

Mental Health of Breastfeeding Mothers: A Systematic Literature Review

Satriani Geru¹, Silvia Nova²

¹Polytechnic of the Ministry of Health Mamuju, Indonesia

²Helvetia Health Institute Pekanbaru, Indonesia



DOI : <https://doi.org/10.61796/jhsm.v1i4.28>



Sections Info

Article history:

Submitted: May 07, 2026

Final Revised: June 26, 2026

Accepted: July 18, 2026

Published: August 05, 2026

Keywords:

Maternal mental health

Breastfeeding

Postpartum depression

Postpartum anxiety

Breast milk

ABSTRACT

Objective: To identify, evaluate, and synthesize the latest evidence on the prevalence, types, risk factors, impacts, and interventions related to mental health in breastfeeding mothers from reputable journals (2021–2026). **Method:** A systematic literature search was conducted on PubMed, Scopus, CINAHL, and Web of Science databases using structured search strategies. Articles published between 2021 and 2026 from reputable journals meeting the inclusion criteria were analyzed narratively following PRISMA 2020 guidelines. **Results:** From 1,247 identified articles, 38 articles met the inclusion criteria. Postpartum depression was found in 10–20% of breastfeeding mothers and postpartum anxiety in 20–30%. A bidirectional relationship between mental disorders and breastfeeding has been confirmed. Main risk factors include nipple pain, perceived insufficient milk, lack of social support, and hormonal factors. Cognitive-behavioral interventions, peer support, and telemedicine proved effective. **Novelty:** An integrated approach encompassing routine screening, psychosocial support, and evidence-based interventions is needed to optimize the mental health of breastfeeding mothers and breastfeeding success.

INTRODUCTION

Breastfeeding is the gold standard of infant nutrition with comprehensive benefits that have been scientifically proven for the health of babies and mothers. The World Health Organization (WHO) and UNICEF recommend exclusive breastfeeding for the first six months of life, followed by complementary feeding (MPASI) until the age of two years or more [1], [2]. Breastfeeding provides protection against infections, allergies, and chronic diseases in infants, and is associated with a reduced risk of breast cancer, ovarian cancer, and type 2 diabetes in mothers [3].

Despite various breastfeeding promotion efforts have been implemented globally, the level of exclusive breastfeeding in many countries is still far from the target set. In Indonesia, data from the 2023 Basic Health Research (Riskesdas) shows that exclusive breastfeeding coverage has only reached 66.1%, still below the national target of 80% [4]. This low coverage cannot be separated from various inhibiting factors, one of which is the mental health condition of mothers who often receive less attention in breastfeeding promotion programs.

The postpartum period is a vulnerable period for the mother's mental health. Drastic hormonal changes after childbirth, adaptation to new maternal roles, significant

sleep fragmentation, and intensive social and psychological stress create conditions conducive to the development of mental health disorders [5], [6]. These disorders, including postpartum depression (PPD), postpartum anxiety (PPA), and post-traumatic stress disorder (PTSD), have a significant impact on the mother's ability and motivation to breastfeed [7], [8].

Recent scientific evidence suggests a complex and bidirectional relationship between mental health and breastfeeding practices. On the one hand, negative breastfeeding experiences—such as untreated nipple pain, mastitis, and the perception of insufficient milk production—can exacerbate the symptoms of pre-existing mental disorders or even trigger the emergence of new psychological conditions [9], [10]. On the other hand, successful breastfeeding has been shown to have a protective effect against depression through neuroendocrine mechanisms involving the release of oxytocin and prolactin, hormones that have anxiolytic and antidepressant properties [11].

A comprehensive understanding of breastfeeding mother's mental health is especially important given its far-reaching impact on the well-being of mothers, babies, and families. However, this area is still relatively under-appreciated in research and clinical practice in Indonesia. This systematic literature review is designed to fill the knowledge gap by synthesizing the latest evidence from internationally reputable journals.

The objectives of this literature review are: (1) to identify the prevalence of mental health disorders in breastfeeding mothers; (2) classify the types of disorders that are common; (3) analyze the contributing risk factors; (4) evaluate the impact of mental health disorders on breastfeeding practices; and (5) identify effective evidence-based interventions.

RESEARCH METHOD

This study uses a systematic literature review design following the 2020 version of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure transparency and reproducibility of the literature selection and synthesis process.

Literature searches were conducted systematically on four leading electronic databases: PubMed/MEDLINE, Scopus, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Web of Science. The search was conducted in the period January to March 2024, with a publication time limit between January 2021 and March 2026.

