

## Breastfeeding Self-Efficacy and Successful Exclusive Breastfeeding Among Lactating Mothers

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### ABSTRACT

Low breastfeeding self-efficacy (BSE), defined as mothers' confidence in their ability to breastfeed, contributes to the risk of early failure or discontinuation of exclusive breastfeeding before infants reach six months of age. This condition is reflected in the declining exclusive breastfeeding coverage at the Panekan Community Health Center. This study aimed to analyze the relationship between BSE levels and the success of exclusive breastfeeding in the Panekan Community Health Center working area. A quantitative analytical method with a cross-sectional design was used. The population consisted of 241 breastfeeding mothers with infants aged 6–11 months, and 152 respondents were selected through proportional simple random sampling. Data were collected using the BSES-SF Likert-scale questionnaire and a structured exclusive breastfeeding history questionnaire. The Spearman rank correlation test ( $\alpha = 0.05$ ) was applied for data analysis. Results showed that 61.8% of mothers had high BSE, and 75.0% successfully provided exclusive breastfeeding for six months. The correlation test yielded  $r_s = 0.757$  with  $p = 0.001$  ( $p < 0.05$ ), indicating a strong and significant positive relationship between BSE and exclusive breastfeeding success. In conclusion, higher BSE significantly increases the likelihood of successful exclusive breastfeeding. Integrating BSE screening into ANC services and providing psychologically oriented lactation counseling, supported by active family involvement, is recommended to improve breastfeeding outcomes.

**Keywords:** breastfeeding self-efficacy; exclusive breastfeeding; breastfeeding mothers

### INTRODUCTION

The failure to achieve exclusive breastfeeding during the first six months of life remains a persistent global public health concern, as it directly affects infants' growth trajectories, neurodevelopmental outcomes, and overall health resilience against infectious diseases [1]. Exclusive breastfeeding provides optimal nutrition, immunological protection, and developmental support; therefore, any disruption in its practice may increase infants' vulnerability to morbidity and long-term health complications. Within the postpartum period, particularly during the taking-hold phase (day 3 to week 2 postpartum), mothers undergo a critical transition in adapting to their new maternal role. This phase is characterized by increasing maternal independence, heightened awareness of infant needs, and the emergence of psychological challenges related to breastfeeding. During this period, breastfeeding self-efficacy (BSE) becomes a central psychological construct that shapes mothers' confidence in their ability to breastfeed, ultimately influencing the initiation, continuation, and success of exclusive breastfeeding practices [2].

Breastfeeding self-efficacy (BSE) refers to a mother's perceived confidence in her capability to breastfeed her infant effectively. Rooted in Bandura's social cognitive theory, BSE is formed through four primary sources: (1) mastery experience, or previous successful breastfeeding experience; (2) vicarious experience, or observing other mothers who successfully breastfeed; (3) verbal persuasion, including encouragement from family members, peers, and health professionals; and (4) physiological and affective states, such as fatigue, stress, anxiety, and hormonal changes during the postpartum period. Mothers with high BSE tend to demonstrate greater persistence when facing breastfeeding challenges, exhibit stronger motivation to maintain exclusive breastfeeding, and are more likely to interpret infant cues accurately. Conversely, mothers with low BSE are more susceptible to discouragement, doubts about milk adequacy, and premature discontinuation of exclusive breastfeeding when confronted with obstacles such as infant fussiness, perceived insufficient milk supply, or physical discomfort [3,4].

Globally, the WHO/UNICEF target for exclusive breastfeeding coverage is set at 80%, reflecting the importance of breastfeeding as a foundational strategy for improving child survival and reducing disease burden. Indonesia's exclusive breastfeeding coverage reached 69.26% in 2024, still below the national and global targets, indicating ongoing challenges in breastfeeding promotion and maternal support systems. East Java Province reported an encouraging increase to 81.2% in 2024, surpassing the WHO/UNICEF benchmark. Magetan Regency also achieved 82.8% in 2024, although coverage declined to 75.74% in 2025, suggesting inconsistencies in breastfeeding support and maternal readiness. The Panekan Community Health Center demonstrated even more pronounced fluctuations, with coverage rising sharply from 22.8% in 2023 to 98.8% in 2024, followed by a drastic decline to 47.9% in 2025 [5,6]. These extreme variations highlight the dynamic interplay between maternal psychosocial factors, health service performance, community support, and local socio-cultural influences on breastfeeding behavior.

