



(REVIEW ARTICLE)



## Maternal self-esteem and self-efficacy as factors affecting maternal long-term breastfeeding: A comprehensive review of the literature

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### Abstract

**Background:** Breastfeeding is widely recognized as the optimal feeding method for infants, providing numerous health benefits, both for the infant and the mother. Numerous factors have been noted to influence its success, and currently, maternal self-esteem and more particularly self-efficacy, have been recognized as important determinants as well. To this end, it is essential to take into account the role of maternal self-esteem in achieving and sustaining breastfeeding.

**Methods:** This review of the current medical literature aims to investigate the correlation between maternal self-efficacy and breastfeeding duration. A total of 23 articles were selected for comprehensive review, following an online search for relevant literature dating from 2009 onward. All articles were analyzed, identifying key themes, approaches, and conclusions regarding breastfeeding behaviors and maternal self-efficacy.

**Results:** The findings consistently demonstrated that higher levels of maternal self-efficacy were associated with better breastfeeding outcomes, including longer duration of exclusive breastfeeding. Interventions targeting self-efficacy, such as educational programs and counseling, were found to be effective in enhancing breastfeeding self-confidence and promoting prolonged breastfeeding. However, it was observed that maternal breastfeeding self-efficacy tends to decline over time, highlighting the need for continuous support and interventions.

**Conclusions:** Maternal self-esteem, particularly self-efficacy, is vital in achieving long-term breastfeeding goals. Interventions and support programs that enhance maternal self-efficacy have shown promise in improving breastfeeding outcomes. Ongoing support, counseling, and access to breastfeeding resources are crucial for maintaining and improving self-efficacy levels throughout the breastfeeding journey. Healthcare professionals and policymakers should consider incorporating strategies to enhance maternal self-esteem into breastfeeding support initiatives for better breastfeeding outcomes. Further research is required to explore cultural and social influences on maternal self-esteem and develop tailored interventions for diverse populations

**Keywords:** Breastfeeding self-efficacy; Breastfeeding Self- Efficacy Scale; Maternal self-esteem; Breastfeeding duration

### 1. Introduction

Breastfeeding is widely recognized as the optimal feeding method for infants, providing numerous health benefits for both the baby and the mother [1,2]. While the benefits of breastfeeding are well-established, achieving and sustaining long-term breastfeeding has been proven to be challenging for many mothers.<sup>[3,4]</sup> Aiming to improve breastfeeding rates, various factors influencing breastfeeding behaviors have been examined. The importance of maternal self-efficacy has been highlighted in recent research. In Bandura's cognitive-social theory, self-efficacy is a cognitive dynamics

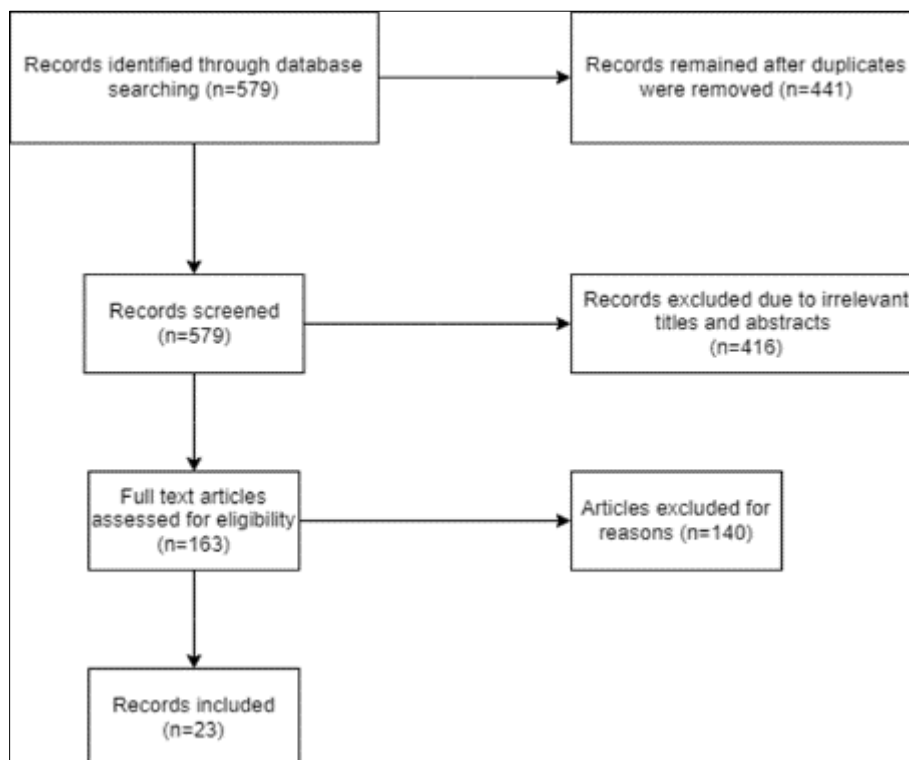
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process that assesses people's beliefs and their ability to conduct healthy behavior [5]. One of the predictors of breastfeeding that shows how far the mother is consistent in maintaining breastfeeding and how much she attempts to achieve such a goal is self-efficacy. Self-efficacy on breastfeeding states the following: would the mother choose to breastfeed? Will the mother try in this regard? And how would she respond to the breastfeeding problems? When self-efficacy beliefs are created in people, they will possibly shape and define their capabilities in different issues and will succeed in changing their self-efficacy beliefs; this will help people effectiveness in addressing the various issues and excite individuals internally to achieve self-actualization by awareness of their intrinsic capabilities. Considering the corrigible nature of self-efficacy, it seems there is a chance to create a context for change in maternal perceptions [5].

