

Original Paper

Comparison of Breastfeeding Self-efficacy in Mothers With Different Ages



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ABSTRACT

Introduction: Breastfeeding is one of the most important health-promoting behaviors and one of the main goals of the World Health Organization. Breastfeeding self-efficacy is an important variable in predicting the duration of breastfeeding and its continuation. Breastfeeding self-efficacy is a modifiable parameter that is affected by various individual and social factors.

Objective: This study aimed to compare breastfeeding self-efficacy levels of mothers with different ages referred to comprehensive health centers.

Materials and Methods: This is a correlational study with a cross-sectional design. Study samples were 460 breastfeeding mothers of different ages referred to comprehensive health centers in Rasht City, Iran in 2019. The data collection tool was a two-part questionnaire: A demographic form and a breastfeeding self-efficacy scale-short form (BSES-SF). Data analysis was performed using the independent t-test, Analysis of Variance (ANOVA), and regression.

Results: The Mean±SD scores of breastfeeding self-efficacy were as follows: 43.69±12.48 in mothers under 19 years old, 50.26±10.93 years in mothers aged 19-35 years, and 58.35±8.53 years in mothers over 35 years old. There were statistically significant relationships between breastfeeding self-efficacy and maternal age (P=0.0001), housing status (P=0.0001), monthly income (P=0.0001), breastfeeding history (P=0.0001) and source of breastfeeding education (P=0.014), number of pregnancies (P=0.0001) and number of deliveries (P=0.0001). The variables of maternal age (β=4.130, P=0.0001, 95%CI; 2.165-6.051), monthly income (β=1.735, P=0.002, 95% CI; 1.239-3.922), breastfeeding history (β=5.505, P=0.0001, 95%CI; 4.598-9.183) and number of pregnancies (β=3.553, P=0.0001, 95%CI; 1.278-4.098) were predictors of breastfeeding self-efficacy.

Conclusion: Breastfeeding self-efficacy increases with the older age and its level is lower in mothers aged < 19 years than in other age groups. Counseling support for mothers at this age is more necessary, and the need-based educational program should be designed for them.

Keywords:

Self-efficacy, Breastfeeding mothers, Predictive factors

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Highlights

- Breastfeeding is one of the most important health-promoting behaviors and one of the main goals of the World Health Organization.
- Breastfeeding self-efficacy is an important variable in predicting the duration of breastfeeding and its continuation.
- There is a direct relationship between breastfeeding self-efficacy and maternal age.
- Maternal age, monthly income, breastfeeding history, and the number of pregnancies are predictors of breastfeeding self-efficacy.

Plain Language Summary

The well-known benefits of mothers' breast milk have led to a health policy based on the promotion of breastfeeding. Breastfeeding self-efficacy is a modifiable factor and affects the duration of breastfeeding, which itself is affected by various parameters. Since the factors that inhibit the success of breastfeeding are rooted in social, cultural, and biological issues of society, it is necessary to make stronger efforts to determine these factors and inform mothers about them. The role of training, counseling, and supporting care teams is crucial and can result in a good performance which is more critical for younger mothers. In this study, breastfeeding self-efficacy was investigated in different age groups of mothers and results showed that with the increase of maternal age, breastfeeding self-efficacy increases and variables such as maternal age, monthly income, breastfeeding history, and the number of pregnancies can predict breastfeeding self-efficacy.

Introduction

Breast milk is the most suitable food for infants and nothing can replace it [1]. The World Health Organization (WHO) recommends exclusive breastfeeding for up to six months of age and continued breastfeeding with complementary foods until 2 years of age [2]. Breastfeeding protects infants against respiratory diseases, diarrhea, and otitis. It also reduces mortality associated with necrotizing enterocolitis and sudden infant death syndrome. Besides, its protective effect against breast and ovarian cancers have already been proven [3]. In addition to meeting the physical and physiological needs of infants, breastfeeding is essential for the psychological health of mothers and infants and can have good economic and environmental effects on the family and society [4]. Promotion and support of breastfeeding to improve infant health are necessary [5].

By promoting breastfeeding, the mortality rate of children under 5 years of age in the world can be reduced to less than 13% [6]. Despite the recommendation of the WHO, exclusive breastfeeding in children under 6 months is from 7.7% to 60.4% and the average duration of breastfeeding is from 6.3 to 21.7 months [7]. The prevalence of exclusive breastfeeding in different cities of Iran

is as follows: 86.2% in Sari, 56.4% in Mashhad, 41.5% in Arak, 33.1% in Kashan, and 1.6% in Kerman [8]. In Gafari Asl et al. study in Rasht City, the results showed that the exclusive breastfeeding up to 6 months of age was only 15.3% [9]. Despite the many benefits of breastfeeding for the health of mother and baby, breastfeeding is less than what is recommended by WHO, so mothers and babies cannot benefit from it [10]. Early cessation of breastfeeding is a complicated phenomenon that its cause goes beyond biological philosophy but is influenced by psychological, social, and cultural factors.

