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Original Research

Effectiveness of Lactation Management on Breastfeeding Self-Efficacy Among Breastfeeding Mothers

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ABSTRACT

Introduction: *Lactation management includes education, problem-solving, and support to ensure successful breastfeeding. A key factor influencing this success is maternal self-efficacy, or a mother's confidence in her ability to breastfeed. Higher self-efficacy helps mothers overcome breastfeeding challenges and maintain breastfeeding longer.*
Objective: *This study aims to evaluate the effectiveness of lactation management on breastfeeding self-efficacy among breastfeeding mothers.*
Method: *A quasi-experimental pretest–posttest control group design was used with 30 breastfeeding mothers of infants aged 0–6 months selected through purposive sampling. The intervention group received lactation management education delivered in three structured sessions, while the control group received no intervention. Breastfeeding self-efficacy was assessed using the BSES-SF before and after the intervention.*
Result: *The intervention group showed a significant increase in self-efficacy scores ($p < 0.001$), whereas the control group showed no significant change ($p > 0.05$). There was also a significant difference in posttest scores between the two groups ($p < 0.001$).*
Conclusion: *Lactation management based on education and practice proved effective in strengthening mothers' confidence in breastfeeding. Integrating this intervention into primary health services is recommended to support the success of exclusive breastfeeding and to aid in stunting prevention.*

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INTRODUCTION

Breastfeeding self-efficacy is a critical factor influencing a mother's ability to initiate and sustain exclusive breastfeeding. Lactation management efforts such as education on proper breastfeeding techniques, hands-on guidance, and continuous support have been recognized as effective strategies to strengthen maternal confidence and improve breastfeeding outcomes. This context underscores the importance of structured interventions that aim to enhance self-efficacy as part of broader efforts to promote successful breastfeeding practices (1–3).

Previous research has shown that educational interventions, including audiovisual-based learning and structured counseling, can significantly improve maternal knowledge and breastfeeding self-efficacy (4–6). Social support, such as participation in Breastfeeding Support Groups and family-centered approaches, has also been found to play a crucial role in motivating mothers, addressing breastfeeding challenges, and sustaining exclusive breastfeeding. In recent years, technological advancements have further expanded the scope of lactation management (7,8). Emerging evidence indicates that such digital interventions effectively enhance maternal self-efficacy and improve exclusive breastfeeding rates (9,10).

The literature reviewed in previous studies consists of current, relevant, and primarily empirical research focusing on breastfeeding education, lactation support interventions, and digital health technologies. These sources were selected to represent contemporary developments in the field without extending the scope excessively (11,12). Despite the existing body of research, a gap remains in evaluating comprehensive lactation management interventions that combine structured education with hands-on practice. Much of the prior literature has examined theoretical education, community based support, or digital interventions in isolation. The novelty of the present study lies in its integration of education and practical lactation management delivered directly to breastfeeding mothers, assessed through a quasi-experimental design with a control group. This approach provides stronger empirical evidence regarding the effectiveness of practice-based lactation management interventions (13,14).

The study is grounded in the assumption that combined educational and practical lactation management will lead to improved breastfeeding self-efficacy among mothers compared with those who do not receive the intervention. By addressing an existing gap and offering a structured, evidence-based approach, this research contributes valuable new insights into strategies for enhancing maternal confidence and supporting successful breastfeeding (15,16).

METHOD

This study employed a quantitative approach using a quasi-experimental design with a pretest–posttest and control group to evaluate the effectiveness of lactation management on breastfeeding self-efficacy. The population and sample consisted of breastfeeding mothers with infants aged 0–6 months, selected through purposive sampling based on predetermined inclusion criteria. These criteria included mothers who agreed to participate until the study was completed, had not previously received formal lactation management education, and had infants who were healthy and free from medical complications that could interfere with breastfeeding.

The study was conducted at PMB Puspita Hati Jumapolo and involved a total of 30 breastfeeding mothers. Participants were assigned to two groups: the intervention group and the control group. The intervention group received lactation education and guidance covering proper breastfeeding techniques, signs of adequate breast milk intake, and strategies for overcoming common breastfeeding challenges. Meanwhile, the control group did not receive the intervention but was monitored to control for external factors that could influence the outcomes.

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Before the intervention, both groups completed a pretest using the Breastfeeding Self-Efficacy Scale–Short Form (BSES-SF), a validated tool for measuring maternal breastfeeding self-efficacy. Following the two-week intervention, participants completed the same questionnaire as a posttest. Changes within each group were analyzed using the Wilcoxon Signed-Rank Test, while comparisons between the intervention and control groups were conducted using the Mann–Whitney U Test to assess the effectiveness of the intervention. All analyses were performed using statistical software to ensure accuracy, validity, and reliability of the results. Ethical approval number 249/IX/AUEC/2024 was granted by the Ethics Committee Board of 'Aisyiyah Surakarta University.

