issue and improve the breastfeeding process. Obviously, education can play a major role in enhancing mothers' knowledge, thereby increasing the breastfeeding rate. Moreover, admittedly, mothers usually make a decision as to how to feed their

infants before birth. Therefore, the current study was conducted to investigate effects of having a companion, or a support person, in breastfeeding educational sessions on primiparous women's breastfeeding knowledge and performance and their attitude toward it.

## 2- MATERIALS AND METHODS

### 2-1. Study Design and Population

This case-control three-group interventional study was carried out on primipara who had attended a pregnancy clinic in Mahdih hospital affiliated to Shahid Beheshti University of Medical Sciences in Tehran, Iran. This study was carried out from April to November 2015.

### 2-2. Inclusion and Exclusion Criteria

The inclusion criteria were being at a gestational age of 30 to 34 weeks, having singleton pregnancy, suffering no illness contraindicating breastfeeding, having elementary education minimum, and consenting to participate in the study. The exclusion criteria were preterm labor (before the 37th week of pregnancy), intrauterine growth restriction, congenital anomalies such as cleft palate and cleft lip, the hospitalization of the mother or the infant, intrauterine fetal death, and absence from classes for more than two sessions.

### 2-3. Methods and Sampling

The minimum sample size (n) was estimated at 32 in each group according to the below equation (32):

$$n = \frac{(Z_1 + Z_2)^2 (\sigma_1^2 + \sigma_2^2)}{d^2}$$

However, considering 10% attrition, 35 subjects were assigned to each group. In the above equation,  $Z_1$  and  $Z_2$  are the 95% confidence level (CI) and 80% test power, respectively. According to the normal distribution table, they were calculated at 1.96 and 0.84, respectively. Moreover,  $\sigma_1$

and  $\sigma_2$  are the standard deviations of the performance scores in the intervention and comparison groups, respectively. In the equation,  $d$  is the least noticeable difference in the test. It was considered to be  $0.7 \sigma$ . Since there were two intervention groups and one comparison group in the study and each group had 35 members, the total sample size was 105. The sampling method used in the study was convenience sampling. In fact, 105 subjects were selected from primipara who had referred to the hospital during a week. According to the random number table, they were assigned to two intervention groups (with and without a companion) and one comparison group.

### 2-4. Ethical Considerations

All the mothers gave written informed consent for participating in the study. The subjects filled out the questionnaire during the wait for an appointment with a doctor or midwife in the clinic. The mothers who took part in the research were provided with necessary information about the significance and objectives of the research. They were informed that participation in the research was entirely optional, their data would be kept confidential, and they could abandon the research project whenever they wished. It should be noted that the present study was based on a master's thesis (ID: 393453) which was approved in Isfahan University of Medical Sciences.

### 2-5. Measuring Tools: Validity and Reliability

The data-collection tools in the current study were a questionnaire and a checklist for observing the breastfeeding method. The validity and reliability of the questionnaire has been confirmed in a study by Sharifirad et al. in Iran. In this study, Cronbach's alpha coefficient was 0.81 for questions about knowledge and 0.90 for questions about attitude (32). It included questions on the mother's

demographic characteristics (namely, age, educational level, occupation, and her husband's age, educational level, and occupation), questions (n= 13) assessing breastfeeding knowledge, and statements (n = 9 items) assessing attitudes toward breastfeeding. In the Knowledge section, each correct response was scored 1 and each incorrect response was scored 0. In the Attitude section, responses were based on the Likert scale ("Totally disagree" = 1, "Disagree" = 2, "Have no idea" = 3, "Agree" = 4, and "Totally agree" = 5).

The checklist had 17 items. These items were related to the breastfeeding technique and appropriate skills regarding that. The researcher completed it by observing the way the mother breastfed after birth. Each item was scored 1 if the pregnant woman performed the behavior correctly and it was scored 0 if the behavior was performed incorrectly. The scores ranged from 0 to 17. Iranian studies have reported that the reliability of the tool is 0.92 (33). This checklist was completed by a midwife in breastfeeding time of women in the clinic of mentioned hospital.