The cessation of breastfeeding starts with the addition of other foods to infant formula during exclusive breastfeeding until the age of six months. Although mothers are aware of the benefits of breast milk, this awareness is not enough to continue breastfeeding [2]. Factors such as age, mothers' education, occupational status, ethnic background, social class, attitude towards breastfeeding, mother-infant bond, religion, breastfeeding methods, nipple problems, and family support affect the duration of exclusive breastfeeding [8]. One of the critical factors that affect the initiation and maintenance of breastfeeding is the confidence of mothers in their ability to breastfeed [11]. Maternal self-confidence is the main predictor of breastfeeding intention as well as the duration of breastfeeding after birth [2].

Breastfeeding self-efficacy is a concept based on Bandura's social cognitive theory and is defined as a mother's confidence in her ability to breastfeed her infant [1]. Self-efficacy is one of the modifiable variables and its analysis can help identify mothers at risk of early breastfeeding and conduct interventions if necessary [2]. Breastfeeding self-efficacy is influenced by 4 main factors: performance accomplishment (previous breastfeeding experience), vicarious experiences (watching other women breastfeeding), verbal persuasion (encouragement from friends, family, and consultants), and physiological responses (fatigue, stress, anxiety) [12]. It can be affected by various factors, including individual and social factors [13].

As mentioned above, maternal age is one of the factors that can affect the duration of breastfeeding [11]. The prevalence of breastfeeding initiation is as follows: among adolescent women 55.8%; among women aged 20-29 years, 69.8%; and among women over 30 years of age, 77.9% [14]. A study in Brazil reported that mothers aged 20-35 years had the highest rate of exclusive breastfeeding [10]. The study by Guimarães et al. showed that most adult and adolescent mothers had a high level of self-efficacy (54%) and no significant differences were observed between the two age groups [2]. However, the results of a study showed that breastfeeding self-efficacy was lower in young mothers than in adult mothers [6]. Another study reported that the onset of breastfeeding and the longer duration of breastfeeding is more prevalent among older mothers than among younger mothers [2].

The optimal age range for fertility is 20-34 years. Therefore, mothers aged ≤ 19 and ≥ 35 years are considered high-risk mothers [15, 16]. These mothers are more likely to have complications such as the risk of miscarriage, preeclampsia, gestational diabetes, cesarean section, anemia, infection, and preterm delivery [17, 18]. There is a relationship between the complications of pregnancy, labor, and delivery with breastfeeding self-efficacy [10]. Because of the relationship between breastfeeding self-efficacy and individual and social variables and fertility, the presence of complications during pregnancy, labor, and delivery requires the attention of health professionals [10]. Also, mothers who are at risk for pregnancy and childbirth usually have more problems in the process of breastfeeding [19].

Given that mothers for successful breastfeeding need the correct information, comfort, confidence, and learning skills, counseling with mothers can help them recognize their problems and make informed decisions and

take action to solve them [20]. Therefore, considering the importance of breastfeeding in maintaining the physical and mental health of the mother and her infant, and the role of midwives in the field of education, guidance and, if necessary, appropriate interventions to maintain this healthy behavior, and given that age is an important factor in breastfeeding self-efficacy, this study aimed to compare the breastfeeding self-efficacy of mothers with different ages.

Materials and Methods

This is a correlational study with a cross-sectional design. The study population consisted of all breastfeeding mothers referred to comprehensive health centers in Rasht City, in north of Iran from 6 weeks after delivery to having 6 months old baby. The inclusion criteria were having term pregnancy, singleton pregnancy, no history of mental illness (according to the mother's report), no smoking and alcohol use, exclusive breastfeeding, and no abnormalities in the baby. For sampling, a 2-stage cluster sampling method was used and cluster selection was performed by systematic random sampling. First, out of 45 centers and clinics, 15 centers were systematically selected. Samples from each center were selected using a convenience sampling method.

The age group was classified as mothers up to 19 years, 19-35 years, and over 35 years. Of 463 mothers (33 <19 years, 360 aged 19-35, and 70 >35 years), the sample size was determined 288 according to Dodt et al. study ($r=0.13$) [21] and considering 95% confidence interval, an error rate of 5%, the birth rate reported by the National Organization for Civil Registration in 2013 [22], and 2:1 birth ratio in the age group of >35 years compared to the age group of < 19 years. After that, 25 units were added to the sample size for each variable (mother's age, education level, occupational status, number of deliveries, type of delivery, history of breastfeeding, history of receiving breastfeeding education).