RESULTS

Table 1. Mean Breastfeeding Self-Efficacy Scores Before and After Intervention for the Intervention and Control Groups

Group	Pretest (Mean ± SD)	Posttest (Mean ± SD)	P-Value
Intervention (n = 15)	45.2 ± 5.1	59.6 ± 4.3	< 0.001
Control (n = 15)	46.1 ± 5.5	47.3 ± 5.2	0.264

Source: Primary Data, 2025

Table 1 shows that the intervention group's mean breastfeeding self-efficacy increased markedly from 45.2 (SD ± 5.1) to 59.6 (SD ± 4.3) after the three-session lactation program ($p < 0.001$). The control group showed a minimal, non-significant change from 46.1 (SD ± 5.5) to 47.3 (SD ± 5.2) ($p = 0.264$). Posttest comparisons between groups revealed a significant difference ($p < 0.001$), indicating the intervention effectively enhanced maternal breastfeeding self-efficacy.

Table 2. Comparison of Posttest Breastfeeding Self-Efficacy Scores Between the Intervention and Control Groups

Group	Posttest (Mean ± SD)	P-Value
Intervention (n = 15)	59.6 ± 4.3	< 0.001
Control (n = 15)	47.3 ± 5.2	

Table 2 presents the comparison of posttest scores between the two groups. The Mann–Whitney U Test revealed a significant difference, with the intervention group scoring higher (59.6 ± 4.3) than the control group (47.3 ± 5.2) ($p < 0.001$). These results indicate that the lactation management intervention had a positive effect on maternal breastfeeding self-efficacy.

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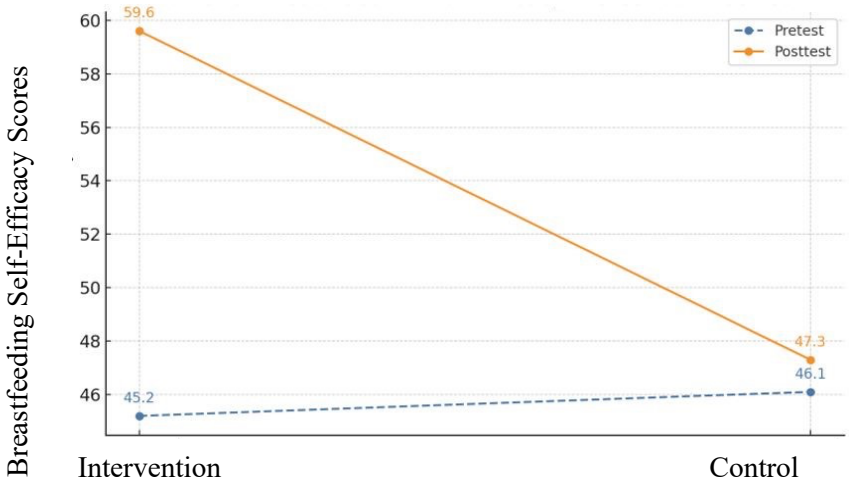

Figure 1. Trend of Breastfeeding Self-Efficacy Scores from Pretest to Posttest in the Intervention and Control Groups

The line chart depicts the trend of breastfeeding self-efficacy scores in the intervention and control groups, measured before (pretest) and after (posttest) the intervention. The intervention group demonstrated a substantial increase, from 45.2 at pretest to 59.6 at posttest, highlighting the positive effect of structured lactation education and hands-on support on maternal confidence in breastfeeding. In contrast, the control group showed only a minimal increase, from 46.1 to 47.3, indicating no significant improvement.

This visualization complements the table data, clearly illustrating the impact of the lactation intervention. The steep upward trend in the intervention group reflects significant gains in self-efficacy, whereas the relatively flat trajectory of the control group suggests that, without targeted intervention, breastfeeding self-efficacy tends to remain largely unchanged over the same period.

DISCUSSION

Our findings demonstrate that a structured lactation management program combining educational and practical components significantly enhanced breastfeeding self-efficacy among mothers. The intervention group showed a marked increase in self-efficacy scores from 45.2 at pretest to 59.6 at posttest ($p < 0.001$), whereas the control group exhibited only a small, non-significant change (46.1 to 47.3; $p = 0.264$). The significant between-group difference at posttest ($p < 0.001$) confirms the effectiveness of the intervention in strengthening maternal confidence in breastfeeding.

These results are consistent with Bandura's self-efficacy theory, which posits that confidence develops through mastery experiences, vicarious learning, verbal persuasion, and emotional regulation (17). The intervention addressed these components through hands-on breastfeeding practice, peer observation, guided discussion, and professional support. Such structured engagement likely reinforced both technical skills and emotional readiness, contributing to improved self-efficacy (18).