## 2-6. Intervention

Only 11 subjects were excluded from the study (four from the comparison group, another four from the group without social support, and three from the group with social support). In the comparison group, there were a case of intrauterine fetal death and two cases of preterm delivery; moreover, a subject was unwilling to continue participating in the study. In the group without social support, there were a case of maternal hospitalization, a case of preterm delivery, and two cases of newborn hospitalization. In the group with social support, there were a case of preterm delivery, a case of maternal hospitalization, and a case of intrauterine growth restriction. The total numbers of Mothers was 31, 31 and 32 (aggregate 94) in comparison, without social support and with social support groups, respectively.

The comparison group received only routine prenatal and postnatal care. In the group with social support, mothers attended training sessions with a companion, who could be her mother, a friend, or any other person playing a supportive role for her and having been chosen by her. In the group without social support, mothers attended the training sessions on their own without any accompanying person. The educational intervention was performed in four 90-minute group training sessions. The mothers were taught using techniques such as lectures, questions-and-answers, and group discussions. Educational materials included slide shows, illustrations, and pamphlets. Behavioral goals were set for each training session, which closed with questions and answers regarding topics addressed in that session so that the mothers could call to mind what had been discussed. Before beginning a session, the content of the previous session was reviewed by the researcher and the pregnant mothers (**Table.1**). The questionnaire was completed once before the intervention and four times after the intervention (After the education, right after childbirth, four weeks after childbirth and eight weeks after childbirth) by the subjects. The postnatal checklist was filled out four weeks and eight weeks after childbirth.

## 2-7. Data Analysis

Data collected from 94 pregnant mothers were entered into the SPSS program, version 20. For analyzing demographic variables, Chi-square, Fisher's exact test and Mann-Whitney test were used. Repeated Measure ANOVA was used for comparison of knowledge, attitude and performance scores in each group at different time points. The scores of mentioned variables between three groups in different times were comprised with the use of independent t-test. Significant level was considered as  $P \leq 0.05$ .

**Table-1:** An outline of the educational programs offered to the pregnant mothers

Behavioral objectives	Domains	Strategies
The mother should be able to discuss immunological properties of milk.	Cognitive	Group discussions
The mother should be able to discuss the breast-milk composition.	Cognitive	Lectures and questions-and-answers
The mother should be able to compare side effects of formula and breast milk.	Cognitive-emotional	Questions-and-answers
The mother should be able to discuss two common breastfeeding problems, offer solutions, and explain them with illustrations.	Cognitive-emotional	Illustrations and group discussions
The mother should be able to discuss indicators showing whether breast milk is enough and talk with other mothers about them.	Emotional	Questions-and-answers and group discussions
The mother should be able to mention three misconceptions about breastfeeding and talk with other mothers about them.	Emotional	Questions-and-answers and group discussions
The mother should be able to discuss and demonstrate correct breastfeeding positions with educational illustrations and films.	Cognitive-psychomotor	Illustrations and films
In the researcher's presence, the mother should be able to mention and demonstrate proper breastfeeding techniques.	Cognitive-psychomotor	Role-play

### 3- RESULTS

The mean age of the mothers was 26.12  $\pm$  4.90 years in the comparison group, 25.29  $\pm$  4.37 years in the intervention group without a companion, and 26.53  $\pm$  4.20 years in the intervention group with a companion. The mean age hadn't significant difference in three groups ( $P > 0.05$ ). Other demographic variables are presented in **Table.2**. The independent t-test revealed that there was no significant

difference between the groups with respect to the mean score of knowledge before the educational intervention ( $P = 0.205$ ); however, this test showed a significant difference between the groups with respect to the mean score of knowledge after the education, right after childbirth, four weeks after childbirth and eight weeks after childbirth following the educational intervention, respectively ( $P < 0.001$ ). The rANOVA indicated that, in the two intervention groups, the mean scores of

knowledge before the educational intervention and at the different time points after the intervention were significantly different ( $P < 0.001$ ); however, in the comparison group, the mean scores before and after the intervention were not significantly different ( $P = 0.573$ ) (**Table.3**).

The LSD post-hoc test revealed that, at the time points after the intervention, there was a significant difference between the intervention group with a companion and the comparison group with respect to the score for knowledge ( $P < 0.001$ ). The test also showed that, at the time points after the intervention, there was a significant difference between the intervention group with a companion and the comparison group with respect to the score for knowledge ( $P < 0.001$ ).

