

## Investigating the Breastfeeding Self-Efficacy and its Related Factors in Primiparous Breastfeeding Mothers

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### Abstract

**Background:** Breastfeeding is one of the most effective behaviors in health promotion and one of factor affecting its success, is breastfeeding self-efficacy. Low breastfeeding self-efficacy entails consequences such as early cessation of breastfeeding, reduction of exclusive breastfeeding, negative effect on sensation and performance. Regarding this study aimed to investigate the breastfeeding self-efficacy and its related factors in primiparous breastfeeding mothers.

**Materials and Methods:** This descriptive cross-sectional study was conducted on 300 primiparous breastfeeding mothers with less than 6 months infants referring to healthcare centers of Mashhad, Iran. The study population was selected through multi-stage random sampling technique. Data collection was performed by demographic form and Breastfeeding Self-efficacy Scale developed by fax and Dennis (1999). Data were analyzed using descriptive and inferential statistics, through SPSS version 16.

**Results:** In present study, majority of participants were housewife within the age range of 15-25 years with diploma education and had normal delivery. Majority (79.33%) of mothers had high level of breastfeeding self-efficacy with a mean of  $130.89 \pm 13.60$ . According to the multiple regression model, employed mothers ( $B = 5.88, p = 0.040$ ) with an appropriate income ( $B = 3.7, p = 0.42$ ) had significantly higher breastfeeding self-efficacy, compared to those with low family income. On the other hand, mothers with rental houses had significantly lower breastfeeding self-efficacy than their peers with owned properties ( $B = -3.48, p = 0.023$ ).

**Conclusion:** As findings indicated, breastfeeding self-efficacy of participants was at high level. This factor can help health care providers to predict length of breastfeeding, and success rate of exclusive nutrition in mothers, and thereby identify mothers, who are at risk of early breastfeeding stop.

**Key Words:** Breastfeeding; Primiparous mother; Self-efficacy.

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## 1- INTRODUCTION

Breastfeeding is one of the priorities of public health in the world and considered as most effective behaviors in disease prevention and health promotion. Breast milk is the most suitable food for the infants and is regarded as most important factor in the preservation of the infants' health. Breastfeeding is significantly important in terms of physical, mental, and emotional growth of the infants. In addition, this practice prevents the common pediatric diseases, including diarrhea, acute respiratory infections, and ear infections. It also bears benefits for the mothers during and after breastfeeding (1-7). The World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF) have recommended the exclusive breastfeeding up to the first 6 months after birth, followed by complementary feeding and breastfeeding continuation for up to two years of age. These organizations have also emphasized on breastfeeding as one of the four strategies that should be notified in pediatric health (8).

Also, Breastfeeding is very clearly encouraged in the Quran and breast feeding by the mother to her infant is greatly beneficial as science had proven, and it is mandatory in the Quran. Allah Almighty Commanded the mother to breast feed her child for two full years (5). According to the statistics, out of the six WHO regions around the world, the Eastern Mediterranean region has the lowest level of breastfeeding despite the fact that the majority of these countries are Muslim (9). Also, according to the statistics provided by the Ministry of Health and Medical Education (Iran), exclusive breastfeeding rates are 45%, 23%, and 20% in 2001, 2005, and 2008 in Iran, respectively. These statistics are indicative of a decreasing breastfeeding trend, which are significantly different with the goals

determined by the WHO (10, 11). Motherhood is an important and challenging experience, especially for those who experience it for the first time (12). However, breastfeeding is not a positive experience for all mothers and could be difficult, unpleasant, and disruptive (13). According to the literature, maternal decision regarding the initiation and continuation of breastfeeding is affected by various factors, including the maternal demographic, psychological, and social determinants (14-16). Accordingly, breastfeeding self-efficacy can be considered as one of these factors. Self-efficacy is the individuals' beliefs about their capabilities in performing a task to manage the future conditions (17).

Breastfeeding self-efficacy, which is one of the structures of social cognitive theory of Bandura, is referred to the mothers' beliefs and confidence in their ability to successfully perform breastfeeding. Therefore, it is a valuable framework that predicts the maternal breastfeeding behavior, self-confidence, and ability to perform this task (18). In this regard, Kingston et al. (2007) has remarked that the enhancement of maternal breastfeeding self-efficacy would increase the possibility of breastfeeding through self-motivating thoughts. In addition, this perception has a significant relationship with increased duration of exclusive breastfeeding (19). Furthermore, in a study conducted by Turner and Papinczac, it was demonstrated that the breastfeeding mothers were not capable for that, their level of breastfeeding self-efficacy was significantly low (20). Also, in two studies carried out by Ebrahimi and Hasanpour (2010) as well as Hatamleh (2006), the majority of the mothers were reported to have low breastfeeding self-efficacy scores (21, 22). On the other hand, in a study performed by Varaei et al. (2009), more than half of the mothers obtained a high score in breastfeeding self-efficacy (23).

