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Perinatal Mental Health Disorders in Indonesia: A Systematic Review of Quantitative Studies (2015–2024)

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Abstract

Perinatal mental health disorders, especially depression and anxiety, are prevalent among women in low- and middle-income countries (LMICs), including Indonesia. These conditions can affect both maternal well-being and child development. This systematic review aimed to identify and synthesize key risk factors associated with perinatal mental health disorders among women in Indonesia. A systematic search was conducted in PubMed, Scopus, and Google Scholar for quantitative studies published between 2015 and 2024. Inclusion criteria included studies involving pregnant or postpartum women in Indonesia, using quantitative designs, and reporting on risk factors for depression and/or anxiety. The review followed PRISMA 2020 guidelines. Data extraction and screening were conducted manually by reviewers. Out of 434 identified records, six studies met the inclusion criteria. Most employed cross-sectional designs focused on sociodemographic, psychosocial, obstetric, and psychological factors. Common risk factors included young maternal age, low education, unstable employment, lack of social support, and history of mental illness. Several studies also identified low mental health literacy and poor maternal-fetal attachment as contributing factors. The included studies were mostly cross-sectional, limiting causal inference. This review highlights the need for routine mental health screening, greater provider training, and community-based interventions in maternal health care. Future research should prioritize longitudinal designs and assess the effectiveness of policy implementation

Introduction

Perinatal mental health disorders, encompassing the period from pregnancy to one year postpartum, have become a major concern in global public health (Gelaye *et al*., 2016; Howard & Khalifeh, 2020). Disorders such as perinatal depression and anxiety can negatively impact not only maternal well-being but also child development, including emotional bonding, physical growth, mental health, and cognitive outcomes. These conditions are particularly prevalent in low- and middle-income countries (LMICs), where healthcare resources and access to mental health services remain limited. Without early detection and appropriate intervention, the consequences of these disorders can persist across generations and increase long-term public health burdens (Glover, 2014; WHO, 2022).

Globally, despite the high prevalence of perinatal mental disorders, detection and management rates remain alarmingly low, particularly in low- and middle-income countries (Howard & Khalifeh, 2020). Key barriers include limited capacity within primary healthcare services, insufficient training for health workers in mental health screening, pervasive social stigma surrounding mental illness, and low mental health literacy among pregnant women and their families (Shorey *et al*., 2018; WHO, 2022). To address these gaps, the World Health Organization (WHO, 2022)

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recommends the routine integration of mental health screening into antenatal and postnatal care services. Some countries have responded with national policies: NHS (National Health Service) England, through its Long Term Plan, has committed to expanding perinatal mental health services up to two years postpartum (NHS England, 2023), while Australia enforces its National Perinatal Mental Health Guidelines, advocating for at least one screening during pregnancy and another in the postpartum period (Gidget Foundation Australia, 2023).

Similar challenges are observed in Indonesia. National data indicate that the prevalence of Common Mental Disorders (CMD) among pregnant and postpartum women reaches 8.4%, yet most cases go undetected in primary care settings (Ariasih *et al*., 2024). A study in Jakarta Misrawati & Afiyanti, (2020) found that over 25% of pregnant women experienced antenatal depressive symptoms, although only a small proportion received counseling or further intervention. The absence of routine screening systems, limited training among health professionals, and persistent mental health stigma contribute to poor early detection rates.

Numerous studies in Indonesia have identified consistent risk factors associated with perinatal mental health disorders. These include young maternal age, low educational attainment, unstable employment, lack of social support, and a history of mental illness. (Setyorini *et al*., 2023) reported that pregnant women with lower education, unplanned pregnancies, and obstetric complications are at heightened risk of psychological distress. (Syam *et al*., 2020)) emphasized that lack of spousal support and household economic insecurity significantly contribute to prenatal depression. Furthermore, (Sari *et al*., 2023) highlighted that low mental health literacy and high levels of social stigma among pregnant women exacerbate delays in seeking professional help, echoing global patterns (Gelaye *et al*., 2016; Glover, 2014). In response to these concerns, the Indonesian Ministry of Health issued a national policy in 2023 mandating mental health screening for all pregnant and postpartum women. The screenings are to be conducted twice during pregnancy (at the first and fifth antenatal care visits) and once during the postpartum period (between 8–28 days after delivery) (Kemenkes RI, 2023). This policy is supported by the development of digital platforms such as SATUSEHAT Mobile and SIMKESWA to enhance technology-based early detection, as well as nationwide training programs for healthcare providers (Kemenkes RI, 2024).

