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THE EFFECT OF DIGITAL LACTATION EDUCATION INTERVENTION ON MILD DEPRESSION LEVELS IN POSTPARTUM MOTHERS IN HEALTH CRISIS SITUATIONS

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ABSTRACT

Postpartum period is a critical phase marked by significant physiological, emotional, and psychological changes in women. During health crisis situations, such as the COVID-19 pandemic, the risk of postpartum mental health problems, including mild postpartum depression, increases due to limited access to health services and social support. Digital lactation education has emerged as a strategic intervention to support breastfeeding practices while simultaneously improving maternal psychological well-being. **Objective:** This study aimed to examine the effect of digital lactation education interventions on reducing mild postpartum depression symptoms during health crisis situations. **Methods:** A narrative literature review was conducted by analyzing five relevant scientific articles published between 2019 and 2024. Articles were retrieved from Google Scholar, PubMed, ScienceDirect, and DOAJ using keywords related to digital lactation education, postpartum depression, and mobile health. **Results:** The reviewed studies consistently demonstrated that digital-based lactation education—delivered through educational videos, mobile health (mHealth) applications, online peer support, and virtual counseling—effectively reduced anxiety, enhanced maternal self-confidence, and alleviated mild postpartum depression symptoms. **Conclusion:** Digital lactation education interventions are effective non-pharmacological strategies for supporting breastfeeding practices and improving maternal mental health, particularly during health crises when face-to-face services are limited.

Keywords: Digital lactation education, postpartum Depression, postpartum mothers

Introduction

The postpartum period is a critical stage characterized by profound physiological, emotional, and psychological changes experienced by women after childbirth. One of the most common psychological challenges during this phase is mild postpartum depression, which may negatively affect maternal functioning, infant care, and breastfeeding practices (WHO, 2022). According to the World Health Organization (WHO) Approximately 10–20% of postpartum women experience depressive symptoms, with higher prevalence reported during

health crisis situations such as the COVID-19 pandemic (World Health Organization; 2022, 2022).

Maternal mental health plays a crucial role in breastfeeding success. Previous studies have demonstrated that anxiety and postpartum depression are negatively associated with exclusive breastfeeding outcomes, maternal self-efficacy, and mother–infant bonding (Nguyen *et al.*, 2023). During health crises, access to conventional maternal health services is often disrupted, limiting face-to-face counseling and increasing feelings of isolation among postpartum mothers.

In response to these challenges, digital health interventions—particularly digital lactation education—have gained increasing attention. Digital lactation education can be delivered through educational videos, mobile health (mHealth) applications, social media platforms, and online consultations. Studies have reported that digital-based education improves breastfeeding knowledge, enhances maternal confidence, and provides emotional reassurance (Lee and Cho, 2019).

Postpartum depression is a common mental health condition that may negatively affect breastfeeding practices, maternal well-being, and mother–infant bonding (Dall'Ora *et al.*, 2022). During health crises such as the COVID-19 pandemic, limited access to face-to-face healthcare services has increased the need for alternative support strategies, including digital health interventions.

Although previous research has examined the effectiveness of digital health interventions and breastfeeding outcomes, limited literature specifically addresses the impact of digital lactation education on mild postpartum depression during health crisis situations. Therefore, this literature review aims to explore the effect of digital lactation education interventions on reducing mild depressive symptoms among postpartum mothers and to provide conceptual insights for technology-based midwifery care (Sari *et al.*, 2025).

Research Method

This study employed a narrative literature review design conducted in mid-2025. Scientific articles were retrieved from Google Scholar, PubMed, ScienceDirect, and DOAJ databases. The inclusion criteria were: (1) articles published between 2019 and 2024; (2) studies focusing on digital lactation education interventions; (3) outcomes related to mild postpartum depression or maternal psychological well-being; (4) studies conducted during health crisis situations or under limited healthcare access conditions; and (5) full-text availability. Digital health and technology-based interventions have increasingly been used in maternal and postpartum care, demonstrating potential benefits for both breastfeeding support and maternal mental health outcomes (Jagadeesh, Balaji and Singaravelu, 2024) .