Dennis and Faux developed and validated the Breastfeeding Self-Efficacy Scale (BFSES), an instrument for measuring maternal confidence, based on these data. The scale is based on data from four sources: personal experience, both positive and negative about previous breastfeeding; observation of other experiences, including conversations with mothers who have already breastfed; verbal persuasion, including encouragement from those close to her and from experts in the field; and, lastly, physiological and emotional factors that can have an impact on the practice's performance in both positive and negative ways. The Breastfeeding Self-Efficacy Scale (BSES) originally contained 33 items, whereas the Breastfeeding Self-Efficacy Scale Short Form (BSES-SF) contained 14 items. The score can vary from 33 to 165 points in the original form, and from 14 to 70 in the short one. High scores on the Scale indicate high levels of maternal breastfeeding self-efficacy. [6].

A useful tool for healthcare providers and breastfeeding support programs may be the positive correlation between the length of nursing and the mother's breastfeeding self-efficacy. One way to empower women and ease their lactation journey is to find out what influences their sense of self-worth and look at therapies that increase self-efficacy [5]. This systematic review examines published studies focusing on the relationship between maternal self-efficacy and long-term breastfeeding outcomes. By analyzing the findings of selected articles, it is aimed to gain insights into the psychosocial factors that contribute to sustained breastfeeding, particularly the role of self-efficacy.

## 2. Methods



**Figure 1** Flow diagram

Breastfeeding, maternal self-esteem, and long-term result were the keywords utilized in a literature search that was carried out using PubMed, Google Scholar, ScienceDirect, and EBSCO. Boolean operators (AND, OR) were employed to further refine the search and boost its specificity. The reference lists of identified articles were also manually reviewed

for additional articles. Inclusion criteria were the following, studies in English or French, any study design, and publication in a peer-reviewed journal. Women older than 16 years of age, high school education, and term pregnancy were also included as eligibility criteria. Exclusion characteristics were pregnancy complications, maternal mental health problems, and fetal malformation. In total 579 articles were retrieved and evaluated by the author, after removing 128 duplicates. The initial evaluation led to the exclusion of 316 articles, and the application of the inclusion criteria led to 23 articles being considered eligible for this review (Figure 1). Relevant data were extracted and checked for accuracy and all findings were summarized in a table (Table 1). The main goal of the research was to verify the maternal antenatal and postpartum self-efficacy, measured by using the Breastfeeding Self-efficacy Scale (BFSES) or the Breastfeeding Self-efficacy Scale-Short Form (BFSES-SF), as a predictive factor of prolonged breastfeeding.

