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Determinants of maternal mental health during pregnancy: A systematic review

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Abstract

Background: The mental health of pregnant women is a critical public health issue because it affects the well-being of both the mother and the foetus. Conditions such as antenatal depression and anxiety in pregnant women are common but often go undetected

Purpose: To identify the determinants of mental health in pregnant women through a systematic review

Method: This study employed a systematic review method to identify, evaluate, and synthesize scientific evidence regarding the determinants of mental health in pregnant women. The article was prepared in accordance with the PRISMA guidelines to ensure transparency and the replicability of the research. A systematic literature search was conducted in several databases, including PubMed, ScienceDirect, and Google Scholar. The search focused on articles published between 2020 and 2026

Results: Sociodemographic factors, obstetric conditions, social support, and access to health care are the primary determinants of mental health among pregnant women

Conclusion: Community-based interventions and increased social support are needed to improve maternal mental health during pregnancy

Keywords: Determinants; Mental Health; Pregnancy.

INTRODUCTION

The mental health of pregnant women is an essential component of maternal and child health that is still often overlooked in the healthcare system. During pregnancy, women experience complex biological, psychological, and social changes, which increase their vulnerability to mental health disorders such as antenatal depression and anxiety. These disorders not only affect the mother's well-being but also impact fetal development and the quality of caregiving after birth (Leveau-Bartra, Chávez-Navarro, Calle-Vilca, Guerrero-Ortiz, Mejía-Lengua, Luján-Divizzia, & Medina-Vásquez, 2024). The mental health of pregnant women is a key aspect of efforts to improve the health of mothers and children. During pregnancy, women experience various physiological, hormonal, and psychological changes that can increase their vulnerability to mental health disorders,

particularly antenatal depression and anxiety. These conditions are often not adequately detected, especially in developing countries, and thus have the potential to cause long-term consequences for both the mother and the foetus (Muskens, Boekhorst, Kop, van den Heuvel, Pop, & Beerthuis, 2022).

The World Health Organization (WHO) reports that approximately 10% of pregnant women worldwide experience mental health disorders, particularly depression, and this figure rises to 15.6% in developing countries. Additionally, nearly 1 in 5 women experience mental health disorders during pregnancy through the postpartum period, indicating that this issue represents a significant global public health burden (World Health Organization, 2024). Studies show that approximately 10–20% of pregnant women experience depression or anxiety during pregnancy, with higher rates found in low- and middle-

income countries (Leveau-Bartra et al., 2024). Factors such as poverty, low levels of education, and limited access to health care significantly contribute to an increased risk of mental health disorders among pregnant women (Dadi, Miller, Bisetegn, & Mwanri, 2020).

The burden of maternal mental health is becoming increasingly significant when considered in the context of global maternal health indicators. The WHO reports that nearly 300.000 women die each year from complications related to pregnancy and childbirth, and many of these conditions are linked to complex social and health factors, including mental health. Additionally, maternal mental disorders are known to contribute to disability, reduced quality of life, and global economic losses amounting to approximately USD 1 trillion annually due to depression and anxiety (World Health Organization, 2025). Mental health disorders during pregnancy have far-reaching consequences. Conditions such as antenatal depression can increase the risk of preterm birth, low birth weight, and cognitive and emotional developmental disorders in children. In addition, untreated disorders during pregnancy may potentially develop into postpartum depression, which is one of the most common complications following childbirth and affects the mother-child relationship as well as the quality of caregiving (Yanti, Anarkie, & Saputri, 2026).

Various studies have identified that the mental health of pregnant women is influenced by multidimensional factors, including sociodemographic, obstetric, psychosocial, and environmental aspects. A lack of social support from partners and family is one of the primary risk factors consistently associated with an increased incidence of depression during pregnancy (Vargas, Luis, Barroso, Gallardo, & Pereira, 2020). In addition, experiences of stress, domestic violence, and a history of mental health disorders also play a significant role in determining the psychological well-being of pregnant women (Muskens et al., 2020). On the other hand, access to health care, particularly antenatal care (ANC), plays a crucial role in the early detection and management of mental health disorders during pregnancy. However, the integration of mental health screening into ANC services remains suboptimal in many countries, including Indonesia. As a result, many cases of mental health disorders among pregnant women go untreated (Lebel, MacKinnon, Bagshawe,

Tomfohr-Madsen, & Giesbrecht, 2020).