The LSD post-hoc test demonstrated that the two intervention groups were significantly different with respect to the score for knowledge after the education ( $P = 0.014$ ), immediately after childbirth ( $P = 0.03$ ), four weeks after childbirth ( $P < 0.001$ ), and eight weeks after childbirth ( $P < 0.001$ ). According to the independent t-test, between the three groups, there was a significant difference in the score for attitude after the intervention ( $P < 0.001$ ); however, prior to the intervention, the difference was not significant ( $P = 0.175$ ).

Furthermore, the rANOVA revealed that the mean scores of attitude before and after the educational intervention in the two intervention groups were significantly different ( $P < 0.001$ ). Nevertheless, in the comparison group, no significant difference in the mean score of attitude was observed before and after the intervention ( $P = 0.321$ ) (**Table.4**).

The LSD post-hoc test showed that, at the time points after the education, there was

significant difference between the comparison group and the intervention group without a companion with respect to the score for attitude ( $P < 0.001$ ). It also showed that there was a significant difference between the comparison group and the intervention group with a companion at the time points after the intervention with respect to the score for attitude ( $P < 0.001$ ).

According to this test, the two intervention groups were significantly different with respect to the score for attitude after the education ( $P=0.016$ ), immediately after childbirth ( $P= 0.03$ ), and eight weeks after childbirth ( $P= 0.03$ ); however, the difference was not significant four weeks after the intervention ( $P = 0.058$ ).

The groups were significantly different with respect to the mean score of performance at the time points after childbirth ( $P < 0.001$ ); moreover, the scores of performance in each group were significantly different at the time points after childbirth ( $P < 0.001$ ).

In addition, the three groups were significantly different with respect to the mean score of breastfeeding performance at the time points after childbirth, but the difference was larger in the intervention group with a companion and the mean score of breastfeeding performance in this group was the highest; therefore, this group had the best and true breastfeeding performance in comparison with another groups (**Table.5**).

As **Table.6** shows, the knowledge of breastfeeding and the attitude toward it had a positive correlation with the performance at the different time points after childbirth.

**Table-2:** Demographic characteristics of the primiparous women

Variables		Intervention group without a companion		Intervention group with a companion		Comparison group		P-value
Sub-group		Number	%	Number	%	Number	%	
Maternal educational level	Below high-school	3	9.7	3	9.4	1	3.2	0.81*
	High-school	24	77.4	23	71.9	24	77.4	
	University level	4	12.9	6	18.8	6	19.4	
Paternal educational level	Below high-school	1	3.2	3	9.4	3	9.7	0.71*
	High-school diploma	25	80.6	24	75	20	64.5	
	University	5	16.1	5	15.6	8	25.8	
Maternal occupation	Housewifery	24	77.4	26	81.3	23	74.2	0.79**
	Employed	7	22.6	6	18.8	8	25.8	
Paternal occupation	Employed	10	32.3	8	25	7	22.6	0.88**
	Manual job	6	19.4	9	28.1	8	25.8	
	Self-employed	15	48.4	15	46.9	16	51.6	
The mother has planned to become pregnant.	Yes	25	80.6	29	90.6	29	93.5	0.64***
	No	6	19.4	3	9.4	2	6.5	

\* Mann-Whitney test; \*\* Fisher's exact test; \*\*\* Chi-square test.

**Table-3:** The means and standard deviations (SD) of the score for knowledge at the different time points in the intervention and comparison groups

Groups	Before the education		After the education		Right after childbirth		Four weeks after childbirth		Eight weeks after childbirth		P-value*
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Intervention group without a companion	5.45	1.65	10.64	0.91	10.77	1.02	10.56	1.00	10.70	1.34	<0.001
Intervention group with a companion	6.34	1.82	11.62	0.94	11.81	0.89	12.43	0.56	12.40	0.55	<0.001
Comparison group	5.09	1.88	4.38	1.96	4.09	1.64	6.74	2.59	6.22	2.17	0.573
P-value**	0.205		<0.001		<0.001		<0.001		<0.001		

\* rANOVA; \*\* Independent t-test .