An initial search yielded a larger number of articles; however, after title and abstract screening and full-text assessment, five articles met the inclusion criteria and were included in the final review. Data were analyzed descriptively and qualitatively by identifying patterns, key findings, and relationships between digital lactation education interventions and

reductions in mild postpartum depression symptoms.

Result

The findings of this narrative literature review indicate that digital lactation education interventions consistently have positive effects on reducing mild postpartum depression symptoms among postpartum mothers. All five reviewed studies reported that the use of digital media—such as educational videos, mobile health (mHealth) applications, online peer support, and virtual communication through WhatsApp and Zoom—contributed to improved maternal knowledge of lactation, increased self-confidence, and reduced levels of anxiety and stress after childbirth.

Studies by Kurniawan et al. (2023) and Lestari and Amelia (2024) highlighted the effectiveness of video-based education and mHealth applications in enhancing breastfeeding knowledge and maternal engagement. Meanwhile, Shorey and Ng (2020) confirmed that digital peer-support interventions significantly reduced symptoms of mild postpartum depression. Additional evidence from Nugroho and Wijayanti (2021) and Rahmawati et al. (2022) demonstrated that digital education improved psychological comfort and breastfeeding motivation, particularly during health crisis situations such as the COVID-19 pandemic (Nguyen *et al.*, 2023).

Overall, these findings suggest that digital lactation education is not merely an alternative solution during limited face-to-face healthcare access, but also represents a strategic approach to improving the quality of midwifery care, especially in supporting the mental health of postpartum mothers.

These findings are consistent with previous studies indicating that digital and mHealth-based interventions contribute to improved maternal confidence, reduced anxiety, and better breastfeeding outcomes among postpartum mothers (Lee and Cho, 2019).

Table 1. Summary of Digital Lactation Education Interventions and Their Effects on Postpartum Mothers' Mental Health

No	Author & Year	Digital intervention	Main Findings	Implications for midwifery practice
1	Kurniawan et al. (2023)	Lactation education videos	Reduced anxiety and increased maternal confidence	Videos can be integrated into routine postpartum education
2	Lestari & Amelia (2024)	mHealth breastfeeding	Improved exclusive breastfeeding rates and	mHealth applications can support postpartum

		application	emotional well-being	counseling
3	Shorey & Ng (2020)	Online peer-support intervention	Significantly reduced mild postpartum depression symptoms	Digital psychosocial support should be integrated into postnatal care
4	Nugroho & Wijayanti (2021)	Interactive lactation application	Reduced stress and improved breastfeeding comfort	Midwives should be trained in digital lactation tools
5	Rahmawati et al. (2022)	Online education via WhatsApp and Zoom	Increased breastfeeding motivation and understanding	Online education can serve as an alternative during crises

Discussion

The findings of this literature review indicate that digital-based lactation education interventions have a significant impact on reducing mild postpartum depression symptoms, particularly during health crisis situations such as the COVID-19 pandemic. Mild postpartum depression is a common yet often underdiagnosed psychological condition that can negatively affect breastfeeding practices and mother–infant bonding. In this context, digital lactation education serves as an effective and accessible non-pharmacological intervention to support both maternal mental health and breastfeeding outcomes (hondor saragih, 2024).

Previous evidence suggests that technology-based counseling and online psychosocial support can effectively reduce depressive symptoms by enhancing emotional support and maternal self-efficacy (Lau et al., 2019; Sanchez & Garcia, 2019). Furthermore, digital literacy has been shown to play a crucial role in enabling postpartum mothers to benefit optimally from digital health interventions (Sari *et al.*, 2025).

Several reviewed studies demonstrated that digital education delivered through educational videos, health applications, and online communication platforms not only improves maternal knowledge of lactation but also reduces anxiety and enhances breastfeeding self-efficacy (Nguyen *et al.*, 2023). Reported that video-based lactation education significantly reduced postpartum anxiety, resulting in a calmer and more focused breastfeeding experience. These findings are consistent with those of Lestari and Amelia (2024), who found that mHealth applications increased exclusive breastfeeding coverage by strengthening maternal engagement and providing continuous access to reliable information.