Mental health issues during pregnancy not only affect the mother but can also impact fetal development and increase the risk of pregnancy complications as well as postpartum depression after childbirth (Ciolac, Craina, Enatescu, Tudor, Bernad, Nitu, & Maghiari, 2023). Therefore, a comprehensive understanding of the determinants of mental health in pregnant women is essential for supporting the planning of effective, evidence-based interventions. Although numerous studies have addressed the mental health of pregnant women, the findings remain scattered and have not yet been systematically integrated. Consequently, a systematic review is needed to identify, evaluate, and synthesize the various factors influencing the mental health of pregnant women. This study aims to comprehensively examine the determinants of mental health in pregnant women based on available scientific evidence (Morikawa, Okada, Ando, Aleksic, Kunimoto, Nakamura, & Ozaki, 2025).

RESEARCH METHOD

A systematic review method to identify, evaluate, and synthesize scientific evidence regarding the determinants of mental health in pregnant women. The article was prepared in accordance with the PRISMA guidelines to ensure transparency and the replicability of the research. A systematic literature search was conducted in several databases, including PubMed, ScienceDirect, and Google Scholar. The search targeted articles published between 2020 and 2026. The keywords were formulated based on the PICOS framework and combined using Boolean operators (AND, OR), specifically: maternal mental health OR perinatal mental health, antenatal depression OR pregnancy anxiety, determinants OR risk factors. The inclusion criteria for this study were original research articles, a population of pregnant women, an examination of determinants or risk factors, articles in English or Indonesian, and availability of the full text. The exclusion criteria were review articles, editorials, or opinion pieces; studies focusing solely on the postpartum period; and articles with incomplete data. Article selection was conducted in several stages according to the PRISMA flowchart: identification (collecting articles from databases), screening (selection based on titles and abstracts), eligibility (assessing full texts against criteria), and the final stage, inclusion (incorporating articles meeting the criteria into the analysis).

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RESEARCH RESULTS

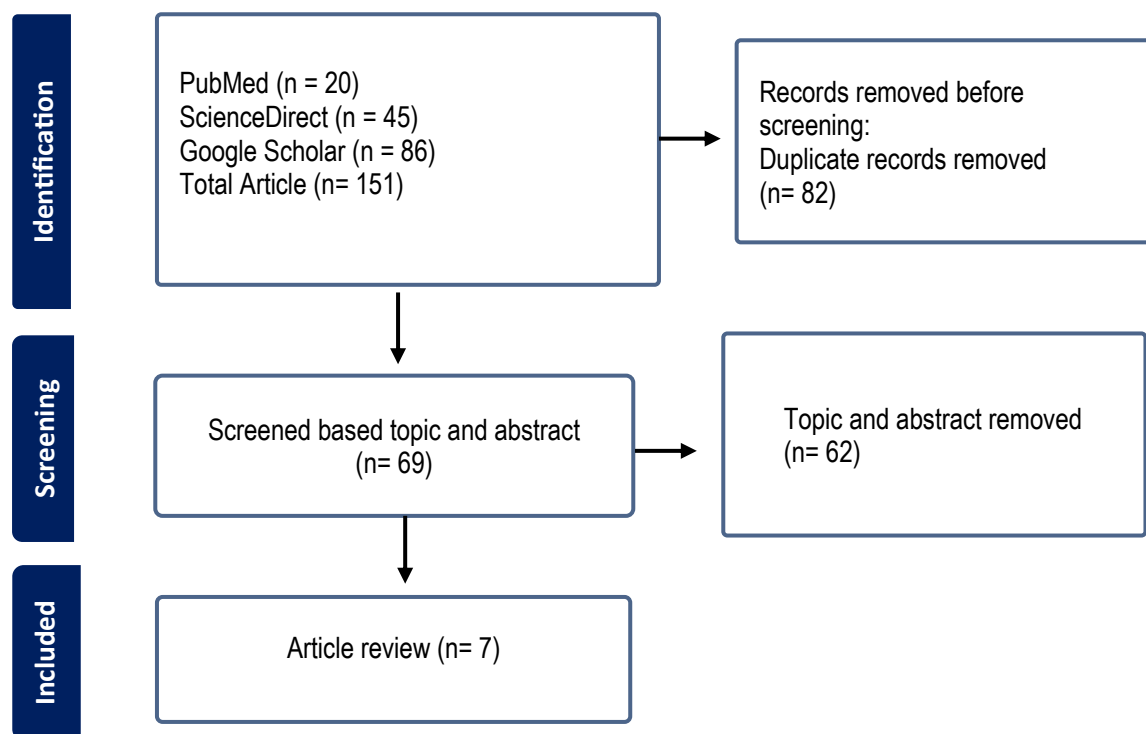


Figure 1. Diagram Prisma Flow

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Table 1. Characteristics of Eligible Literature