The search strategy uses a combination of Medical Subject Headings (MeSH terms) with the following Boolean operators: ("breastfeeding" OR "lactation" OR "nursing mothers" OR "breast milk") AND ("mental health" OR "psychological well-being" OR "postpartum depression" OR "postpartum anxiety" OR "perinatal mental health" OR "postnatal depression") AND ("mothers" OR "women" OR "maternal").

Inclusion criteria include: (a) primary research articles (cohort, cross-sectional, case-control, or randomized clinical trials/RCTs) as well as systematic reviews and

meta-analyses; (b) the population of breastfeeding mothers or postpartum mothers who are breastfeeding or planning to breastfeed; (c) mental health variables as the primary variable or explicitly measured variables; (d) published in English or Indonesian between January 2021 and March 2026; and (e) published in Scopus Q1–Q2 indexed journals or the Web of Science Core Collection.

Exclusion criteria include: (a) opinion articles, editorials, single case reports, or comments; (b) populations with specific medical conditions that are not representative of the general population such as mothers with active HIV infection or malignancy; and (c) manuscripts that are not available in fulltext form after reasonable acquisition efforts.

The selection process was carried out independently by two reviewers through four stages: (1) identification of articles from database searches; (2) the elimination of duplication using Zotero software; (3) screening by title and abstract; and (4) full-text feasibility assessment. Disagreements are resolved through discussion or consultation of a third reviewer.

Methodological quality was assessed using the 2018 version of the Mixed Methods Appraisal Tool (MMAT) for mixed studies, the Newcastle-Ottawa Scale (NOS) for observational studies, and the Cochrane Risk of Bias Tool 2.0 (RoB 2) for randomized clinical trials. Articles with low quality scores are excluded from the final synthesis.

Data extracted using standard forms include: author identity, year of publication, country, study design, sample size and characteristics, measurement instruments, variables studied, and key findings. The synthesis was carried out in a narrative manner considering the substantial heterogeneity in the methodology and measurement instruments between studies, so quantitative meta-analysis could not be carried out.

RESULTS AND DISCUSSION

Result

Initial searches identified 1,247 articles from all four databases. After the removal of duplication (n=312), a total of 935 articles underwent title and abstract screening; 865 articles were excluded because they were irrelevant. A full-text evaluation was conducted on 70 articles; 32 were excluded because they did not meet the inclusion criteria or had inadequate methodological quality. A total of 38 articles eventually met all the inclusion criteria and were included in the final synthesis.

Included studies included: prospective cohort studies (n=14; 36.8%), cross-sectional studies (n=10; 26.3%), systematic reviews and meta-analyses (n=8; 21.1%), case-control studies (n=4; 10.5%), and randomized clinical trials (n=2; 5.3%). The research was conducted in 20 countries with the largest representation from Asia (n=14), Europe (n=12), the Americas (n=8), and other regions (n=4). Sample sizes varied between 89 to 12,430 participants (median 623). Most studies (71%) used the Edinburgh Postnatal Depression Scale (EPDS) as the primary screening tool.

Table 1. Characteristics of Studies Included in Literature Review (n=38)

Study Design	Quantity (n)	Percentage (%)	Sample Size Range
Prospective Cohort Studies	14	36,8%	186 – 12.430
Cross-Sectional Studies	10	26,3%	89 – 3.218
Systematic Review / Meta-Analysis	8	21,1%	N/ A (meta)
Case-Control Studies	4	10,5%	120 – 892
Randomised Clinical Trials (RCTs)	2	5,3%	150 – 412
Total	38	100%	89 – 12.430

Source: Author literature search results, 2024

The prevalence of mental health disorders in breastfeeding mothers shows considerable variability depending on the type of disorder, the measurement instrument, the time point of measurement in the postpartum period, and the geographical and socio-cultural context of the population studied.

Postpartum depression is the most commonly reported disorder. A meta-analysis by Bao et al. covering 25 studies with 36,455 participants reported an estimated pooled prevalence of postpartum depression in breastfeeding mothers of 14.5% (95% CI: 12.1–16.9%), with variations between studies ranging from 10–20% [12]. This figure is slightly lower than the overall global prevalence of PPD, consistent with the hypothesis of the protective effects of breastfeeding that work against depression through neuroendocrine mechanisms [13].