The data collection tool was a 2-part questionnaire. The first part has 18 items surveying demographic characteristics (age, educational level, occupational status, breastfeeding history, history of receiving breastfeeding education and its source), socio-economic factors (place of residence, monthly family income, housing status, using someone else's help at home), fertility factors (number of pregnancies, number of deliveries, history of abortion, wanted/unwanted pregnancy, type of delivery, history of any disease), and neonatal factors (gender, age, birth weight). The second part was Dennis's [23] breastfeeding self-efficacy scale-short form

(BSES-SF). It has 14 items preceded by the phrase “I can always” and scored on a 5-point Likert scale ranging from 1 (not at all confident) to 5 (always confident). Its total score can range from 13 to 65, where higher scores indicating higher levels of breastfeeding self-efficacy. We used its Persian version with 13 items which were developed by Araban et al. [14].

After obtaining ethical approval and referring to the health centers, the mothers were informed about the objectives of the study and the confidentiality of their information. Then, they signed an informed consent form and the researcher completed the questionnaires through interviews with subjects. Data analysis was performed in SPSS V. 21 using analysis of variance and t-test and multiple linear regression analysis. The significance level was set at $P < 0.05$.

Results

The mean±SD age of mothers was 28.62±5.95 years with an age range of 16-43 years. Most of them had a high school diploma (59.6%), owned a house (58.5%), were housewives (92.9%), city dwellers (98.5%) with a monthly income of \$250-500 (59%), and no experience of previous breastfeeding (78.2%). Moreover, 78.2% have no caregiver at home; 98.7% received training related to breastfeeding, and of these, 72.8% received training from the comprehensive health centers. Regarding the fertility characteristics, the results showed that most mothers had multiple pregnancies (51.9%), history of cesarean section (64.4%), wanted pregnancies (82.3%), and no disease (90.7%). Furthermore, most infants had a birth weight between 2500 and 4000 g (89.2%) and were girls (51.4%).

Figure 1 shows the mean breastfeeding self-efficacy scores of participants in different age groups. The

Mean±SD scores of breastfeeding self-efficacy were as follows: 43.69±12.48 in mothers under 19 years old, 50.26±10.93 in mothers aged 19-35 years, and 58.35±8.53 in mothers over 35 years old. The highest mean breastfeeding self-efficacy level was observed in mothers aged over 35 years. There were statistically significant relationships between breastfeeding self-efficacy and maternal age ($P=0.0001$), housing status ($P=0.0001$), monthly income ($P=0.0001$), breastfeeding history ($P=0.0001$), and source of breastfeeding education ($P=0.014$) (Table 1). Breastfeeding self-efficacy also had statistically significant relationships with the number of pregnancies ($P=0.0001$) and deliveries ($P=0.0001$) (Table 2), but no significant relationship with any neonatal factors (Table 3). One-way ANOVA results showed a statistically significant difference in breastfeeding self-efficacy scores between different age groups ($P=0.004$). A multiple linear regression model was used to determine the predictors of breastfeeding self-efficacy (Table 4).

Discussion

The present study showed that breastfeeding self-efficacy was higher among mothers over 35 years old, and with older age, breastfeeding self-efficacy increases. Dodt et al. also showed a significant correlation between breastfeeding self-efficacy and maternal age [21]. Guimaraes et al. showed that both adolescent and adult mothers had a high level of self-efficacy and there was no statistically significant difference between the two groups [2]. This discrepancy can be due to the difference in the study samples. It seems that with increasing maternal age, the probability of breastfeeding experience increases in mothers [24], and more experience may lead to high breastfeeding practice.

The results show that breastfeeding self-efficacy in mothers had no significant relationship with their ed-

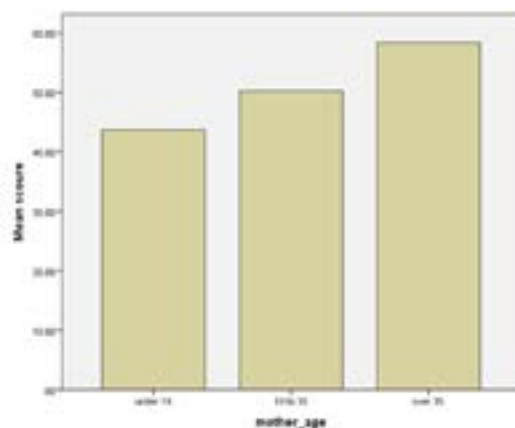


Figure 1. Mean breastfeeding self-efficacy scores of mothers in different age groups