(Auhtor, Year) (Country)	Purpose	Method	Results
(Fitriani et al., 2026) (Indonesia)	To analyze the relationship between partner support and mental health among pregnant women	Cross sectional	A significant association between partner support and mental health ($p = 0.000$, $r = -0.629$)
(Yanti et al., 2026) (Indonesia)	To determine the relationship between family support and anxiety levels among third trimester pregnant women	Cross sectional	The results of the univariate analysis showed that more than half of the respondents—54.5% of pregnant women in their third trimester—had poor family support, and 57.6% of pregnant women in their third trimester had high levels of anxiety. There was a significant association between family support and anxiety levels among pregnant women in their third trimester, with a p-value of 0.003.
(Shoaib et al., 2025) (Pakistan)	To identify social support and other factors associated with perinatal depression among pregnant women	Cross - Sectional	Of the 262 pregnant women, 198 were identified as experiencing symptoms of depression caused by young age, low education, low socioeconomic status, unpleasant medical experiences, lack of spousal support, and domestic violence.
(Żyrek et al., 2024) (Poland)	To examine the effect of social support during pregnancy on the risk of postpartum depression	Prospective study survey	The more social support pregnant women receive, the lower their risk of mental health issues. Because humans evolved as cooperative breeders, they are inherently dependent on social support to raise children, and such allomaternal assistance can improve maternal well-being.

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(Tarafa et al., 2022) (Western Ethiopia)	To assess factors associated with pregnancy-related anxiety among pregnant women attending antenatal care	Cross Sectional	Anxiety levels among pregnant women are quite high, attributed to young age, low income, lack of social support, high perceived stress levels, depression, and unwanted pregnancies.
(Muskens et al., 2020) (Netherlands)	To investigate the association between unplanned pregnancy and depressive symptoms during the perinatal period	Longitudinal cohort study	Women with unplanned pregnancies (N = 111, 5.8%) consistently reported higher levels of depressive symptoms during pregnancy compared to women with planned pregnancies, with a p-value of $p < 0.001$.
(Lebel et al., 2020) (Canada)	To evaluate depression and anxiety symptoms among pregnant women during the COVID-19 pandemic	Cohort	The COVID-19 Pandemic Has Increased Anxiety Among Pregnant Women Regarding Healthcare Services.

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DISCUSSION

The results of this systematic review indicate that the mental health of pregnant women is influenced by multidimensional, interrelated factors, including sociodemographic, obstetric, psychosocial, and healthcare aspects. These findings reinforce the notion that mental disorders during pregnancy, such as antenatal depression and anxiety in pregnant women, are complex conditions that cannot be explained by a single determinant (Shoaib, Abbasi, Rizvi, & Ali, 2025). Sociodemographic factors, such as educational level, economic status, and occupation, act as structural determinants that influence individuals' ability to access health resources and social support. Studies show that pregnant women with low educational levels tend to have lower health literacy, making them less able to recognize symptoms of mental health disorders and seek appropriate help (Shoaib, Abbasi, Rizvi, & Ali, 2025; Wu, Jia, Shi, Niu, Yin, Xie, & Wang, 2021). This indicates that the mental health of pregnant women is not only a clinical issue but also a social issue related to health inequities and health equity (Hartley, Tomlinson, Greco, Comulada, Stewart, Le Roux, & Rotheram-Borus, 2021).