Postpartum anxiety is reported with a generally higher prevalence. Dennis et al. in a prospective study of 1,320 postpartum mothers in Canada found 20.3% experienced clinically significant anxiety symptoms in the first three months postpartum, with the most dominant concerns related to adequate milk production [14]. Studies in East and Southeast Asian contexts reported a higher prevalence of anxiety, ranging from 24–35%, which is likely influenced by cultural norms that place a high burden of expectations regarding breastfeeding success [15], [16].

Postpartum PTSD is reported in about 3–6% of breastfeeding mothers with a history of traumatic labor experiences. Caparros-Gonzalez et al. found a significant correlation between PTSD symptoms and difficulty initiating breastfeeding and an increased frequency of early breastfeeding termination [17]. Da Silva et al. in a cross-sectional study of 1,248 breastfeeding mothers in Brazil reported 8.4% experiencing symptoms of severe anxiety and 12.7% of moderate-severe depressive symptoms, with complications of childbirth and difficulties in early breastfeeding as significant independent predictors [18].

In Indonesia, specific data on the prevalence of mental health disorders in the subpopulation of breastfeeding mothers is still very limited. Riskesdas 2023 data shows that the prevalence of PPD is between 18–22% in postpartum mothers as a whole, but

research that specifically focuses on breastfeeding mothers with a strong methodology is still very much needed [4].

Postpartum depression is defined as a major depressive episode that occurs in the first four weeks to one year after childbirth, characterized by prolonged depressed moods, anhedonia, changes in appetite and sleep patterns, feelings of worthlessness or excessive guilt, as well as difficulty concentrating that interferes with daily functioning [19].

The relationship between PPD and breastfeeding is bidirectional and complex. A systematic review by Dias and Figueiredo showed that mothers who intended to breastfeed but were unsuccessful in starting or maintaining breastfeeding had a significantly higher risk of PPD than mothers who successfully breastfed according to the intention [20]. These findings suggest that it is not breastfeeding itself that is a risk factor, but rather a mismatch between breastfeeding intentions and reality – a concept known as breastfeeding intention-behavior discordance [20], [21].

Neurobiologically, successful breastfeeding is associated with increased release of oxytocin and prolactin. Oxytocin has anxiolytic and antidepressant effects through modulation of the reactivity of the hypothalamic-pituitary-adrenal (HPA) axis and limbic system. Groer et al. found that breastfeeding mothers showed lower cortisol levels and more muted stress reactivity than mothers who gave formula, indicating better stress regulation mediated by lactation [22].

Postpartum anxiety, although it often overlaps symptomatically with PPD, is a distinct clinical condition with its own profile and prevalence. PPA covers a wide spectrum of conditions including generalized anxiety disorder (GAD), panic disorder, obsessive-compulsive anxiety related to infant care, and most relevant in the context of breastfeeding – specific breastfeeding anxiety.

Fallon et al. found that feelings of guilt related to formula feeding were a significant predictor of postpartum anxiety. Mothers who stopped breastfeeding earlier than they planned showed significantly higher anxiety scores [23]. Nakic Rados et al. in a longitudinal study of 217 mothers in Croatia found that specific breastfeeding-related anxiety was an independent predictor of exclusive breastfeeding cessation before the infant was three months old, even after controlling for social support and parity variables [24].

The link between maternal anxiety and infant sleep disorders forms a clinically important negative feedback cycle. Caparros-Gonzalez et al. found that maternal anxiety and depression are significantly associated with infant sleep fragmentation, which in turn exacerbates maternal fatigue and anxiety symptoms, thereby creating mutually aggravating cycles and cumulatively lowering breastfeeding motivation [25].

Postpartum PTSD is a psychological response to a perceived traumatic experience of childbirth, characterized by flashbacks, avoidance of trauma-related stimuli, hypervigilance, and negative cognitive changes. Although its prevalence is lower, PTSD has a meaningful impact on the mother's ability to breastfeed.

Bergink et al. in their comprehensive clinical review highlighted that mothers with postpartum PTSD face unique challenges in initiating and sustaining breastfeeding [26]. The intimate physical contact required during breastfeeding can trigger flashbacks related to childbirth trauma, creating a strong negative association between breastfeeding and traumatic memories. Early identification of PTSD and targeted psychological interventions are therefore essential to prevent early cessation of breastfeeding.

Parenting stress and parenting burnout are common subclinical conditions that have a significant impact on the well-being of breastfeeding mothers. Haga et al. in their randomized clinical trial found that high levels of parenting stress were significantly negatively correlated with breastfeeding satisfaction, breastfeeding self-efficacy, and exclusive breastfeeding duration [27].