Table 1. Relationship of demographic characteristics with breastfeeding self-efficacy

Demographic Characteristics	Mean±SD	Sig.	
Age (y)	< 19	43.69±12.48	
	19-35	50.26±10.93	0.0001*
	< 35	58.35±8.53	
Educational level	Illiterate	37.00±26.87	
	Primary	52.21±12.4	
	High school diploma	50.62±11.11	0.213*
	Academic degree	51.39±10.34	
Occupational status	Housekeeper	50.85±11.30	
	Employed	53.18±10.77	0.245**
Place of residence	Urban areas	51.08±11.13	
	Rural areas	46.85±18.84	0.325**
Housing status	Owned house	52.83±10.56	
	Rental house	48.45±11.75	0.0001**
Monthly income (\$)	250>	48.94±12.49	
	250-500	50.59±10.92	0.001*
	500<	55.03±9.80	
Using someone else's help at home	Yes	51.97±9.71	
	No	50.75±11.60	0.339**
Breastfeeding history	Yes	56.64±7.78	
	No	45.71±10.79	0.0001**
History of breastfeeding education	Yes	50.97±11.30	
	No	54.83±8.65	0.405**
Source of breastfeeding education	Health centers	51.88±11.13	
	Media	48.00±11.42	0.014*
	Others	50.40±11.19	

*ANOVA; **Independent t-test .

Table 2. Relationship of fertility characteristics with breastfeeding self-efficacy

Fertility Characteristics		Mean±SD	Sig.
Number of pregnancies	1	44.69±10.4	0.0001*
	2,3	56.50±8.85	
	≥4	60.89±4.04	
Number of deliveries	1	45.43±10.48	0.0001*
	2,3	56.94±8.76	
	≥4	61.8±3.27	
History of abortion	Yes	53.03±9.98	0.176**
	No	50.77±11.40	
Wanted pregnancy	Yes	50.56±11.12	0.06**
	No	43.14±11.76	
History of any disease	Yes	53.25±11.14	0.173**
	No	50.79±11.20	
Type of disease	Heart disease	42.66±11.20	0.438*
	Kidney disease	64±0	
	Diabetes	54.50±12.10	
	Hypertension	55.80±8.40	
	Thyroid disease	52.84±11.20	
	Others	52±0	
Type of delivery	Normal vaginal delivery	51.17±11.71	0.827**
	Cesarean section	50.93±11.04	

*ANOVA; **The independent t-test.

educational level and employment status. This finding is in agreement with some other related studies [1, 21], while in the studies by Poorshaban et al. and Pakseresht et al., where the majority of mothers had a high school diploma or higher and were employed, breastfeeding self-efficacy showed a significant relationship with their education and occupation, which is inconsistent with our results [13, 25]. Tokat also showed that breastfeeding self-efficacy in mothers is directly related to their educational level [12].

This finding may be because mothers with higher education receive more information about the benefits of breastfeeding, which has a positive effect on their self-efficacy [26]. Even though educational services are provided in health centers to promote self-efficacy of

mothers (at all levels of education and employment), the discrepancy may be due to the difference in the number of working mothers. In Poorshaban et al. study, the number of working mothers was 2 times higher than that in our study.

The present study showed that the level of breastfeeding self-efficacy increased significantly with the increase in monthly income. This finding is inconsistent with some studies [1, 21] which can be related to the difference in lifestyle and economic levels in different societies. It can indicate that higher income levels and more facilities and increased health-promoting behaviors may have a positive effect on mothers' confidence in their ability to breastfeed.

Table 3. Relationship of neonatal characteristics with breastfeeding self-efficacy

Neonatal Characteristics		Mean±SD	Sig.
Gender	Female	51.05±11.25	0.942*
	Male	50.98±11.31	
Birth weight (g)	<2500	50.73±11.81	0.44**
	2500-4000	50.83±11.22	
	>4000	53.37±11.64	
Infant age (m)	1.5	50.25±12.77	0.171*
	2	51.60±10.14	
	3	50.11±12.51	
	4	48.41±12.03	
	5	50.56±11.96	
	6	53.65±10.58	

*The independent t-test; *ANOVA.