Although research on perinatal mental health in Indonesia has been increasing, studies that systematically synthesize quantitative findings remain limited. A comprehensive review is necessary to identify key risk factors, inform the implementation of national screening policies, and strengthen maternal mental health services at the primary care level. Therefore, this study aims to systematically review quantitative studies published between 2015 and 2024 that examined risk factors associated with perinatal mental health disorders in Indonesia. The findings are expected to inform future research, policy formulation, and clinical practices that support the integration of mental health into maternal care.

Methods

This study is a systematic review aimed at identifying and synthesizing the risk factors associated with perinatal mental health disorders in Indonesia. The synthesis framework adopts the PICO approach (Population, Intervention, Comparison, Outcome), a widely used model in evidence-based health research. The reporting of this systematic review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page *et al*., 2021). A systematic literature search was conducted in three databases: PubMed, Scopus, and Google Scholar. The search was carried out in January 2024, targeting articles published from January 1, 2015, to January 31, 2024, in English, and accessible in full text. The search strategy was developed using the PICO framework. The following keywords and Boolean operators were used: ("perinatal mental health" OR "Maternal mental health") AND ("depression" OR "anxiety") AND ("risk factors") AND ("Indonesia"). Duplicates were removed manually, and all screening was conducted independently by two reviewers.

Studies included in this synthesis met the following inclusion criteria:

Investigated perinatal mental health disorders (depression, anxiety, or both) among pregnant or postpartum women;

- Employed a quantitative research design (cross-sectional, cohort, or case-control);
- Focused on populations within Indonesia;
- Reported data on risk factors or determinants associated with perinatal mental health outcomes;
- Were published between 2015 and 2024, accessible in full-text, peer-reviewed, and sourced from reputable scientific journals indexed in international or national academic databases.

The exclusion criteria were as follows:

- Qualitative studies or other types of secondary literature reviews;
- Studies that did not focus on pregnant or postpartum women;
- Articles that were not available in full-text.

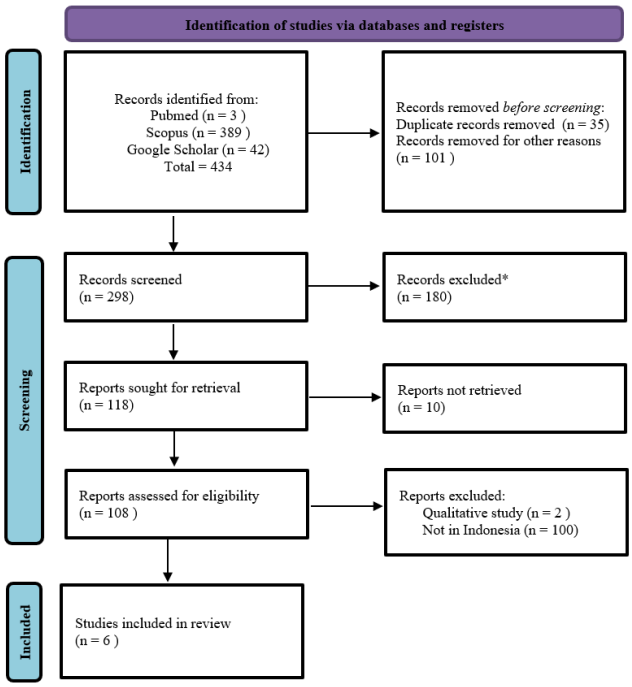
The study selection process followed the PRISMA 2020 flowchart, beginning with the initial identification of 434 articles retrieved from all databases. After removing duplicates and screening titles and abstracts, potentially relevant articles underwent full-text eligibility assessment. Studies that did not meet the inclusion criteria or were duplicate entries were excluded. A total of 6 studies met all inclusion criteria and were included in the final data synthesis.