From a psychological perspective, digital interventions also create opportunities for postpartum mothers to receive emotional support. Shorey and Ng (2020) emphasized that online peer-support interventions reduce feelings of isolation and enhance social connectedness, which directly contributes to the reduction of postpartum depressive

symptoms. This suggests that virtual interactions, despite the absence of face-to-face contact, can still produce meaningful therapeutic effects for postpartum mothers (Aulia, 2015).

Furthermore, Nugroho and Wijayanti (2021) highlighted that interactive lactation applications not only assist mothers in understanding breastfeeding techniques but also improve psychological well-being during the postpartum period. Similarly, Rahmawati et al. (2022) found that routine digital education delivered via WhatsApp and Zoom increased breastfeeding motivation and strengthened positive perceptions of maternal roles. These findings underscore the importance of combining educational and psychosocial components in digital lactation interventions.

From an implementation standpoint, these results suggest that digital lactation education should be regarded as an integral component of midwifery care rather than merely an alternative during crisis situations. Digital technology offers practical solutions to overcome geographical barriers, limited access to healthcare services, and time constraints commonly faced by postpartum mothers. By integrating digital platforms into healthcare systems, midwives and other healthcare professionals can provide education and emotional support in a more flexible, efficient, and sustainable manner (Rinayanti Manurung *et al.*, 2024).

At the policy level, the implications of these findings extend to the development of maternal and child health programs. Technology-based lactation education interventions may be incorporated into national strategies aimed at increasing exclusive breastfeeding rates and preventing postpartum mental health disorders. Educational content should not only focus on technical aspects of lactation but also include psychosocial elements such as stress management, maternal role empowerment, and the establishment of online support communities to promote overall maternal well-being(hondor saragih, 2024).

Finally, in the context of midwifery education, these findings support the need for educational institutions to equip midwifery students with digital literacy skills and competencies in technology-based interventions. This preparation will enable future healthcare professionals to adapt to digitally driven healthcare systems and deliver holistic, mother-centered postpartum care (Manullang *et al.*, 2025).

Overall, this review highlights that digital lactation education interventions not only contribute to breastfeeding success but also play a strategic role in reducing mild postpartum depression symptoms. Therefore, the continued development and integration of digital lactation education into technology-based midwifery practice are essential to support maternal health, both physically and psychologically(Lee and Cho, 2019).

Conclusion and Suggestion

Conclusion

This study aimed to explore the impact of digital lactation education interventions on mild postpartum depression among new mothers during health crisis situations. The literature review of five scientific articles indicates that digital lactation education interventions significantly reduce symptoms of mild postpartum depression.

These interventions not only enhance breastfeeding knowledge and skills but also provide psychosocial support through flexible, interactive, and easily accessible digital media. During health crises such as the COVID-19 pandemic, digital approaches have proven effective in overcoming limitations in healthcare service delivery and offer valuable solutions for midwifery care in both community and healthcare facility settings.

Suggestion

Practical Recommendations: Healthcare professionals, particularly midwives, are encouraged to utilize digital media as part of breastfeeding education strategies. This may include the use of educational videos, lactation applications, WhatsApp-based education groups, and online consultations to provide continuous information and emotional support for postpartum mothers.

Program and Policy Implications: Health authorities and policymakers at local and national levels should consider developing and integrating digital lactation education platforms into maternal and child health programs, especially during the postpartum period, as a strategy to reduce the risk of postpartum mental health disorders.

Future Research Directions: Further studies employing experimental or quasi-experimental designs are recommended to evaluate the effectiveness of digital interventions across different levels of psychological distress among postpartum mothers and to develop culturally and socially appropriate digital education models for the Indonesian context.

Integrating digital lactation education into postpartum care programs may enhance maternal well-being and improve infant feeding practices, particularly when supported by structured and evidence-based mobile education (Jagadeesh, Balaji and Singaravelu, 2024).

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