**Table 1** Does breastfeeding self-efficacy affect breastfeeding duration?

Author/Year	Type of Study	Population	Mean BFSES Score	P-Value	Assumption
Lau C. Y. K., Lok K. Y. W., Tarrant M./ 2018	Systematic Review of Observational Studies	7507	Not reported	Not reported	The association between BFSE and longer breastfeeding is supported
Meedya S., Fahy K., Kable A./2010	Systematic Review	4305	Not reported	Not reported	BFSE is positively associated with breastfeeding duration
Rocha I. S., Lolli L. F., Fujimaki M., Gasparetto A., Rocha N. B. da/2018	Systematic Review	679	Not Reported	Not reported	Association between mothers with higher levels of confidence and EBF 6m
De Jager E., Skouteris H., Broadbent J., Amir L., Mellor K, /2013	Systematic Review	Not reported	Not reported	Not reported	4/5 studies strong positive correlation between EBF duration and BFSE.
Shariat M., Abedinia N., Noorbala A. A., Zebardast J., Moradi S., Shahmommadian N., Karimi A., Abbasi M./ 2018	RCT	129	121.44±28.40 (intervention group) 122.52±21.66 (control)	0.02	Intervention aiming at increasing BFSE had a significant impact on duration of BF
Ansari S., Abedi P., Hasanpoor S., Bani S./ 2014	RCT	120	123.66±12.4 (intervention group) 101.7±12.19 (control)	<0.001	Significant relationship between BFSE and duration of breastfeeding
Wu D. S., McCoy T. P., Effird J. T./ 2014	RCT	74	59.85 (intervention group) 53 (referent)	0.05	Group with gigher BFSE (intervention) breastfed at 8w p. p.
Chan M. Y., Ip W. Y., Choi K.C./ 2016	RCT	71	55.89 (intervention group) 43.97 (control)	<0.01	EBF rate at 6m 11,4% vs 5,6% in the intervention and the control group.
Araban M., Karimian Z., Kakolaki Z. K., McQueen K. A., Dennis C. L./ 2018	RCT	120	62.46 (intervention group) 50.74 (control group)	Not reported	No statistically significant difference was found between the two groups concerning BFSE and EBF duration at 8w pp

Pakseresht S., Pourshaban F., Khalesi Z. B./2017	Prospective	767	62.66 ±7.57	<0.001	EBF duration increases BFSE comparing 1w pp scores to 6w scores
Margotti E., Epifanio M./2014	Prospective	300	58±8 (Baby-friendly), 62±5 (Non-Baby-friendly)	0.05	High BFSE Score is a protective factor for EBF at 120 days
Monteiro J. C. S., Guimarães C. M. S., Melo L. C. O./ 2020	Prospective	224	Not reported	0.06	There is no statistically significant association between EBF and maternal BFSE in 30, 60 and 180 days
Moraes G. G. W., Christoffel M. M., Toso B R. G. O., Viera C. S./ 2020	Prospective	158	66 EBF mothers 55 who had weaned at 6m	<0.0001	Mothers who EBF had significantly higher scores at 6m p. p
Dégrange M., Delebarre M., Turck D., Mestdagh B., Storme L., Deruelle P., Rakza T./ 2015	Prospective	149	Not Reported	<0.001	Mothers who breastfed at 3m had significantly higher BFSE scores than those who had weaned
Khalil A. A., Mohammed N. R., Elkazaz R. H., Abdelhamed F. R./2018	Prospective	100	45.9±11.05	0.01	A statistically significant relationship between baseline self-efficacy and BF duration
Leahy-Warren P., Mulcahy H., Phelan A., Corcoran P./2014	Cross-sectional survey	1715	59.2	<0.001	Higher BFSE significantly associated with BF as long as planned
Inthilath R., Phongluxa K., Cuong P. V./ 2017	Cross-Sectional Survey	151	56.52 ±8.22	0.015	Intention to BF affects BFSE. Mothers who intended to BF less than 6m were 2,4 times more likely to wean at 4m p. p
Tsaras K., Sorokina T., Papathanasiou I., Fradelos E. C., Papagiannis D., Koulirakis G./ 2021	Cross-Sectional Survey	100	3.65±0.85	<0.001	Exclusively BF mothers have higher BFSE and, thus are more likely to maintain EBF
Glassman M. E., McKearny K., Saslaw M., Sirota D. R. /2014	Survey	209	50.3	0.02 at 4w 0.05 at 6w	BFSE was the only modifiable factor associated with EBF at 4-6w p. p
Gerhardsson E./ 2020	Survey	120	Not Reported	<0.01	Mothers with high BFSE have positive breastfeeding outcomes
Awaliyah S. N., Rachmawati I. N., Rahmah H./ 2019	Cross-Sectional Survey	204	Not reported	0.001	BFSE determines maternal satisfaction about breastfeeding, thus affecting breastfeeding initiation and duration
Loke A. Y, Chan L. S./2013	Descriptive Correlation Study	199	43.5 EBF 34.6 Bottle-feeding	<0.001	Maternal BF confidence is a strong predictor of BF duration as well as exclusivity

Aquilina S./2011	Descriptive Correlation Study	77	52.61299 (EBF at 6 months) 55 (not EBF at 6 months)	0.588	No significant relationship between BFSE score and breastfeeding duration was found
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### 3. Results

The articles of the review dated from 2009 to 2021 and dealt with women of various socio-economic background, 17,475 in total. The majority of these women lived in the US while the rest live in China, Japan, Indonesia, Australia, Turkey, Greece, Spain, France, Sweden, Ireland and Scotland, encompassing different continents and habits. This systematic review identified a variety of psychosocial factors such as maternal age, education, social support, self-worth, and intention to breastfeed during pregnancy. Most of the scientific data showed that longer periods of exclusive breastfeeding, positively correlated with higher maternal self-esteem. Ansari et al (2014) investigated the potential influence of an intervention program towards maternal self-esteem and consequently the total duration of breastfeeding, and revealed that there was an improvement in both [5].