Data from the six included studies were extracted independently by two reviewers using a standardized data extraction form. Discrepancies were resolved through discussion and consensus. The extracted items included: year of publication, study design, sample size, study location, population characteristics, investigated risk factors, and main findings related to perinatal depression or anxiety. The extracted data were then synthesized using a descriptive thematic approach and organized in both tabular and narrative forms. The methodological quality of the included studies was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Analytical Cross-Sectional Studies, which is appropriate for the designs of the included articles. Each study was evaluated independently by two reviewers based on eight criteria, including sample selection, measurement validity, and confounding factors. All studies met at least six of the eight criteria, indicating moderate to high methodological quality. The most common limitations identified were unclear handling of confounding variables and limited information on response rates. Disagreements between reviewers were resolved by discussion.

Result and Discussion

A total of 434 records were identified through systematic searches in PubMed (n = 3), Scopus (n = 389), and Google Scholar (n = 42). After removing 35 duplicate records and 101 records excluded for other reasons (such as irrelevant titles or inaccessible sources), 298 titles and abstracts were screened. Following screening, 118 full-text articles were retrieved for eligibility assessment. Of these, 10 articles were not accessible, and 102 were excluded, with primary reasons including non-Indonesian context (n = 100) and qualitative design (n = 2). In total, 6 studies fulfilled the inclusion criteria and were included in this review. All included studies employed quantitative designs, mostly cross-sectional, and examined risk factors for perinatal depression and/or anxiety. No automation tools were used in the selection process. All screening and eligibility steps were conducted independently by two reviewers through manual assessment.

Following the study selection process illustrated in the PRISMA 2020 flow diagram (Figure 1), a total of six studies were included in the final synthesis. These studies, published between 2015 and 2025, were retrieved from reputable international peer-reviewed journals and predominantly applied quantitative approaches, particularly cross-sectional study designs. To support thematic analysis and comparison, key information was extracted and compiled into a structured table. The table below presents a summary of each included study, covering the title, research design, characteristics of the study population, focus of investigation, and the main outcomes related to



**No automation tools were used; all screening was conducted manually by the reviewers.

Figure 1. PRISMA 2020 Flow Diagram of Study Selection Process

Tables 1. Summary of Included Studies: Study Design, Population, Focus of Investigation, and Key Outcomes

NO	TITLE	STUDY DESAIN	POPULATION	FOCUS OF INVESTIGATION	OUTCOME
1.	Common Mental Disorders and Associated Factors During Pregnancy and the Postpartum Period in Indonesia: An Analysis of Data From the 2018 Basic Health Research (Ariasih *et al*., 2024)	Cross-sectional Survey	Pregnant and postpartum women aged 15–49 years who are or have been married based on RISKESDAS, 2018.	Exposure to risk factors (sociodemographic, health, and obstetric) that may increase the likelihood of experiencing CMDs (Common Mental Disorders)	Significant factors associated with CMDs include sociodemographic (age, education, employment status), health (hypertension history, general health, smoking status, MUAC), and obstetric (obstetric history, pregnancy trimester, abortion history, pregnancy complications). All three domains were significant in postpartum women.
2.	Identifying risk factors of prenatal depression among mothers in Indonesia (Syam *et al*., 2020)	Cross-sectional Study	321 pregnant women with gestational age ≥12 weeks in Makassar, South Sulawesi, Indonesia	Exposure to risk factors (sociodemographic, psychosocial, obstetric, lifestyle, and health) potentially increases prenatal depression	Prenatal anxiety and depression symptoms were significantly associated with husband's education, family income, birth planning, fear of childbirth, planned/ previous C-section, and partner support.