Our findings align with previous studies demonstrating that interactive educational approaches and professional support significantly improve maternal breastfeeding confidence (19,20,22). Group-based interventions, in particular, have been shown to foster peer learning and emotional reassurance, both of which are essential for sustaining breastfeeding practices. Evidence from Indonesian community-based programs similarly highlights the importance of structured education and support networks in promoting exclusive breastfeeding (21).

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In addition, the improvement in maternal self-efficacy observed in this study may reflect the importance of continuous guidance during the early postpartum period. Many mothers experience uncertainty, physical discomfort, or misconceptions about breastfeeding in the first weeks after delivery. Structured lactation management provides an opportunity for mothers to receive accurate information, practical assistance, and emotional encouragement, which together help reduce anxiety and strengthen confidence in their ability to breastfeed effectively (23, 24). Another important aspect of the intervention is the role of healthcare professionals as facilitators of learning and support. Midwives and lactation counsellors play a crucial role in translating breastfeeding knowledge into practical skills that mothers can apply in daily life. Through direct demonstrations, individualized feedback, and supportive communication, healthcare providers can assist mothers in overcoming common breastfeeding challenges such as improper latch, perceived insufficient milk supply, and maternal fatique (25).

Furthermore, the group-based nature of the program may have contributed to the positive outcomes observed in this study. Interaction with other mothers who share similar experiences can foster a sense of solidarity and mutual encouragement. Observing peers who successfully breastfeed may also enhance vicarious learning, one of the key sources of self-efficacy described in social cognitive theory. This supportive social environment may reduce feelings of isolation and increase mothers' motivation to continue breastfeeding (26). From a programmatic perspective, integrating structured lactation management into routine maternal health services could be a feasible and cost-effective strategy to strengthen breastfeeding promotion. Community-based settings such as maternal classes, postpartum support groups, and primary healthcare centers provide accessible platforms where education and practical breasfeeding guidance can be delivered simultaneously. Such integration may help bridge the gap between theoretical counselling and real-life breastfeeding practices (27).

The integration of structured lactation management into primary healthcare services such as maternal and child health clinics and community health centers may strengthen breastfeeding support at the community level. While increased self-efficacy is associated with improved breastfeeding initiation and continuation, its broader public health implications, including potential contributions to improved child nutrition outcomes, should be interpreted cautiously. This study measured maternal self-efficacy rather than long-term breastfeeding duration or child growth indicators; therefore, direct conclusions regarding outcomes such as stunting prevention cannot be drawn (28-29).

Finally, strengthening maternal self-efficacy should be viewed as an essential component of comprehensive breastfeeding promotion strategies. Although convidence alone does not guarantee breastfeeding success, it represents a critical psychological factor that influences maternal persintence when facing breastfeeding difficulties. Therefore, effective interventions should combine educational, practical, and psychosocial support components to ensure that mothers feel capable, supported, and motivated to sustain breastfeeding (30, 31). Despite these promising results, several limitations should be acknowledged. The relatively small sample size limits generalizability, and the short intervention period precludes evaluation of sustained breastfeeding behavior over time. Future longitudinal studies with larger samples and follow-up assessments extending to at least six months postpartum are needed to determine whether improvements in self-efficacy translate into longer-term breastfeeding success.

CONCLUSION

Structured lactation management combining education and hands-on guidance significantly improves maternal breastfeeding self-efficacy ($p < 0.001$). The intervention underscores the importance of professional support and social reinforcement in strengthening maternal confidence during the early breastfeeding period.

However, several limitations should be considered. The relatively small sample size, non-random sampling method, and short intervention period may limit the generalizability of the findings. In addition, the absence of follow-up assessments prevents evaluation of whether increased self-efficacy translated into sustained breastfeeding behavior over time.

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Future studies should employ larger, randomly selected samples and longitudinal designs with follow-up assessments to determine the long-term impact of structured lactation management on breastfeeding duration and exclusivity. While improved self-efficacy is positively associated with breastfeeding success, its broader implications for child health outcomes including potential contributions to stunting prevention require further investigation through studies that directly measure nutritional and growth indicators.

AUTHOR'S CONTRIBUTION STATEMENT

Siska: Conceptualization, Methodology, Supervision, Writing Original Draft.Muafiqoh: Formal Analysis, Writing, Review & Editing. Judith: Literature Review, Writing, Review & Editing Ilyasa: Data Curation, Project Administration. Nirmala: Data Curation, Project Administration. Sri Purwati: Validation, Resources, Project Administration. All authors have read and approved the final manuscript and agree to be accountable for all aspects of the work.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest that could have influenced the study's design, data collection, analysis, interpretation, or the conclusions reported in this manuscript.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors disclose that AI-assisted tools, including ChatGPT and Grammarly, were used solely for language refinement, grammar correction, and structural editing during the manuscript preparation process. The intellectual content, study design, data interpretation, and conclusions were independently developed and authored by the listed contributors.

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