Glassman et al (2014) attempted to determine the impact of sociocultural variables and breastfeeding self-efficacy on early initiation of breastfeeding in an urban neighborhood in New York City. The majority of participants were low-income Latinas and the findings showed that a higher likelihood of early breastfeeding initiation was associated with higher self-efficacy towards breastfeeding and a favorable sociocultural environment [7]. The study emphasized the significance of addressing both the sociocultural status of the women at hand, as well as self-efficacy levels to support early breastfeeding. A cross-sectional survey in Laos tried to determine the necessity of breastfeeding education and support among mothers and the results indicated that maternal levels of self-efficacy for exclusive breastfeeding were modest and that maternal knowledge as well as expectations for exclusive breastfeeding influenced the total duration of breastfeeding significantly. The study emphasized the need for self-efficacy-boosting interventions to support exclusive breastfeeding practices in the setting of the Laos (8).

Aiming to determine variables influencing the initiation and duration of breastfeeding in Ireland [9], this particular study indicated that both these characteristics were significantly influenced by maternal self-esteem as well as other variables like social support, breastfeeding expertise, and the existence of nursing role models. The study also highlighted how crucial it is to address these issues to encourage and promote breastfeeding practices in Ireland. Meedya et al. (2010) conducted a literature review aiming to identify variables that favorably impact the length of breastfeeding for up to 6 months [10]. Maternal self-efficacy appeared as a key predictor of breastfeeding length among the factors at hand and once more, longer nursing periods were linked to higher levels of self-efficacy [10]. To encourage continued breastfeeding, the review emphasized on the significance of taking self-efficacy into account when developing support programs. Support should be continuous throughout the postpartum period as Pakseresht et al. (2017) showed that self-efficacy levels declined from the first to the sixth week, in the form of assistance and more initiatives [11].

### 4. Discussion

The aforementioned articles spotlight the importance of maternal self-efficacy for successful long-term nursing. The findings indicate that the greater the self-efficacy levels of the mother, the longer the breastfeeding duration, and at the same time the final outcome is better. Several studies have been conducted about the impact of intervention programs on short-term breastfeeding outcomes. In 2014, Di Shi Wu et al. investigated how a breastfeeding self-efficacy intervention could affect the short-term breastfeeding results for primipara mothers [12]. According to their findings, when compared to the control group, the intervention under investigation, increased exclusive breastfeeding rates and improved breastfeeding self-efficacy. Tsaras et al. (2021) attempted to identify factors that predict and affect breastfeeding self-efficacy in the early postpartum period. It was found that antenatal intention to breastfeed, acquisition of knowledge, and exclusive breastfeeding in the immediate postpartum days are empowering factors that reinforce breastfeeding self-efficacy [13]. The researchers claimed that mothers who breastfed exclusively had higher levels of maternal self-efficacy, and thus were more likely to maintain exclusive breastfeeding.

Rocha et al. (2018) revealed that assessing maternal self-efficacy through BFSES is an efficient way to predict the duration of exclusive breastfeeding [6]. This tool can contribute to achieving longer nursing duration and improve exclusive breastfeeding rates. Moraes et al. (2021) and Dégrange et al. in 2014 conducted prospective studies supporting that nursing mothers achieved higher breastfeeding scores at six months postpartum in comparison to those who had weaned. According to the findings, a longer breastfeeding period was positively correlated with higher maternal self-

efficacy levels. The studies emphasized how crucial it is to boost a mother's sense of competence to encourage continued breastfeeding [14,15]. Two randomized controlled trials, also reached the same results. Exclusive breastfeeding rates were significantly higher in the intervention group during the first six months postpartum [5, 16]. These data show that interventions and therapeutic programs that focus on self-efficacy, can effectively improve nursing practices and assist mothers through their breastfeeding journey.