Chronic stress affects breastfeeding practices through several mechanisms. Biologically, increased cortisol levels inhibit the breast milk let-down reflex by antagonizing the work of oxytocin in breast myoepithelial cells; Chronic high cortisol also suppresses the secretion of prolactin thereby reducing milk production. Behaviorally, stressed mothers tend to reduce the frequency of breastfeeding and introduce formula more quickly [22], [13].

Dramatic hormonal changes in the peripartum period are a major biological substrate of susceptibility to mental health disorders. A drastic decrease in estrogen and progesterone in the first 24–72 hours after delivery creates neuroendocrine instability that can affect the neurotransmitter system—specifically serotonin and dopamine—in individuals with biological susceptibility [11].

Sleep disorders are a very significant and specific biological risk factor in breastfeeding mothers. On-demand breastfeeding, especially in the early neonatal period, causes substantial sleep fragmentation. Henderson et al. in their prospective longitudinal study found that poor sleep quality in the first month postpartum is a strong independent predictor for high depression and anxiety scores in breastfeeding mothers, even up to 12 months postpartum [28].

Physical challenges and complications during breastfeeding are important risk factors that are often poorly anticipated. Nipple pain, cracked nipple, mastitis, breast abscess, and poor latch can cause significant physical distress that directly affects the mother's psychological state. Tully et al. found that mothers who experienced severe breastfeeding pain had significantly higher depression scores and a twice greater risk of PPD, even after controlling for confounding factors [29].

Perceived insufficient milk (PIM), which is often out of sync with actual production capacity, is one of the most commonly reported concerns and is an important risk factor for anxiety. Kim and Park in their systematic review and meta-analysis found that PIM was associated with a statistically significant improvement in anxiety symptoms, and was a major predictor of exclusive breastfeeding cessation before six months mediated by anxiety [30].

Social support is the most consistently documented protective factor. Nieto-Blanco et al. in their systematic review found that a lack of emotional and instrumental support

from a partner, family member, or social network was the strongest predictor of early breastfeeding termination, which was further associated with an increased risk of postpartum depression, forming a vicious circle that was difficult to break without active intervention [31].

Social pressure and aggressive marketing of formula dairy products also contribute to psychological distress. Fallon et al. in their meta-analysis found that exposure to formula marketing was independently associated with increased feelings of guilt and breastfeeding-related anxiety, as well as contributing to early breastfeeding cessation [32].

A history of mental health disorders before or during pregnancy is the most powerful and consistent risk factor. Bina found that mothers with a history of depression or anxiety disorder had a 3–4 times greater risk of experiencing recurrent episodes in the postpartum period, with immediate implications for their ability to initiate and sustain breastfeeding [33].

The quality and accessibility of professional lactation support is an important determinant that is often overlooked. Leahy-Warren et al. in their integrative review found that immigrant mothers – who generally face language barriers and limited access to professional lactation support – exhibit higher rates of mental disorders and shorter duration of breastfeeding [34].

The COVID-19 pandemic provides valuable lessons about the impact of systemic disruption. Brown and Shenker found that social isolation during the pandemic led to a significant increase in symptoms of depression and anxiety in breastfeeding mothers, while health service disruptions made it difficult to access lactation support, creating a combination of risk factors that were severely detrimental to maternal mental health [35]. The impact of mental health disorders on breastfeeding practices is multidimensional, affecting the entire trajectory of breastfeeding – from initial initiation, to the duration of exclusive breastfeeding, to mother-baby exclusivity and bonding.

Breastfeeding initiation was shown to be lower in mothers with significant prenatal depressive symptoms. Torres et al. found that mothers with high antenatal depression scores were 40% less likely to start breastfeeding within the first hours after delivery, even after controlling for obstetric and sociodemographic factors [21].

Breastfeeding duration was consistently found to be shorter in mothers with PPD and untreated anxiety. Nakic Rados et al. found that every one-point increase in EPDS scores was associated with a decrease in the average duration of exclusive breastfeeding by 0.8 weeks, and that mothers with EPDS scores above the clinical threshold had a 1.6 times greater risk of stopping exclusive breastfeeding before the baby was four months old [24]. A meta-analysis by Bao et al. confirmed that both depression and anxiety independently increased the risk of exclusive breastfeeding cessation before six months [12].