Breastfeeding self-efficacy is shaped by a wide range of determinants, including maternal knowledge of breastfeeding techniques, previous breastfeeding experience, physical health status, and psychological factors such as motivation, stress, and anxiety. Family support, particularly from husbands plays a crucial role in reinforcing maternal confidence, providing emotional stability, and facilitating a conducive environment for breastfeeding. Support from health workers, including midwives and lactation counselors, further strengthens BSE by offering guidance, reassurance, and problem-solving strategies. Additionally, socio-cultural norms within the community influence maternal perceptions of breastfeeding, shaping beliefs about milk adequacy, breastfeeding frequency, and the acceptability of formula supplementation [7,8]. When BSE is low, mothers are more vulnerable to negative emotional states, including anxiety and self-doubt, which may disrupt the let-down reflex, reduce milk flow, and increase the likelihood of early cessation of exclusive breastfeeding. Low BSE also heightens susceptibility to external pressures, such as advice to introduce formula milk prematurely, thereby undermining breastfeeding continuity [9].

Collectively, these factors underscore the importance of breastfeeding self-efficacy (BSE) as a pivotal determinant of exclusive breastfeeding success. BSE does not merely function as an individual psychological attribute; rather, it operates as a multidimensional construct that integrates cognitive, emotional, behavioral, and socio-environmental components influencing maternal decision-making throughout the breastfeeding period. When mothers possess strong confidence in their ability to breastfeed, they are more capable of interpreting infant cues accurately, managing breastfeeding difficulties, and sustaining motivation despite physical discomfort, fatigue, or external pressures to introduce formula. High BSE also enhances mothers' resilience when confronting common breastfeeding challenges, such as perceived insufficient milk supply, nipple pain, or infant fussiness, which often lead to early cessation of exclusive breastfeeding. Conversely, low BSE amplifies vulnerability to anxiety, self-doubt, and negative affective states, which may disrupt the physiological let-down reflex, reduce milk flow, and ultimately undermine breastfeeding continuity.

Strengthening maternal self-efficacy through structured education, psychosocial support, and culturally sensitive counseling is therefore essential for improving breastfeeding outcomes and achieving national and global breastfeeding targets. Structured education equips mothers with accurate knowledge of breastfeeding techniques, positioning, latch quality, and infant feeding cues, thereby reducing misconceptions that often trigger premature supplementation. Psychosocial support; particularly from husbands, extended family, peer groups, and health professionals provides emotional reinforcement that enhances maternal confidence and reduces stress during the postpartum period. Culturally sensitive counseling ensures that breastfeeding promotion strategies align with local beliefs, norms, and practices, enabling health workers to address culturally rooted misconceptions while respecting community values. Integrating these approaches within maternal and child health services creates an enabling environment that empowers mothers to initiate and sustain exclusive breastfeeding for the recommended six-month duration.

Given the substantial fluctuations in exclusive breastfeeding coverage observed in the Panekan Community Health Center working area, understanding the role of BSE becomes even more critical. The dramatic rise and subsequent decline in breastfeeding rates suggest inconsistencies in maternal readiness, health service performance, and community support systems. Therefore, empirical investigation is needed to determine whether variations in BSE contribute to these trends and to identify targeted interventions that can stabilize and improve breastfeeding outcomes.

This study aimed to analyze the relationship between breastfeeding self-efficacy levels and the success of exclusive breastfeeding in the Panekan Community Health Center working area, providing evidence to inform more effective maternal support strategies and strengthen breastfeeding programs at the primary health care level.

## METHODS

This study employed a quantitative analytical approach with a cross-sectional design [10-13], to examine the relationship between breastfeeding self-efficacy (BSE) and exclusive breastfeeding success. The research was conducted across the entire working area of the Panekan Community Health Center, located in Magetan Regency, East Java Province, Indonesia. This area encompasses 17 villages/sub-districts with diverse demographic and socio-cultural characteristics. Data collection took place over a five-month period, from January to May 2026, allowing adequate time for recruitment, field coordination, and verification of respondents' breastfeeding histories.