3.	Exploring perinatal mental health in Indonesia: A mixed-method study in Mataram, West Nusa Tenggara (Harahap *et al*., 2024)	Cross-sectional study and ethnographic approach	33 postpartum women within the first month at Babakan Health Center	Exposure to demographic, social & familial, mental health history, obstetric, and environmental & economic risk factors	The history of adolescent mental health disorders showed a significant association with increased risk of PMH issues.
4.	Maternal age as a main factor influencing prenatal distress in Indonesian Primigravida (Ayu *et al*., 2019)	Cross-sectional	A total of 214 primigravida mothers at community health centers in Banten Province, Indonesia, participated in the study	The research examined the influence of maternal age and other factors—such as education level, income, gestational age, social support, history of traumatic experiences, satisfaction with paternal support, and pregnancy planning—on prenatal distress.	The study found that maternal age was the most influential factor affecting stress during pregnancy.
5.	Maternal Factors Influencing Postpartum Depression in Indonesia (Sari *et al*., 2023)	Cross-sectional	251 postpartum women (2–8 weeks) in Bandar Lampung, February–May 2023	Risk factors for postpartum depression (abortion history, previous depression, employment, education, family support)	Abortion history, age, parity, education, prior depression, employment status, and family support were associated with postpartum depression.
6.	Antenatal depression and its associated factors among pregnant women in Jakarta, Indonesia (Misrawati & Afiyanti, 2020)	Cross-sectional study	196 pregnant women aged 20–40 years at Menteng, Senen, and Ciracas Health Centers	196 pregnant women aged 20–40 years at Menteng, Senen, and Ciracas Health Centers	Age, education, employment, parity, gestational age, pregnancy planning, and family type were not significantly correlated. The history of depression was significantly correlated with antenatal depression.

perinatal mental health disorders.

This systematic review synthesized findings from six quantitative studies conducted in Indonesia between 2015 and 2024. The results demonstrate that perinatal mental health disorders, particularly depression and anxiety, are consistently associated with sociodemographic (e.g., young maternal age, low education), psychosocial (e.g., lack of partner support), obstetric (e.g., history of complications), and psychological factors (e.g., previous depression). These findings are consistent with global patterns reported in the systematic review by Fisher *et al*. (2012), which highlighted a significantly higher prevalence of perinatal mental disorders in low- and middle-income countries, including Indonesia. Consistently, factors such as young maternal age, low educational attainment, unstable employment, and lack of social support emerged as key predictors of perinatal mental health disorders(Ariasih *et al*., 2024; Ayu *et al*., 2019; Misrawati & Afiyanti, 2020)

Maternal age, particularly adolescent pregnancy, indicates a greater vulnerability to stress and depression. A study in Indonesia

found that younger mothers were more likely to experience prenatal distress than older mothers (Ayu *et al*., 2019). This is reinforced by the findings of (Jose Tilman *et al*., 2024), who associated adolescent pregnancy with more severe postpartum depression and prolonged stress affecting child well-being. Similarly, Mollborn & Morningstar (2009), emphasized that adolescent pregnancy consistently increases the risk of poor mental health outcomes due to social pressure, stigma, and limited access to support services. Expanding on these findings, a recent literature review by Lesinskienė *et al*. (2025) underscores that adolescent pregnancy poses substantial mental health risks, particularly in low- and middle-income settings. Pregnant adolescents experience disproportionately high rates of depression, suicidal ideation, low self-esteem, substance use, and anxiety. The review highlights the urgency for comprehensive, long-term solutions and multidisciplinary approaches that can improve both the mental and physical health support available to this vulnerable group. These findings collectively point to the necessity of targeted interventions that are developmentally appropriate, culturally sensitive, and embedded within the broader reproductive and maternal healthcare systems.

Low educational attainment also emerged as a consistent risk factor for perinatal mental disorders. Setyorini *et al*. (2023) found that pregnant women with lower levels of education had a limited understanding of mental health information, resulting in delays in help-seeking. Gelaye *et al*. (2016) similarly, we found that low education exacerbated the risk of prenatal depression in LMICs, largely due to limited health literacy. In China. Zhang *et al*. (2025) identified health literacy as a key mediator between education level and prenatal depression—women with higher education were less likely to experience depression. Educational disadvantage is also linked to limited access to care, economic vulnerability, and greater dependency on partners.

Beyond age and education, social support plays a critical protective role in mitigating perinatal mental health disorders. In Indonesia, Syam *et al*. (2020) demonstrated that lack of partner support was significantly associated with prenatal depression. This finding aligns with a longitudinal study by Leigh & Milgrom (2008), which reported that emotional support from partners and family effectively reduced the risk of developing postpartum depression. Parallel findings in Vietnam (Nguyen *et al*., 2021) and Pakistan (Waqas *et al*., 2020) further emphasize the importance of social support in reducing the risk of depression among pregnant women in low-resource settings. More recently, Umuziga *et al*. (2023) found that insufficient social support from partners and family significantly increased postnatal depressive symptoms among mothers in Rwanda. Likewise, a prospective cohort study in Australia by Bedaso *et al*. (2021)revealed that pregnant women with lower levels of emotional and informational support had significantly higher odds of experiencing antenatal depressive symptoms. Collectively, these studies underscore the essential role of social support—whether emotional, instrumental, or informational—as a protective factor against perinatal mental health problems. Integrating psychosocial screening into routine antenatal care and strengthening family- and community-based support systems are crucial strategies to improve maternal mental health outcomes, particularly in low- and middle-income countries.