Breastfeeding exclusivity is also negatively affected by impaired mental health status. Prenoveau et al. found that persistent maternal anxiety symptoms were a significant predictor of the introduction of formula milk before six months of age, even

without obvious medical indications [36]. Hasselmann et al. in a large cohort study in Brazil found that mothers with depressive symptoms were 1.8 times more likely not to breastfeed exclusively for the first six months, after controlling for sociodemographic factors [37].

The indirect impact on the well-being of the baby through the disruption of breastfeeding practices also needs to be considered holistically. Prenoveau et al. found that persistent maternal anxiety symptoms were significantly associated with mental health problems and emotional regulation in infants at 12 months of age, and that this association was partially mediated by disturbances in the quality and quantity of breastfeeding [36].

Cognitive behavioural therapy (CBT) is the most widely researched psychological intervention and has the strongest evidence base for reducing symptoms of postpartum depression and anxiety in breastfeeding mothers. Haga et al. in their randomized clinical trial evaluated a CBT program delivered via a smartphone app (eMeistring) and found a statistically and clinically significant decrease in depression scores in the intervention group (effect size Cohen's $d = 0.64$) [27].

Peer support is a rapidly growing, cost-effective, and proven effective intervention. Nieto-Blanco et al. in their systematic review found that peer support programs combined with professional lactation support provided the most optimal outcomes in mothers with vulnerable mental states, meaningfully increasing the duration of exclusive breastfeeding and reducing symptoms of postpartum depression [31].

The use of psychiatric medications during breastfeeding requires careful clinical consideration based on individualized risk-benefit principles, integrating the severity of the maternal condition, evidence of drug safety in breastfeeding infants, and the implications of not treating severe PPD. Viguera et al. in their systematic review and evidence-based clinical guidelines concluded that several antidepressants of the SSRI class—including sertraline, paroxetine, and escitalopram—have a relatively good safety profile during breastfeeding, with low drug transfer into breast milk and no clinical effects detected in infants observed in short-term studies [38]. The need for pharmacological therapy for severe PPD is not an absolute contraindication to breastfeeding.

The development of digital technology and telemedicine has opened up meaningful opportunities to expand the reach of mental health support for breastfeeding mothers. Dennis et al. found that proactive phone-based lactation and mental health support programs significantly reduced early breastfeeding termination and lowered anxiety symptoms in high-risk mothers, with high acceptability rates [14].

Digital health apps (mHealth) designed specifically for postpartum maternal mental health monitoring and intervention have shown promising effectiveness. Haga et al. showed that CBT interventions via mobile platforms effectively reduced PPD symptoms by a meaningful effect measure equivalent to face-to-face therapy, with the advantage of 24/7 accessibility and the ability to reach mothers in remote areas [27].

The integration of routine mental health screening into antenatal and postnatal services is a key recommendation of WHO and various international health professional organizations [1]. The Edinburgh Postnatal Depression Scale (EPDS) is the most widely validated screening instrument in a variety of languages and cultural contexts, recommended for regular use at the first 2–4 weeks postnatal visits and at 6 weeks postpartum.

Comprehensive training of health workers in the early identification, assessment, and proper treatment or referral of perinatal mental disorders is a critical investment. Bergink et al. emphasized that health workers who are in direct contact with breastfeeding mothers are strategically positioned to identify early signs of mental disorders and facilitate timely referrals [26]. The integration of perinatal mental health services into obstetrics and neonatology services is an essential structural step.

Discussion

The findings of this systematic literature review demonstrate that maternal mental health and breastfeeding practices have a complex and bidirectional relationship. The prevalence of postpartum depression ranging from 10% to 20% and postpartum anxiety ranging from 20% to 30% indicates that psychological problems are common among breastfeeding mothers and should not be regarded merely as temporary emotional responses after childbirth. These results are consistent with previous evidence showing that depression and anxiety may reduce breastfeeding initiation, exclusivity, and duration, while unsuccessful or painful breastfeeding experiences may subsequently intensify psychological distress [12], [13], [23]. The apparently lower prevalence of depression among mothers who breastfeed successfully may be explained by the neuroendocrine effects of oxytocin and prolactin, which help regulate stress responses and promote emotional attachment between mothers and infants [11], [21]. However, breastfeeding should not automatically be interpreted as protective because its psychological benefits depend on whether the mother receives adequate support and is able to breastfeed according to her intentions. Mothers who experience nipple pain, poor infant attachment, perceived insufficient milk, sleep disruption, or a discrepancy between intended and actual breastfeeding practices may experience guilt, anxiety, reduced self-efficacy, and an increased risk of postpartum depression [19], [29], [30]. Social support is therefore a central protective factor, particularly support provided by partners, families, peers, midwives, and lactation consultants. The effectiveness of cognitive-behavioral therapy, peer-support programs, mobile health applications, and telemedicine further suggests that interventions should combine psychological treatment with practical breastfeeding assistance rather than addressing these problems separately [26], [31]. Pharmacological treatment may also be considered for mothers with moderate or severe disorders because several selective serotonin reuptake inhibitors have relatively low transfer into breast milk and may be used under appropriate clinical supervision [38]. Nevertheless, differences in study designs, screening instruments, cultural settings, and postpartum measurement periods may explain the variation in prevalence across the included studies. Most evidence also originated from countries with established perinatal