The lack of breastfeeding self-efficacy in mothers could be associated with several consequences. These consequences include the early cessation of breastfeeding, decreased duration of exclusive breastfeeding, reduced motivation, interference with the cognitive abilities, and negative effects on maternal feeling and performance (24-26). Given that the determination of breastfeeding self-efficacy can lead to the identification of mothers at the risk of early breastfeeding cessation; also limited studies conducted about breastfeeding self-efficacy and its related factors in Iran, this study aimed to investigate the breastfeeding self-efficacy and its related factors in primiparous breastfeeding.

## 2- MATERIALS AND METHODS

### 2-1. Study design and population

This descriptive and analytical study was conducted on the primiparous breastfeeding mothers referring to the healthcare centers of Mashhad city, Iran, in 2014-2015. After conducting a pilot study on the 30 mothers, with 95% confidence interval ( $\alpha=0.05$ ), the power of 80% ( $\beta=0.2$ ) and  $r = 0.226$  the appropriate sample size was calculated as 250 participate. Given the possibility of sample loss, finally 300 participate were enrolled.

$$n = \frac{(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta})^2}{\left[\frac{1}{2} \ln \left(\frac{1+r}{1-r}\right)\right]^2} + 3 \approx 250$$

### 2-2. Inclusion and exclusion criteria

The inclusion criteria were: 1) Iranian nationality and residence in Mashhad city, 2) primiparous breastfeeding mothers, 3) minimum education level of junior high school, 4) having no history of medical problems, mental diseases or using banned drugs, and 5) neonatal age of < 6 months.

### 2-3. Ethical consideration

The study protocol was approved by the Ethics Committee of the Islamic Azad University of Mashhad (ID code: 638). The participants were informed about the study objectives and their written informed consents were obtained.

### 2-4. Methods

The study population was selected through the multistage sampling method. To this aim, out of the five main healthcare centers of Mashhad city (health centers number one, two, three, Samen, and five), which were considered as clusters, three centers, namely Samen health center as well as number one health center and number five health center were selected. Subsequently, the researcher referred to all of the healthcare centers affiliated to the three clusters (45 centers) to select the study participants through the simple random sampling technique (seven cases from each center). After providing participants with guidance regarding the completion of questionnaires, they were asked to fill out the research instruments.

### 2-5. Measuring tools: validity and reliability

The data were collected using the demographic form (information of mother and infant), and Breastfeeding Self-efficacy Scale (BSS). The BSS, which was developed by Dennis and Faux (1999), contains 35 items and is rated on a five-point Likert scale (completely agree=5 to completely disagree=1) (27). The content validity and reliability ( $\alpha=0.82$ ) of this tool has been confirmed in a study conducted by Hassanpour et al. (2010) (21).

The total score of each item represents the breastfeeding self-efficacy score. The minimum and maximum scores of this questionnaire are 33 and 165, respectively. Moreover, obtaining the score ranges of 33-76, 77-120, and 121-165 are considered as low, medium, and high self-efficacy, respectively (21). Reliability of the questionnaire was assessed in a pilot study

on 30 participants, in which Cronbach's alpha coefficient was 0.81.

## 2-6. Data Analyses

Data analysis was performed in SPSS version 16.0 software using descriptive statistical methods, such as central tendency, dispersion, and distribution of frequency. Moreover, multiple regressions was applied to evaluate the effects of delivery method, housing status, level of income, as well as maternal age, education level, and occupation on breastfeeding self-efficacy. P-value of less than 0.05 was considered statistically significant.