**Table-4:** The means and standard deviations (SD) of the score for attitude at the different time points in the intervention and comparison groups

Groups	Before the education		After the education		Right after childbirth		4- week after childbirth		8- week after childbirth		P-value*
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Intervention group without a companion	31.03	3.75	36.70	2.77	37.51	3.32	8.00	3.01	38.25	2.79	<0.001
Intervention group with a companion	30.53	2.25	38.56	1.58	39.25	1.07	39.81	1.14	40.25	1.36	<0.001
Comparison group	31.93	3.19	31.80	3.20	31.74	3.10	32.61	4.33	33.12	4.40	0.321
P-value**	0.175		<0.001		<0.001		<0.001		<0.001		

\* rANOVA; \*\*Independent t-test.



**Table-5:** The means and standard deviations (SD) of the score for performance at the different time points in the intervention and comparison groups

Group	Right after childbirth		4- week after childbirth		8- week after childbirth		P-value*
	Mean	SD	Mean	SD	Mean	SD	
Intervention group without a companion	9.87	1.05	10.58	1.11	10.61	0.88	<0.001
Intervention group with a companion	14.15	1.60	15.71	0.85	16.03	0.82	<0.001
Comparison group	3.29	0.82	6.06	1.41	6.70	1.24	<0.001
P-value**	<0.001		<0.001		<0.001		

\* rANOVA; \*\*Independent t-test.

**Table-6:** Pearson's correlation coefficient of knowledge and attitude with skill regarding breastfeeding

Variables	Skill right after childbirth		Skill 4- week after childbirth		Skill 8- week after childbirth	
	r	P-value	r	P-value	r	P-value
Knowledge right after childbirth	0.88	<0.001	0.80	<0.001	0.80	<0.001
Knowledge 4 weeks after childbirth	0.78	<0.001	0.78	<0.001	0.73	<0.001
Knowledge 8 weeks after childbirth	0.83	<0.001	0.75	<0.001	0.75	<0.001
Attitude right after childbirth	0.72	<0.001	0.65	<0.001	0.64	<0.001
Attitude 4 weeks after childbirth	0.64	<0.001	0.57	<0.001	0.57	<0.001
Attitude 8 weeks after childbirth	0.64	<0.001	0.57	<0.001	0.57	<0.001

#### 4- DISCUSSION

The results of current study showed that designing and implementing appropriate educational program result in increasing knowledge, improving attitude and promoting performance of women regarding breastfeeding. Primipara experience breastfeeding for the first time after childbirth; therefore, it remains absolutely necessary to educate them about breastfeeding and teach them how to cope with problems and solve them effectively during breastfeeding. They gather limited, irrelevant information about breastfeeding since pregnancy; however, due to lack of adequate proper training, their breastfeeding is affected by social and cultural beliefs. Thus, taking the above-

mentioned factors into account and developing basic educational programs can promote breastfeeding attitudes and behaviors of mothers in the community (34, 35). The findings of the present research showed that despite training provided in healthcare centers and hospitals and via the media, the mothers' knowledge was at a moderate level. Nonetheless, according to the questionnaires completed prior to the intervention, this knowledge was mostly about the importance and benefits of breastfeeding to the mother and her infant; moreover, the participants had a limited knowledge of problems on the way of successful breastfeeding and did not know what to do when a problem came up or

what effective solutions should be adopted to prevent problems. These findings are in line with those of a study by Dewan et al. on teenage mothers' knowledge of and attitudes toward breastfeeding in prenatal training (34). Likewise, according to a study by Batal et al., mothers require support and encouragement during breastfeeding and it is necessary to educate them about how to breastfeed an infant and overcome breastfeeding problems (36). In the training sessions of the present research, the pregnant women were provided with information about the importance and necessity of breastfeeding, Islamic beliefs about breastfeeding, positive effects of breastfeeding on the mother and the infant, different breastfeeding methods and positions, and how to hand express breast milk and store it—to mention but a few. They were also taught how to deal with breastfeeding problems logically and effectively.