Psychosocial factors, particularly social support, have emerged as the most consistent determinant across the reviewed studies. Pregnant women with low levels of social support whether from their partners or families face a higher risk of developing mental health disorders. Conversely, emotional and instrumental support have been shown to act as protective factors against depression and anxiety during pregnancy (Żyrek, Klimek, Apanasewicz, Ciochoń, Danel, Marcinkowska, & Galbarczyk, 2024). This is consistent with the social determinants of health framework outlined by the World Health Organization, which emphasizes that social and environmental conditions have a significant impact on an individual's mental health (World Health Organization, 2024). Conceptually, social support can be understood in several dimensions: emotional support (empathy, affection), instrumental support (practical assistance), informational support (provision of information), and supportive validation (validation and positive reinforcement) (Vaezi, Soojoodi, Banihashemi, & Nojomi, 2019). These four dimensions play a role in enhancing pregnant

women's coping abilities when facing stress during pregnancy. Studies show that mothers who receive good emotional support from their partners tend to have lower stress levels and better psychological adaptability (Dadi et al., 2020).

Obstetric factors, such as unplanned pregnancies and a history of complications, have also been found to contribute to an increased risk of mental health disorders. Mothers with unplanned pregnancies tend to experience higher levels of anxiety due to a lack of psychological preparedness and social support (Tarafa, Alemayehu, & Nigussie, 2022). Unplanned pregnancies are often associated with negative emotional responses, such as initial denial, uncertainty about the future, and concerns regarding financial stability and interpersonal relationships. This can lead to increased psychological stress, which, if not properly managed, has the potential to develop into conditions such as anxiety in pregnant women or antenatal depression. Studies show that mothers with unplanned pregnancies are more likely to experience psychological distress compared to mothers who carefully planned their pregnancies (Muskens et al., 2020).

From a healthcare perspective, antenatal care (ANC) plays a strategic role in detecting and managing mental health disorders during pregnancy. However, the findings of this review indicate that the integration of mental health screening into ANC services is still not optimal (Lebel et al., 2020). Many countries, particularly developing nations, still focus primarily on the physical aspects of pregnancy and have not yet systematically incorporated mental health components. The World Health Organization notes that fewer than 50% of countries have mental health services integrated into their primary health care systems, resulting in many undiagnosed cases (WHO, 2025). These integration limitations are caused not only by a lack of policy but also by structural factors such as limited human resources, insufficient training for health workers, and a scarcity of simple, user-friendly screening tools in primary care settings. In practice, health workers particularly midwives and nurses are primarily focused on monitoring the physical condition of the mother and fetus, so psychological aspects are often neglected. In fact, ANC visits are an ideal opportunity for early detection of mental health disorders due to the high

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frequency of contact between pregnant women and health workers (Effati-Daryani, Zarei, Mohammadi, Hemmati, Ghasemi Yngyknd, & Mirghafourvand, 2020). In addition, the stigma surrounding mental health disorders also poses a barrier to the implementation of screening. Many pregnant women are reluctant to disclose their psychological condition for fear of being stigmatized or perceived as weak. This leads to underreporting and exacerbates the gap between service needs and access to mental health care. In this context, a therapeutic communication approach and a supportive service environment are key to increasing patient openness (Ike, Putri, & Fujiana, 2021).

Differences in context between developed and developing countries also emerged as a key finding in this review. In developing countries, factors such as poverty, domestic violence, and limited access to health care are the primary determinants of mental health among pregnant women. In contrast, in developed countries, factors such as work-related stress, social pressures, and a history of mental disorders are more prevalent (Woody, Ferrari, Siskind, Whiteford, & Harris, 2017). This indicates that the determinants of mental health are contextual and influenced by social, economic, and cultural conditions (Rinancy, 2018). The implications of these findings suggest that mental health interventions for pregnant women must be comprehensive and integrated. Community-based approaches, increased social support, and the integration of mental health screening into antenatal care (ANC) services are key strategies that need to be developed. In addition, interprofessional collaboration among nurses, midwives, and public health workers is essential to ensure holistic and sustainable care (Biaggi, Conroy, Pawlby, & Pariante, 2016).

CONCLUSION

Comprehensive efforts are needed to improve the quality of mental health services for pregnant women through the routine and systematic integration of mental health screening into antenatal care (ANC). Healthcare workers, particularly nurses and midwives, need to be equipped with adequate training in the early detection and initial management of mental disorders, so that they can provide more holistic care.

Additionally, therapeutic communication approaches need to be strengthened to reduce stigma and increase pregnant women's openness in discussing their psychological well-being.

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