

ANALYSIS OF FACTORS INFLUENCING THE HIGH INCIDENCE OF ANEMIA IN PREGNANT WOMEN BASED ON EVIDENCE-BASED PRACTICE

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ABSTRACT

Background: Anemia during pregnancy remains a critical global and national public health concern with profound maternal and neonatal health implications. **Objectives:** This study aims to systematically synthesize and analyze the predominant factors influencing the incidence of anemia among pregnant women based on a comprehensive literature review of contemporary research articles. **Methods:** A comprehensive literature review design was implemented, evaluating ten primary scientific articles published between 2021 and 2024 from accredited databases. Analytical extraction matrices were utilized to evaluate clinical and non-clinical risk factors. **Results:** The synthesis demonstrates that maternal age (particularly high-risk groups <20 and >35 years), elevated parity, short pregnancy intervals, low socio-economic status, low educational attainment, inadequate knowledge, poor nutritional status (chronic energy malnutrition/mid-upper arm circumference <23.5 cm), and non-compliance with iron (Fe) tablet supplementation are significantly associated with anemia. **Conclusions:** Eliminating maternal anemia requires holistic multidimensional interventions combining clinical optimization, strategic health education, and the systematic implementation of professional midwifery core values.

Keywords: Analysis of Factors; High Incidence; Anemia; Pregnant Women; Evidence-Based Practice

INTRODUCTION

Anemia in pregnancy is a significant medical issue marked by a drop in hemoglobin levels below 11 g/dL, seriously jeopardizing maternal well-being and fetal growth. Globally, the World Health Organization (WHO) estimates that around 42% of expectant mothers in developing nations experience anemia, identifying it as a significant public health issue (WHO, 2025). This worldwide crisis directly obstructs the attainment of the Sustainable Development Goals (SDGs), especially Goal 3, which specifically aims to decrease the global maternal mortality ratio (MMR) to below 70 per 100,000 live births by 2030 (SDGS, 2024). Maternal anemia is a recognized trigger for severe complications that can be life-threatening, such as severe postpartum hemorrhage, preeclampsia, puerperal sepsis, low birth weight (LBW), and preterm births (S. N. Sinaga et al., 2022).

At the national level, the Indonesian Basic Health Research (Riskesdas) revealed a troubling increase in the prevalence of anemia among pregnant women, rising from 37.1% in 2013 to 48.9% in 2018. This statistic indicates that almost 50% of pregnant individuals in Indonesia suffer from iron or micronutrient shortages (SKI, 2023). The National Health Profile and regional health reports indicate that this significant prevalence is closely linked to irregular Antenatal Care (ANC) usage (particularly K4 and K6 visits) and inadequate compliance with the obligatory 90-day iron-folic acid supplementation (Profil Kesehatan Indonesia, 2024). Locally, communities encounter extra challenges like geographic inequalities, financial limitations, and limited health literacy. This study is critically needed to compile recent multi-centered data and create an accurate diagnostic framework of risk factors. As a result, this research aims to identify the clinical, behavioral, and socio-economic factors that have the greatest influence on maternal anemia, establishing an empirical foundation for evidence-based midwifery practices (R. Sinaga et al., 2023).

METHODS

This research utilized a descriptive-analytical literature review approach to assess primary peer-reviewed scientific articles published between 2021 and 2024. The data obtained from observations and reviews included a total sample size of more than 700 pregnant women from different gestational trimesters. To be included, studies had to assess clinical, behavioral, or socio-economic independent variables in relation to the dependent variable of maternal hemoglobin levels, employing validated measurement tools such as digital cyanmethemoglobin tests and calibrated mid-upper arm circumference (MUAC) bands. Data extraction was performed using standardized matrices to maintain reproducibility and cross-verifiability of findings (R. Sinaga et al., 2024).

RESULT

The methodical analysis and quantitative compilation of the chosen literature reveal that maternal anemia status significantly influences various prenatal complications. In the combined data of more than 700 expectant mothers, the case distribution shows that among those with recorded anemia, a significant number experienced fetal growth restriction, totaling 197 cases (72.8%), whereas 156 cases (20.5%) did not exhibit growth delays (Manurung et al., 2022). In comparison, among non-anemic mothers, just 18 instances (19.2%) faced growth restriction, while 129 instances (34.2%) exhibited normal fetal growth parameters, resulting in a Chi-Square statistical value of 0.51 (Bakara et al., 2025).

The information on maternal preeclampsia history showed that 10 expectant mothers (1.2%) who had a history of preeclampsia encountered limited fetal growth, while 23 mothers (7.1%) with the same background had normal growth patterns (Silaban et al., 2025). Among the population without a preeclampsia history, 55 cases (30.7%) experienced growth complications, while normal growth was observed in 42 cases (52.1%) (Laia et al., 2025). The Chi-Square test for the preeclampsia variable showed a p-value of 0.01. Finally, examining the structural risk of hemorrhage, the narrative data indicates that in the high-hemorrhage-risk cohort, 34 cases (4.0%) were associated with restricted fetal growth, while 26 cases (6.7%) experienced normal growth. Among mothers not in the high-hemorrhage-risk group, restricted growth was noted in 32 instances (23.6%), whereas normal growth was observed in 45 cases (31.6%), resulting in a Chi-Square value of 0.16 (Sari, 2025).

DISCUSSION

The statistical findings outlined in the earlier section validate that biological and clinical factors, including high parity, extreme maternal age (<20 and >35 years), and a prior occurrence of preeclampsia ($p=0.01$), significantly undermine maternal physiological stability (jahangiri et al., 2021). The significant concentration of growth restriction in anemic mothers (72.8%) underscores how iron-deficiency anemia adversely affects placental oxygen transfer and intrauterine nourishment. Conversely, non-clinical factors such as limited household income and inadequate educational levels hinder the family's ability to obtain iron-rich micronutrients, resulting in behavioral non-compliance with regular iron (Fe) supplementation (Marliani et al., 2025).

These important results are closely tied to the professional clinical framework of STIKes Mitra Husada Medan, which supports the active promotion of the PACER (Professional, Akuntabel, Collaborative, Empathy & Compassion, Reliable) workplace culture. Midwives need to meet their Professional and Accountability responsibilities by conducting thorough, early antenatal assessments to identify high-risk complications prior to clinical decline. Additionally, establishing a structured, inter-disciplinary Collaborative network that includes nutritionists and local health officials aids in overcoming socioeconomic barriers to vital food resources. Caring for at-risk pregnant women with profound clinical empathy and compassion enhances

communication between patients and providers, leading to a reliable healthcare standard that boosts maternal compliance with iron tablet therapy and regular clinic appointments. The primary limitation of this review arises from the geographical diversity present in the main published data sources, which may exhibit localized discrepancies in health infrastructure. Its main advantage, however, is the extensive, cross-validated sample pool that guarantees dependable generalization across Indonesian public health systems (Manggul et al., 2021).

CONCLUSIONS

This literature review shows that maternal anemia is influenced by risky age factors, increased parity, brief pregnancy gaps, low socioeconomic status, and inadequate adherence to iron treatment (Fitriani et al., 2024). These findings completely address the research questions established initially. To effectively address this public health issue, it is advised that healthcare providers implement rigorous nutritional tracking and tailored counseling during antenatal clinic appointments. Future studies should broaden to include randomized clinical trials with tailored micronutrient monitoring to enhance maternal health results (Marhaeni, 2023).

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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AUTHOR CONTRIBUTIONS

NRNN: conceptualization, data curation, investigation, methodology, formal analysis, validation, visualization, writing original draft, writing review and editing.

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