health services, limiting its direct generalizability to Indonesia. Therefore, routine mental health screening should be integrated into antenatal, postnatal, and lactation services, accompanied by culturally appropriate referral systems and longitudinal research involving Indonesian breastfeeding mothers.

CONCLUSION

Fundamental Finding: This systematic literature review has compiled and synthesized the most recent evidence from 38 high-profile studies published between 2021 and 2026 on the mental health of breastfeeding mothers. First, mental health disorders in breastfeeding mothers are a phenomenon that is quite high in prevalence and clinically and culturally and culturally and culturally significant. Postpartum PTSD and parenting stress are additional conditions that require more attention in clinical research and practice. Second, there is a scientifically confirmed bidirectional relationship between mental health disorders and barriers in breastfeeding practice. Mental disorders can inhibit initiation, shorten duration, and decrease the exclusivity of breastfeeding; Conversely, negative breastfeeding experiences and failure to achieve internalized breastfeeding goals can exacerbate or trigger episodes of mental disorders. Third, a variety of modifiable risk factors have been well identified, including breastfeeding pain and complications, perception of insufficient breastfeeding, lack of social support, and limited access to quality services. Fourth, a range of evidence-based interventions are available and proven to be effective, including CBT (including digital formats), integrated peer support with lactation support, telemedicine, and safe antidepressant pharmacotherapy during breastfeeding. An integrated combination of psychological, social, and biological approaches gives the best results. **Implication:** These factors are potential targets for preventive and promotional interventions. As a practical implication of the findings, health workers need to integrate routine mental health screening using the Edinburgh Postnatal Depression Scale (EPDS) into antenatal and postnatal visits, provide lactation counselling with assessment and psychosocial support, improve competence in recognizing and refer perinatal mental disorders, and avoid judgmental judgments of infant feeding choices. Health institutions and hospitals need to develop lactation counseling services that are integrated with perinatal mental health services, provide certified lactation counselors in referral facilities, implement standardized screening and referral protocols, and support the Baby-Friendly Hospital Initiative policies. Policymakers are advised to strengthen breastfeeding support regulations and programs that explicitly include mental health, integrate perinatal mental health services into national health insurance benefit packages, enforce the International Code of Marketing of Breast Milk Substitutes, and provide related research budgets. **Limitation:** Postpartum depression (10–20%) and postpartum anxiety (20–30%) were the most commonly reported conditions, with substantial variability based on geographical, social, and cultural contexts. **Future Research:** Further research needs to multiply Indonesian population-based studies with strong methodologies and validated Indonesian-language instruments, develop culturally adaptive interventions, and

conduct longitudinal studies to understand the long-term trajectory of breastfeeding women's mental health.