The study population consisted of all breastfeeding mothers with infants aged 6–11 months residing within the Panekan Community Health Center working area, totaling 241 individuals. The sample size was determined using the Slovin formula with a 5% margin of error, resulting in a minimum requirement of 151 respondents. To enhance representativeness, the final sample was set at 152 breastfeeding mothers. Sampling was conducted using a proportional simple random sampling technique, ensuring that each of the 17 villages contributed respondents proportionally to their population size. This approach minimized sampling bias and ensured adequate representation of local variations in breastfeeding practices [14-16].

Eligibility criteria were clearly defined to ensure the inclusion of appropriate respondents. Mothers were eligible if they: (1) were currently breastfeeding and had infants aged 6–11 months; (2) had prior breastfeeding experience from birth; (3) resided permanently within the Panekan Community Health Center working area; (4) were able to communicate effectively and complete the research instruments independently; and (5) provided informed consent to participate. Mothers with medical conditions that contraindicated breastfeeding or those who were temporarily residing outside the study area were excluded.

Two primary variables were examined in this study: breastfeeding self-efficacy (independent variable) and exclusive breastfeeding success (dependent variable). BSE was measured using the Breastfeeding Self-Efficacy Scale–Short Form (BSES-SF), an internationally validated instrument consisting of 14 items rated on a Likert scale. The instrument categorizes BSE into four levels: very low (score 14–26), low (27–48), moderate (49–60), and high (61–70). The BSES-SF has been widely used in global maternal health research and demonstrates strong psychometric reliability. Exclusive breastfeeding success was assessed using a structured breastfeeding history questionnaire that captured the duration of exclusive breastfeeding from birth to six months, based on maternal recall and verification through maternal and child health records when available.

Data analysis in this study was conducted in two sequential stages. First, descriptive analysis was performed to summarize the distribution of respondent characteristics and the frequency and proportion of each variable [17-20], including breastfeeding self-efficacy (BSE) categories and exclusive breastfeeding outcomes. This initial step provided an overview of the sample profile and ensured that the data met the requirements for subsequent inferential testing. Following the descriptive analysis, hypothesis testing was carried out using the Spearman rank correlation at a significance level of  $\alpha = 0.05$ . This non-parametric statistical method was selected because the primary variables were ordinal and did not meet the assumptions of normality. The correlation analysis was used to determine the strength and direction of the relationship between BSE levels and exclusive breastfeeding outcomes.

Ethical considerations were rigorously observed throughout the research process. All respondents were informed about the study objectives, procedures, potential risks, and benefits prior to participation. Written informed consent was obtained from each participant. Confidentiality and anonymity were ensured by assigning unique identification codes and restricting access to raw data. The study adhered to ethical principles of autonomy, beneficence, non-maleficence, and justice, and received approval from the appropriate institutional ethics committee prior to data collection.

## RESULTS

A total of 152 breastfeeding mothers participated in this study. Most respondents were in the reproductive age group of 20–35 years (86.84%), had a senior high school education (62.5%), were housewives (83.6%), and had one child (51.32%). Table 1 presents the complete distribution of respondent characteristics.

Table 1. Characteristics of breastfeeding mothers in the working area of Panekan Community Health Center

| Mother's characteristic | Frequency | Percentage |
|-------------------------|-----------|------------|
| Age                     |           |            |
| < 20 years              | 4         | 2.6        |
| 20–35 years             | 132       | 86.84      |
| > 35 years              | 16        | 10.53      |
| Parity                  |           |            |
| 1 child                 | 78        | 51.32      |
| > 1 child               | 74        | 48.68      |
| Education               |           |            |
| Elementary school       | 8         | 5.3        |
| Junior high school      | 25        | 16.4       |
| Senior high school      | 95        | 62.5       |
| Higher education        | 24        | 15.8       |
| Occupation              |           |            |
| Housewife               | 127       | 83.6       |
| Private employee        | 12        | 7.9        |
| Self-employed           | 11        | 7.2        |
| Civil servant           | 2         | 1.3        |

Table 2 shows the distribution of respondents' BSE levels. Most breastfeeding mothers (61.8%; n=94) had BSE in the high category. No mothers were found in the very low category. Table 3 presents the distribution of exclusive breastfeeding duration. Most mothers (75.0%; n=114) successfully provided full exclusive breastfeeding for six months. Of the 38 mothers (25.0%) who provided partial breastfeeding, the largest proportion stopped in the infant's first month of life (13.2%; n=20).