Table 4. Multiple linear regression coefficients for factors predicting breastfeeding self-efficacy

Variables	Coefficients B	SE	Standardized Coefficients Beta	t	Sig.	95% CI	
						Lower	Upper
Mother's age	4.130	0.999	0.17	4.136	0.0001	2.165	6.051
Monthly income	1.735	0.794	0.98	2.187	0.02	1.239	3.922
History of breastfeeding	5.505	1.384	0.244	3.978	0.0001	4.598	9.183
Number of pregnancies	3.553	1.81	0.324	1.525	0.0001	1.278	4.098

In the present study, the breastfeeding self-efficacy in primiparous women increased with the increase in the number of pregnancies, indicating a significant relationship between the number of pregnancies and deliveries with breastfeeding self-efficacy. Poorshaban et al. and Pakseresht et al. also showed that mothers with more children have higher breastfeeding self-efficacy [13, 25]. This finding in primiparous mothers may be due to the mother's insufficient knowledge and skills for proper breastfeeding, which has also been emphasized in Pakpour et al. study [27], but in the studies by Mirghafourvand et al. [28] and Dodt et al. [21], no relationship was found between breastfeeding self-efficacy and the number of pregnancies and deliveries. As the number of pregnancies and childbirth increases, the breastfeeding experience of mothers also increases, which is an important factor in their self-efficacy.

In the present study, no significant relationship was found between breastfeeding self-efficacy and wanted/unwanted pregnancy, which is consistent with the results of some studies [2, 28]. Given that breastfeeding self-efficacy can be affected by various factors [13], unwanted pregnancy alone may not affect breastfeeding self-efficacy. Furthermore, there was no significant relationship between breastfeeding self-efficacy and the type of delivery. In Nursan et al. study, although the breastfeeding self-efficacy was higher in mothers who had a cesarean section, no significant relationship was observed between breastfeeding self-efficacy and type of delivery [1].

The results of Tokat et al. and Poorshaban et al. indicate a significant relationship between breastfeeding self-efficacy and type of delivery (in 3-5 days after delivery) and mothers with a normal delivery had a higher self-efficacy than mothers with cesarean section [12,

13]. The type of delivery affects the breastfeeding self-efficacy and in many cases, mothers with cesarean sections need more support and help than mothers who give birth naturally. Perhaps the reason for the discrepancy is the time of our study (6 weeks after delivery up to the time the baby was at the age of 6 months) and considering that, after the end of the puerperium period, a mother has returned to her normal condition after suffering many physical problems and other challenges in the first days of pregnancy.

In the present study, there was a significant relationship between breastfeeding self-efficacy and history of breastfeeding, which is consistent with Dodt et al. findings [21] and against the results of Mirghafourvand et al. [28], Nursan et al. [1] and Albero et al. [29] who reported no relationship between them. Because breastfeeding self-efficacy in mothers is affected by their previous breastfeeding experience, primiparous women may face more problems because of insufficient experience. The majority of mothers in our study had received breastfeeding training, mostly from the comprehensive health centers. Mojalli et al. showed that the total breastfeeding performance of trained mothers was improved after using an educational video package [24]. Since the majority of mothers in the present study were housekeepers, it seems that the public media (TV, Radio) can play an effective role as a source of education, especially for older and pregnant women.

In our study, breastfeeding self-efficacy had no significant relationship with the infant's gender, weight, and age, which is consistent with Mirghafourvand et al. study [28]. Uchoa et al. found significant relationships between infant weight (3000 g and more) and male sex with breastfeeding self-efficacy, and mothers with low birth weight infants had many concerns about their infants' condition, which negatively affected their self-efficacy [30]. This inconsistency of the results can be due to differences in cultures and perspectives in different countries.

Considering the importance of breastfeeding in maintaining the health of mothers and infants, and since midwives, as a group of the caregivers, are always with mothers, they can identify at-risk mothers and play an essential role in promoting awareness and self-efficacy of breastfeeding in mothers by making appropriate decisions and designing training programs and guiding interventions. In the present study, the history of abortion and disease had no significant relationship with breastfeeding self-efficacy. Further studies in other cities are recommended to enrich our data. In this study, information was obtained through questionnaires and

interviews with mothers and was based on mothers' self-reports; hence, mothers may refuse to answer correctly to some questions.

Ethical Considerations

Compliance with ethical guidelines

This study received ethical approval (Code: IR.GUMS.REC.1397.128). Informed consent was obtained from all the participants before the study.

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Authors' contributions

Conceptualization: Elham Eslami, Sedigheh Pakseresht, and Maryam Niknami; Manuscript draft preparation: Sedigheh Pakseresht and Maryam Niknami; Data analysis: Zahra Atrkar Roshanand Elham Eslami; Edite and review: All authors.

Conflict of interest

The authors declare no conflict of interest.

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