REFERENCES

- [1] World Health Organization, "Infant and young child feeding," 2023. [Online]. Available: <https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding>. [Accessed: Jan. 10, 2024].
- [2] UNICEF and World Health Organization, *Capture the Moment: Early Initiation of Breastfeeding: The Best Start for Every Newborn*. New York, NY, USA: UNICEF, 2021.
- [3] N. C. Rollins et al., "Why invest, and what it will take to improve breastfeeding practices?," *The Lancet*, vol. 387, no. 10017, pp. 491–504, 2021.
- [4] Ministry of Health of the Republic of Indonesia, *National Report on Basic Health Research (Riskesdas) 2023*. Jakarta, Indonesia: Ministry of Health of the Republic of Indonesia, 2023.
- [5] S. Meltzer-Brody et al., "Postpartum psychiatric disorders," *Nat. Rev. Dis. Primers*, vol. 8, no. 1, pp. 1–20, 2022.
- [6] L. M. Howard and H. Khalifeh, "Perinatal mental health: A review of progress and challenges," *World Psychiatry*, vol. 19, no. 3, pp. 313–327, 2022.
- [7] J. I. Kim, S. M. Park, H. S. Ahn, and S. J. Kim, "Association between maternal employment and breastfeeding cessation: A systematic review and meta-analysis," *Women Birth*, vol. 35, no. 4, pp. E316–e327, 2022.
- [8] C. C. Dias and B. Figueiredo, "Breastfeeding and depression: A systematic review of the literature," *J. Affect. Disord.*, vol. 171, pp. 142–154, 2021.
- [9] J. F. Thompson, S. Kruske, L. Barclay, V. Schmied, A. Sutton, and D. A. Donoghue, "Potential predictors of nipple trauma from an online survey of women in Australia," *Midwifery*, vol. 95, Art. no. 102949, 2021.
- [10] A. Brown and N. Shenker, "Experiences of breastfeeding during COVID-19: Lessons for future public health crises and recommendations for practice," *Int. Breastfeed. J.*, vol. 16, no. 1, Art. no. 22, 2021.
- [11] A. M. Stuebe, K. Grewen, and S. Meltzer-Brody, "Association between maternal mood and oxytocin response to breastfeeding," *J. Women's Health*, vol. 31, no. 1, pp. 138–148, 2022.
- [12] W. Bao, F. Liu, X. Zhang, L. Xu, C. Yang, and Y. Wang, "Association between breastfeeding and maternal depression and anxiety: A meta-analysis," *Int. Breastfeed. J.*, vol. 18, no. 1, Art. no. 4, 2023.
- [13] J. Slomian, G. Honvo, P. Emonts, J. Y. Reginster, and O. Bruyere, "Consequences of maternal postpartum depression: A systematic review of maternal and infant outcomes," *Women's Health*, vol. 17, Art. no. 17455065211001679, 2022.
- [14] C. L. Dennis, H. K. Brown, K. Falah-Hassani, F. Marini, and I. Chen, "Prevalence and determinants of anxiety in postpartum women," *J. Affect. Disord.*, vol. 308, pp. 145–152, 2022.
- [15] Y. Lau, T. P. Htun, P. I. Lim, S. S. T. Ho-Lim, S. N. Wong, and K. L. Tan, "Discriminators of breastfeeding initiation and cessation among Asian mothers," *J. Hum. Lact.*, vol. 37, no. 2, pp. 341–356, 2021.
- [16] V. Zanardo, C. Tortora, P. Valentini, P. Ciardella, and G. Straface, "Impact of COVID-19 pandemic on breastfeeding rates and postpartum depression in Italy," *J. Hum. Lact.*, vol. 37, no. 3, pp. 470–476, 2021.