Chan et al (2016) showed that women who underwent a training program scored higher in the BFSES and had double breastfeeding rates at six months postpartum compared to those who had not [17]. The beneficial effects of self-efficacy interventions on breastfeeding outcomes have also been shown in studies involving particular groups, such as primiparas in Wuhan, China, and pregnant women in Ahvaz, Iran [12, 16]. These interventions increased self-efficacy in breastfeeding, leading to bigger exclusive breastfeeding rates and increased duration. According to these results, the use and availability of specific prenatal and postnatal interventions can promote maternal empowerment, higher breastfeeding duration, and self-assessment. Apart from interventions for prolonged breastfeeding, in 2014 Glassman et al. [7] and Margotti and Epifanio (2014) [18], determined several factors that influence breastfeeding outcomes. It was suggested that high levels of breastfeeding self-efficacy and favorable sociocultural factors can result in longer periods of breastfeeding [7, 18]. Awaliyah et al. (2019) [19] researched the impact of maternal expectations and the variables that affected exclusive breastfeeding for the first six months postpartum. Among several factors, the importance of maternal self-efficacy was once more underlined, both for initiation and duration of breastfeeding.

Aquilina (2023) [20] and Gerhardsson (2023) [21] looked into the connection between breastfeeding length and self-efficacy. A correlation between longer breastfeeding duration and greater levels of maternal self-efficacy was found. It was hypothesized that self-efficacy-focused therapies could lead to better nursing results and longer breastfeeding duration. A descriptive study in China investigated the relationship between breastfeeding self-efficacy and newborn nursing behavior [22]. The results revealed a link between exclusive breastfeeding practices in newborns and greater levels of maternal self-efficacy in breastfeeding. In order to encourage and uphold exclusive breastfeeding practices, the study emphasized the significance of maternal self-efficacy. Monteiro et al. (2020), [23] analyzed the BFSE and the duration of EBF at the intervals of 30, 60, and 180 days after delivery. They found no association between BFSE and EBF at six months postpartum.

Shahla Meedyia et al. (2010) [10] conducted a review of the literature, emphasizing the significance of addressing self-efficacy as a component that positively promotes breastfeeding length. Their findings are consistent with the idea that maternal self-efficacy is essential for maintaining breastfeeding past the initial postpartum period. Longer nursing periods may be facilitated by self-efficacy-enhancing interventions, sufficient social support, and breastfeeding education. Khalil et al. (2018) [24] through a prospective study suggested that moderate or high BFSE scores are associated with breastfeeding longer than 6 months postpartum. De Jager et al (2013), Lau et al. (2018) and Araban et al. (2018) [25, 26, 27] conducted systematic reviews but did not reach statistically significant results to prove the association between BFSE and prolonged breastfeeding, as was the case with the Monteiro study and prolonged breastfeeding past 6 months postpartum.

An important finding from study is that maternal self-efficacy seems to be decreasing as time goes by. This finding underlines even further the need for continued assistance and interventions throughout the nursing process. If we provide mothers with the support they need, aiming to decrease their wavering trust in themselves, successful breastfeeding can be prolonged. The articles showed a connection between successful breastfeeding and maternal self-esteem and how this can serve as a tool to further improve breastfeeding rates. Both self-esteem and nursing behaviors are influenced by factors like social support, breastfeeding education, and the existence of breastfeeding role models (Tuthill boateng rocha) [8, 11]. According to Leahy-Warren et al. [9] breastfeeding initiation and duration in Ireland are highly influenced by maternal self-esteem among other factors. To promote good nursing experiences, this underlines the significance of comprehensive support networks that address psychological well-being and self-esteem.

As with all research, some limitations need to be taken into account, when interpreting the scientific data that support the positive relationship between maternal self-esteem and breastfeeding results. The self-report evaluation tools used in many studies are prone to social desirability bias. Studies carried out in numerous nations have shown that the generalizability of the findings may be restricted to the heterogeneity of the populations or cultural variables.

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## 5. Conclusion

In conclusion, the findings from the articles under consideration consistently show the importance maternal self-worth and self-efficacy are for achieving long-term breastfeeding. Self-efficacy-focused interventions and educational initiatives have shown promise in enhancing breastfeeding outcomes. However, ongoing assistance, counseling, and

availability of breastfeeding services are essential to maintain self-efficacy and manage its gradual decline. To achieve desirable nursing experiences, efforts should concentrate on empowering new mothers, enhancing their confidence, and offering extensive support networks. Healthcare professionals and entities can support the promotion and accomplishment of long-term breastfeeding objectives by addressing maternal self-efficacy.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

The authors declare no conflict of interest.

### *Statement of informed consent*

Informed consent was obtained from all subjects involved in the study.

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