According to the questionnaires of the two intervention groups filled out subsequent to the education, the mothers' knowledge had a considerable change in this regard; however, in the comparison group, their knowledge of breastfeeding problems before and after the intervention had no change. In the current study, before and after the education, a significant difference was observed between the two intervention groups, with respect to the mean scores of the mothers' attitude and knowledge and, after the education, the mothers in the two intervention groups had higher scores of knowledge and attitude than those in the comparison group. Nevertheless, in the comparison group, after the educational intervention, the mean scores of knowledge and attitude were lower and were not significantly different at the time points before and after the intervention. This finding indicates positive effects of education on the mothers' knowledge and attitude. It is consistent with results of similar studies (37-42). In the current

study, after the mothers learnt how to breastfeed and understood that one of the effective factors in maintaining the milk flow was the correct positioning of the infant at the breast, the rates of the mothers' performance in the two intervention groups were significantly different from the rate of their performance in the comparison group. This result indicates positive effects of the education. Indeed, in the intervention group with a companion, this difference in performance was bigger and this group was significantly different from both the comparison group and the intervention group without a companion. In another study, researchers found that the rate of exclusive breastfeeding was higher in mothers who had learnt proper breastfeeding positions than in those in the control group (43).

The maternal age and experience have a major role in developing positive attitudes. Due to this, it is very important to use mothers', and even grandmothers', breastfeeding experiences, which will definitely have profound effects on the younger generation (44). According to Asiodu et al., a woman's decision to breastfeed the infant is directly influenced by the encouragement from her husband, other family members, and friends. A woman intends to breastfeed the infant when she is supported by her family members, primarily her husband (45).

When breastfeeding is appreciated in a family, it is regarded as a value which is passed down to children and the girl who becomes a mother later can perform breastfeeding successfully (44). Hence, when motivators are from among relatives who share their experiences with the mother, better attitudes toward breastfeeding are cultivated. Therefore, it is recommended that not only the mother but also her husband and close relatives—such as her mother and sister, who influence her most—be trained and counseled (44, 46). As a result, when

companions, including the husband, the mother, or the mother-in-law, attend training sessions and are trained, they become supportive to the mother and encourage and motivate her to breastfeed. Learning about breastfeeding through training classes and the media and receiving support from the maternal grandmother motivate mothers to breastfeed the infant (45). Furthermore, the emotional and physical support from the husband encourages the mother to initiate breastfeeding. Support from others such as hospital personnel, too, is very important. Generally, the initial solid support is a crucial factor in initiating breastfeeding (44). There is a direct and positive relationship between successful breastfeeding in the first weeks after childbirth and the support mothers receive in the hospital and after their discharge from the hospital (45).

According to results of a study by Gholamitabar Tabari et al., pregnancy classes, the support system, and counseling services after childbirth are influential in encouraging mothers of premature infants to breastfeed their infants more. Furthermore, the study indicated that infants of the intervention group suckled more (23). In their research, Ingram et al. realized that support and encouragement from the husband, other family members, and health personnel empowered mothers to breastfeed infants for six weeks minimum (47).

Su et al. conducted a study with the aim of comparing effects of education, support during breastfeeding and routine care during pregnancy on the rate of exclusive breastfeeding. Their results indicated that the prenatal breastfeeding education and postnatal support increased the rate of exclusive breastfeeding up to six months (48).

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

During sampling, the mothers were informed of the significance of participating in the training sessions; however, it was difficult to get their consent for it. One of the reasons for this was their gestational age, which was 30-34 weeks according to the inclusion criteria. In fact, due to problems in final days of pregnancy, it was hard for them to sit through the sessions. Using self-report questionnaire was also another limitation of this study.

#### **5- CONCLUSION**

Overall, according to the findings of the present study about effects of education on breastfeeding, it could be concluded that training increased the rates of the breastfeeding knowledge and performance considerably; however, undoubtedly, implementing educational programs consistently can guarantee a change in mothers' breastfeeding knowledge, attitude, and, accordingly, performance.

It is impossible to elevate the breastfeeding level in the community without receiving help and support from women. Aside from the support the community should offer to mothers and families by creating laws and developing a support system, support and encouragement from the father, other family members, and a midwife, especially in the first days after childbirth, impact breastfeeding greatly.

#### **6- AUTHOR CONTRIBUTIONS**

Hossein Shahnazi and Elaheh Seddighi conceived and designed the experiments; Elaheh Seddighi performed the experiments; Behzad Mahaki analyzed the data; Abdurrahman Charkazi contributed reagents/materials/analysis tools; and Hossein Shahnazi wrote the paper.

#### **7- CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

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