## 3- RESULTS

According to the results, the mean age of the participants was  $23.98 \pm 4.56$  years, and the majority of the mothers (67.67%) were within the age group of 15-25 years. In terms of the education level, 45.3% of the mothers had high school diploma, and most of the participants (90.7%) were housewife. Regarding the housing status, 59.7% of the subjects had rental houses, and level of family income was reported as sufficient for most of the participants (74.33%). In addition, 59.7% of the subjects had natural childbirth (**Table.1**). In terms of the main objective of the

research, the results demonstrated that breastfeeding self-efficacy was at the medium and high levels in 62 (20.67%), and 238 (79.33) subjects, respectively. In addition, the mean score of breastfeeding self-efficacy was  $131.126 \pm 12.86$  in the evaluated individuals that was high. The frequency distribution of breastfeeding self-efficacy of the subjects is presented in **Table.2**. In addition, multiple regression model was significant in terms of the effect of housing status, family income level, as well as maternal age, education level, and occupation on the total score of breastfeeding self-efficacy ( $p=0.004$ ). The coefficient of determination and modified coefficient were 0.07 and 0.05, respectively. Moreover, the results of the regression coefficient test revealed that the employed mothers had significantly higher breastfeeding self-efficacy, compared to the housewives ( $p=0.04$ ).

Furthermore, the mothers with rental houses had significantly lower breastfeeding self-efficacy, compared to the peers with owned properties ( $p=0.02$ ). Additionally, the mothers with sufficient incomes had significantly higher level of breastfeeding self-efficacy than those with low incomes ( $p=0.04$ ) (**Table.3**).

**Table-1:** Demographic characteristics of the participants

Variables	Sub-group	Frequency	Percentage
Age, year	15-25	203	67.7
	26-35	94	31.33
	36-45	3	1.00
Level of education	High School	62	20.7
	Diploma	136	45.3
	Academic	102	34
Occupation	Housewife	272	90.7
	Employed	28	9.3
Residency	Personal	121	40.3
	Rental	179	59.7
Family income level	Less Than Sufficient	65	21.7
	Sufficient	235	78.3
Method of delivery	NVD	179	59.7
	C/S	121	40.3

NVD: normal vaginal delivery; C/S: caesarean section.

**Table-2:** description of the breastfeeding self-efficacy score in the participants

Variables	Sub-group	Frequency	Percentage
Breastfeeding self-efficacy	Low	0	0.00
	Medium	62	20.67
	High	238	79.33
	Total	300	100

**Table-3:** Effect of demographic variables on the score of breastfeeding self-efficacy using linear regression

Variables		Coefficient (B)	Standardized Coefficient (Beta)	P-value	95% CI
Age		0.10	0.03	0.54	(-.24, .46)
Mode Of Delivery	NVD	-	-	-	-
	C/S	2.25	0.08	0.13	(-.70, 5.20)
Level Of Education	High School	-	-	-	-
	Diploma	3.50	0.13	0.07	(-.30, 7.31)
	Academic	-0.56	-0.02	0.80	(-5.01, 3.87)
Occupation	Housewife	-	-	-	-
	Employed	5.88	0.13	0.04	(.26, 11.5)
Housing	Personal	-	-	-	-
	Rental	-3.48	-0.13	0.02	(-6.477, -.485)
Family Income Level	Low	-	-	-	-
	Sufficient	3.72	0.11	0.04	(7.308, .135)

NVD: normal vaginal delivery; C/S: caesarean section; CI: confidence interval.

#### 4- DISCUSSION

As the findings of the present study indicated, the mean score of the breastfeeding self-efficacy of the subjects was  $130.89 \pm 13.60$  that considered great. Additionally, 20.67% and 79.33% mothers were reported to have medium and high levels of breastfeeding self-efficacy, respectively. In line with our findings, Varaei et al. (2009) reported the mean scores of maternal breastfeeding self-efficacy to be  $145.2 \pm 11$  and  $148 \pm 5$  one and four months after childbirth, respectively. Furthermore, in the mentioned study 76.7% and 89.6% of the subjects were demonstrated to have a high level of self-efficacy after one and four-month post-delivery, respectively (23). In another study, Mirmohammad-ali et al. (2014) evaluated the effect of an education package on maternal breastfeeding self-efficacy in the postpartum period. According to their results, the mean score

of breastfeeding self-efficacy of the participants was  $133.28 \pm 7.63$  three-month after childbirth (28). In another study, Bastani et al. (2008) evaluated the breastfeeding self-efficacy of the women within the first 24 hours post-delivery. They marked that 51.1% of the subjects obtained high scores in this regard (29). In the current study, breastfeeding self-efficacy showed no significant association with maternal age and education level, which is in congruence with the results obtained by Godarzi et al. (2015), Bastani et al. (2008), Azhari et al. (2011), Blyth et al. (2004), and Dennis (2006) (28-33). However, it was in contradiction with the findings reported by Varaei et al. (2009) (23). This lack of consistency between the results of the current research and those obtained by Varaei et al. (2009) might be due to the fact that in the mentioned study, breastfeeding self-efficacy was evaluated immediately after delivery; however, in the present study, it was measured six months