In addition, Harahap *et al*. (2024), through an ethnographic approach, highlighted adolescent mental health history as a significant risk factor for postpartum mental health disorders. This is consistent with findings from Rees *et al*. (2016) in Timor-Leste, which revealed that exposure to intimate partner violence (IPV) and past trauma significantly increased the risk of depression. This shows that mental health vulnerabilities can persist over time, and adolescence is a critical period for identifying early mental health risks. If left untreated, these problems can reappear or worsen during stressful life events—such as childbirth and early parenting.

Complementing these perspectives, Maulina *et al*., (2025) contributed additional insight by examining how psychological factors affect not only emotional well-being but also behavioral outcomes. In a cross-sectional study involving 224 pregnant women in Indonesia,

they found that maternal-fetal attachment and maternal prenatal depression were the strongest predictors of adopting a health-promoting lifestyle. The study revealed that stronger maternal-fetal attachment was associated with better nutrition, physical activity, and stress management, whereas prenatal depression was negatively correlated with those behaviors. This finding extends the discussion beyond mental health outcomes and suggests that psychological well-being directly influences the mother's capacity to engage in protective health behaviors during pregnancy.

The strength of this synthesis lies in its broad geographic representation across Indonesia, the use of nationally representative datasets such as RISKESDAS (Ariasih *et al*., 2024), and the integration of both quantitative and qualitative approaches. However, most of the studies employed a cross-sectional design, collecting data at a single point in time. Consequently, they are limited in establishing causal relationships. Although associations were observed between risk factors (e.g., young age, low education) and mental health disorders, these studies do not provide definitive evidence of causality. Longitudinal research or randomized controlled trials (RCTs) are needed to draw stronger causal inferences. While the review offers important insights, it is not without limitations. All included studies applied cross-sectional designs, which limit causal inference. Moreover, no formal meta-analysis was performed due to methodological heterogeneity in measurement tools and population characteristics.

These findings underscore the urgency of integrating routine mental health screening into Indonesia's maternal and child health services. In line with WHO recommendations (WHO, 2022), the Indonesian Ministry of Health has issued a national policy mandating annual mental health screening for the general population, and specifically three screenings for pregnant and postpartum women: twice during pregnancy (at the first and fifth antenatal visits) and once postpartum (between 8–28 days after delivery). Implementation of this policy has been supported by the development of digital platforms such as SATUSEHAT Mobile and SIMKESWA, which facilitate early detection of mental health issues in primary care. The Ministry has also initiated mental health screening training programs for healthcare providers across all provinces, demonstrating a strong government commitment to strengthening perinatal mental health services nationwide.

The practical implications of these findings point to the need for expanding primary healthcare provider training in early detection, initial management, and referral for perinatal mental health disorders. Integration with national programs such as "Gerakan Masyarakat Hidup Sehat (GERMAS)" offers opportunities to broaden community-based mental health promotion more systematically. Looking ahead, more longitudinal research and RCTs are needed to evaluate the effectiveness of various intervention models—both community-based and technology-driven—in preventing and addressing perinatal mental health disorders. Participatory qualitative studies are also crucial to better understand the lived emotional experiences of pregnant and postpartum women within Indonesia's cultural context.

Conclusion

This systematic review identified consistent risk factors contributing to perinatal mental health disorders in Indonesia, including young maternal age, low educational attainment, inadequate social support, and a history of mental illness. These findings underscore the urgent need to integrate routine mental health screening into maternal care, strengthen health worker capacity, and promote culturally sensitive interventions. Future studies employing longitudinal or interventional designs are essential to establish causal relationships and inform effective, scalable mental health strategies for Indonesian women during the perinatal period.

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