The Spearman rank correlation analysis produced a correlation coefficient of  $r_s = 0.757$  with a p-value = 0.001 ( $p < 0.05$ ), indicating a strong and significant positive relationship between BSE level and successful exclusive breastfeeding (Table 4). The positive direction of the relationship indicates that the higher the mother's BSE level, the greater the success of exclusive breastfeeding.

## DISCUSSION

The results of this study showed that the majority of breastfeeding mothers in the working area of the Panekan Community Health Center demonstrated breastfeeding self-efficacy in the high category (61.8%). This finding illustrates that most mothers possessed strong and positive confidence in their ability to breastfeed, which is a crucial psychological foundation for sustaining exclusive breastfeeding. According to Albert Bandura's self-efficacy theory; later adapted by Dennis specifically for the breastfeeding context mothers with high BSE tend to exhibit greater motivation, stronger persistence when encountering lactation challenges, and more proactive behavior in seeking information and support. They are also more likely to maintain consistent breastfeeding practices despite physical discomfort, infant feeding difficulties, or external pressures to introduce formula milk [21]. The predominance of high BSE among respondents in this study is plausibly influenced by several interrelated factors, including mothers' reproductive age, the presence of supportive family environments, and increasingly widespread access to lactation information through digital media, health workers, and community networks [22].

In terms of respondent characteristics, the predominance of mothers who identified as housewives appears to play an important role in shaping breastfeeding outcomes. Mothers who stay at home generally have greater temporal flexibility and more opportunities for direct and frequent contact with their infants. This condition facilitates optimal breastfeeding frequency, enhances maternal sensitivity to infant cues, and reinforces mothers' confidence in their ability to meet their infants' nutritional needs. In contrast, mothers who work outside the home often face structural and environmental barriers that may negatively affect BSE. These barriers include limited availability of lactation rooms, workplace productivity demands, rigid schedules, and role conflict between employment responsibilities and maternal duties. Such constraints can reduce breastfeeding frequency, increase maternal stress, and weaken mothers' confidence in sustaining exclusive breastfeeding [23]. These findings highlight the importance of supportive workplace policies and family involvement in maintaining breastfeeding continuity.

The exclusive breastfeeding success rate of 75.0% observed in this study exceeds the national average and indicates a relatively favorable condition within the Panekan Community Health Center working area. Nevertheless, the finding that 13.2% of mothers discontinued exclusive breastfeeding during the first month postpartum underscores the neonatal period as the most critical and vulnerable phase. During this early stage, mothers are still developing breastfeeding skills, adjusting to infant feeding patterns, and coping with postpartum physiological changes. Common challenges such as nipple pain, breast engorgement, postpartum fatigue, and the perception that breast milk is insufficient frequently emerge during this period and may lead to early cessation of exclusive breastfeeding [24]. These results reinforce the need for intensive, targeted interventions during the neonatal period, including hands-on lactation assistance, emotional support, and continuous monitoring by health professionals to prevent premature discontinuation.

The strong positive relationship between BSE and successful exclusive breastfeeding ( $r_s = 0.757$ ;  $p = 0.001$ ) found in this study aligns with a substantial body of previous research. Prior studies consistently reported significant associations between higher BSE and greater likelihood of exclusive breastfeeding success [25,26]. Mothers with high BSE have been shown to be more persistent in overcoming breastfeeding obstacles, more confident in interpreting infant cues, and more resilient when confronted with physical or emotional challenges. Conversely, mothers with low BSE tend to experience heightened anxiety, self-doubt, and frustration, which may lead to early cessation of breastfeeding and a rapid shift toward formula feeding.

The stronger correlation identified in this study compared to several earlier studies may be attributed to methodological strengths, particularly the use of the internationally validated BSES-SF instrument, which has high sensitivity and reliability in measuring maternal breastfeeding confidence. Additionally, breastfeeding success was measured using an interval scale based on the infant's age at first receiving supplementary food, rather than simple categorical classification. This approach allowed for more nuanced detection of variations in breastfeeding exclusivity and provided a more precise representation of breastfeeding patterns across respondents.

Despite these strengths, this study has several limitations that warrant careful consideration. First, the use of a cross-sectional design inherently restricts the ability to establish causal relationships between breastfeeding self-efficacy and exclusive breastfeeding success, as both variables were measured at a single point in time. This design captures associations but cannot determine temporal sequencing or directionality, leaving open the possibility that exclusive breastfeeding experiences may also influence maternal self-efficacy rather than solely the reverse.