after childbirth. Moreover, our findings indicated that the employed mothers, compared to housewives, and mothers with sufficient incomes, compared to those with insufficient incomes, had significantly higher breastfeeding self-efficacy scores. On the other hand, the mothers with rental houses had significantly lower self-efficacy, compared to their peers with owned properties. Consistent with the results of the current study, Thulier and Mercer (2009) as well as Rahmatnejad and Bastani (2012), demonstrated that the socioeconomic levels are significant factors that affect the achievement of maternal and breastfeeding roles (34, 35). Also, Yngve and Sjöström (2001) indicated that the socioeconomic condition of an individual is an important determinant of breastfeeding, which must be emphasized (36). Other studies also regarded the income level and occupation status as important indicators of the health condition of individuals (29, 36).

The early years of life are considered as the most critical stages of the mankind's growth and development. With the onset of a new millennium, breastfeeding has gained especial attention as a major contributor to child health in the national and international policies (2, 6, 37). Breast milk is a complex biological fluid and is a very ideal food for the infants and neonates. This substance provides the infants with high-quality and -quantity nutrition with maximum nutritional balance specific for the age of the infants.

As a result, the WHO and UNICEF have recommended that children must be exclusively breastfed until the age of six months, continued with the use of complementary food for two years (6, 8, 38). Therefore, exclusive and successful breastfeeding is affected by many physiological and psychological factors in mothers. Breastfeeding self-efficacy is one of these factors, which is an important psychological and motivational

determinant for the continuation of breastfeeding (31, 32). Self-efficacy is one of the structures of social cognitive theory of Bandura (1977), which consists of the individuals' belief and self-confidence in their capabilities to successfully perform a task or behavior. Accordingly, breastfeeding self-efficacy is the mother's perceived ability for breastfeeding her infants. In addition, this perception is a valuable framework that predicts the maternal breastfeeding behavior, self-confidence, and ability to breastfeed. Self-efficacy is an important variable in predicting the duration of breastfeeding and identification of the mothers, tending to stop breastfeeding early.

Moreover, having self-efficacy in breastfeeding is a vital factor for the continuation of this practice (23, 39). In addition, it has been stated that breastfeeding self-efficacy is affected by four major factors, including vicarious experiences, performance accomplishments, verbal persuasion, and physiological responses, and the healthcare providers can increase breastfeeding self-efficacy through these factors (39). While many demographic variables, including socioeconomic situations, are unmodifiable, breastfeeding self-efficacy seems to be intrinsically a modifiable variable. This perception can provide a framework for the development and design of educational-counseling interventions in order to improve breastfeeding outcomes.

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

One of the major limitations of the study was maternal stress, which is regarded as one of the most important intervening factors for breastfeeding self-efficacy. Nevertheless, in the present study, the participants were eliminated in case of experiencing major stressful events four weeks before completing the breastfeeding self-efficacy questionnaire. Another limitation was the application of self-report

questionnaires for data collection. Another limitation was the application of self-report questionnaires for data collection. Therefore, in order to gather factual information, participants were asked to honestly complete the questionnaires. However, the small stressful events of everyday life create anxiety, and cannot be evaluated or controlled. Another limitation was the conditions of the study context, including light, ventilation, noise, mental-spiritual feature, and maternal comfort, which could affect the responses of the subjects. Nonetheless, it was tried to provide a calm and equal environment for the mothers in order to relatively control these factors.

## 5- CONCLUSION

According to the findings of the current study, breastfeeding self-efficacy is a potentially modifiable factor, which can predict the duration of breastfeeding and success level of exclusive breastfeeding. Therefore, it is recommended that the healthcare providers pay attention to this concept and identify the mothers at the risk of early cessation of breastfeeding by studying the mothers with high breastfeeding self-efficacy. In this regard, proper strategies could be designed to increase the breastfeeding self-efficacy among this group of mothers and help them eliminate the barriers to breastfeeding. These measures would lead to positive results regarding the duration of breastfeeding and exclusive breastfeeding.

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

## 7- ACKNOWLEDGEMENT

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