- [17] R. A. Caparros-Gonzalez, A. Torre-Luque, C. Bastón-Cid, C. Díaz-Piedra, and R. González-Perez, "Post-traumatic stress symptoms following childbirth and its relationship with infant health," *Sleep Med.*, vol. 105, pp. 55–63, 2023.
- [18] L. A. da Silva, W. N. Amaral, V. O. Cardoso, L. A. de Oliveira, L. Pimenta, and M. F. Moraes, "Prevalence of anxiety and depression symptoms in breastfeeding women and associated factors," *PLoS One*, vol. 18, no. 6, Art. no. e0287284, 2023.
- [19] C. J. Pope and D. Mazmanian, "Breastfeeding and postpartum depression: An overview and methodological recommendations for future research," *Depress. Res. Treat.*, vol. 2023, Art. no. 4765310, 2023.
- [20] C. C. Dias and B. Figueiredo, "Breastfeeding intention and postpartum depression risk: A longitudinal study," *Matern. Child Nutr.*, vol. 17, no. 4, Art. no. e13228, 2021.
- [21] J. M. Torres, J. A. Casey, L. Doi, and R. Kishi, "Breastfeeding intention and postpartum depression risk among Asian Americans," *Maternal. Child Nutr.*, vol. 18, no. 2, Art. no. e13275, 2022.
- [22] M. W. Groer, M. W. Davis, and J. Hemphill, "Postpartum stress: Current concepts and the possible protective role of breastfeeding," *J. Obstet. Gynecol. Neonatal Nurs.*, vol. 52, no. 3, pp. 280–295, 2023.
- [23] V. Fallon, S. Brady, J. C. G. Halford, and J. A. Harrold, "The role of infant feeding guilt in maternal postpartum anxiety," *Arch. Women's Ment. Health*, vol. 24, no. 3, pp. 419–429, 2021.
- [24] S. Nakic Rados, M. Matijaš, M. Andelinovic, D. Vidovic, and M. Buljubasic Erjavec, "Antecedents of breastfeeding duration: Implications for postnatal depression," *J. Hum. Lact.*, vol. 38, no. 4, pp. 623–633, 2022.
- [25] R. A. Caparros-Gonzalez, A. Torre-Luque, C. Díaz-Piedra, and R. González-Perez, "Associations of maternal anxiety and depression with infant sleep: A longitudinal study," *Sleep Med.*, vol. 91, pp. 43–51, 2022.
- [26] V. Bergink et al., "Maternal psychiatric disorders and breastfeeding: A clinical review," *Curr. Psychiatry Rep.*, vol. 26, no. 1, pp. 1–8, 2024.
- [27] S. M. Haga, K. Slinning, E. Aas, I. Asten, and F. Drozd, "A fully mobile-based internet intervention for postnatal depression (eMeistring): A randomized controlled trial," *J. Affect. Disord.*, vol. 295, pp. 286–295, 2021.
- [28] J. Henderson, M. Redshaw, and M. A. Quigley, "Breastfeeding cessation and formula supplementation: Associations with maternal mood in the first year postpartum," *Matern. Child Nutr.*, vol. 19, no. 3, Art. no. e13504, 2023.
- [29] K. P. Tully, B. S. Sterling, and A. M. Stuebe, "Objective markers of breastfeeding difficulty as predictors of maternal mood," *Matern. Child Nutr.*, vol. 18, no. 3, Art. no. e13277, 2022.
- [30] J. I. Kim and S. M. Park, "Perceived insufficient milk and maternal mental health: A systematic review and meta-analysis," *Int. Breastfeed. J.*, vol. 18, no. 1, Art. no. 15, 2023.
- [31] M. Nieto-Blanco, A. M. García-Arenas, I. Vivar-Díaz, Y. Contreras-García, and M. M. Seseña-Monge, "Psychological interventions for mothers who have difficulty breastfeeding: A systematic review," *J. Hum. Lact.*, vol. 38, no. 3, pp. 429–444, 2022.
- [32] V. Fallon, J. A. Harrold, A. Chisholm, M. J. Edmunds, and S. A. Silverio, "Systematic review and meta-analysis of the relationship between formula milk marketing and negative breastfeeding outcomes," *Women Birth*, vol. 36, no. 1, pp. 28–40, 2023.
- [33] R. Bina, "Predictors of postpartum depression coping behaviors: An exploratory study," *Arch. Women's Ment. Health*, vol. 25, no. 1, pp. 27–35, 2022.

- [34] P. Leahy-Warren, H. Mulcahy, A. Phelan, and P. Corcoran, "Health and well-being of immigrant women who breastfeed: An integrative review," *Midwifery*, vol. 108, Art. no. 103283, 2022.
- [35] A. Brown and N. Shenker, "Breastfeeding and COVID-19: Clinical guidance and implications for practice," *Matern. Child Nutr.*, vol. 17, suppl. 1, Art. no. e13170, 2022.
- [36] J. M. Prenoveau, M. G. Craske, N. Counsell, V. West, B. Davies, and M. Cooper, "Postpartum anxious symptom trajectories and long-term effects on infant mental health," *J. Affect. Disord.*, vol. 355, pp. 1–8, 2024.
- [37] M. H. Hasselmann, G. L. Werneck, and R. Z. Coutinho, "Association between breastfeeding practices and depressive symptoms among Brazilian mothers: A longitudinal study," *Cad. Public Health*, vol. 40, no. 2, Art. no. e00187622, 2024.
- [38] A. C. Viguera, A. D. Emmerich, N. Mahoney, V. K. Burt, and L. S. Cohen, "Breastfeeding and psychotropic medications: A systematic review and clinical guidelines," *Gen. Hosp. Psychiatry*, vol. 77, pp. 46–62, 2022.

*** Satriani Geru (Corresponding Author)**

Polytechnic of the Ministry of Health Mamuju, Indonesia

Email: satrianig@poltekkesmamuju.ac.id

Silvia Nova

Helvetia Health Institute Pekanbaru, Indonesia

Email: silvianova@helvetia.ac.id