Second, the measurement of breastfeeding history relied heavily on maternal recall, which introduces potential recall bias. Mothers may unintentionally misreport the duration or exclusivity of breastfeeding due to memory lapses, especially when recalling events from the early postpartum period. Social desirability bias may also occur, particularly among mothers who perceive exclusive breastfeeding as a socially valued or expected behavior. Such bias may lead respondents to overreport adherence to exclusive breastfeeding recommendations, thereby inflating success rates and affecting the accuracy of the findings.

Table 2. Distribution of breastfeeding self-efficacy (BSE) levels among breastfeeding mothers

| BSE Category           | Frequency | Percentage |
|------------------------|-----------|------------|
| Very Low (score 14–26) | 0         | 0.0        |
| Low (score 27–48)      | 18        | 11.8       |
| Moderate (score 49–60) | 40        | 26.3       |
| High (score 61–70)     | 94        | 61.8       |

Table 3. Distribution of successful exclusive breastfeeding

| Breastfeeding duration             | Frequency | Percentage |
|------------------------------------|-----------|------------|
| 1 month (partial breastfeeding)    | 20        | 13.2       |
| 2 months (partial breastfeeding)   | 3         | 2.0        |
| 3 months (partial breastfeeding)   | 3         | 2.0        |
| 4 months (partial breastfeeding)   | 9         | 5.9        |
| 5 months (partial breastfeeding)   | 3         | 2.0        |
| 6 months (exclusive breastfeeding) | 114       | 75.0       |

Table 4. Results of Spearman rank correlation analysis of the relationship between BSE and successful exclusive breastfeeding

| Variable                               | $r_s$ | p-value |
|----------------------------------------|-------|---------|
| BSE-Successful exclusive breastfeeding | 0.757 | 0.001   |

Third, the study examined only one independent variable—breastfeeding self-efficacy—without incorporating other potential confounding factors that may interact with BSE and jointly influence breastfeeding outcomes. Variables such as family support, maternal knowledge, perceived adequacy of breast milk, socio-cultural norms, economic conditions, and workplace environments were not included in the analysis. These factors may either strengthen or weaken the effect of BSE and could provide a more holistic understanding of breastfeeding behavior if examined simultaneously. The absence of these variables limits the explanatory power of the model and reduces the ability to identify multifactorial influences on exclusive breastfeeding success.

Fourth, the generalizability of the findings should be approached with caution. The study was conducted within a single Community Health Center area that possesses unique demographic, socio-economic, and cultural characteristics. These contextual factors may not reflect conditions in other regions, even within the same district or province. As such, the results may not be fully applicable to populations with different cultural breastfeeding norms, health service capacities, or community support structures.

Finally, although validated instruments were used, the reliance on self-reported data may still introduce measurement limitations. Future studies employing longitudinal designs, multiple data sources, and broader variable inclusion would provide stronger evidence and enhance the robustness of conclusions regarding the role of BSE in exclusive breastfeeding outcomes.

## CONCLUSION

A strong and meaningful positive relationship was identified between breastfeeding self-efficacy (BSE) and successful exclusive breastfeeding among mothers in the Panekan Community Health Center working area. Most mothers demonstrated high levels of BSE, reflecting strong confidence in their ability to breastfeed, and exclusive breastfeeding practices were generally well-maintained. The neonatal period emerged as the most vulnerable phase for early discontinuation, highlighting the need for intensified support immediately after birth.

Strengthening breastfeeding outcomes requires systematic integration of BSE screening using the BSES-SF instrument during antenatal care (ANC) visits. Mothers with low BSE should receive prompt, psychologically oriented lactation counseling supported by active involvement of husbands and families. Village midwives are encouraged to increase home visit frequency during the neonatal period to provide hands-on assistance during this critical phase. Future research should adopt longitudinal designs and incorporate additional variables; such as family support, maternal knowledge, perceived milk adequacy, and socio-cultural influences to generate a more comprehensive understanding of factors shaping exclusive breastfeeding success.

## Ethical considerations, conflict of interest, and funding source

-This research was conducted in accordance with ethical principles for research involving human subjects. All breastfeeding mothers received an explanation of the purpose, procedures, benefits, and their right to withdraw at any time. The number of ethical clearance is EA/4391/KEPK-Poltekkes\_Sby/V/2026.

-There is no conflict of interest related to this publication.

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