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EVALUATION OF ANEMIA IN PREGNANCY: PREVALENCE, RISK FACTORS, AND CLINICAL OUTCOMES

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Abstract

Anemia during pregnancy remains a major public health concern, particularly in low- and middle-income countries. It is associated with increased maternal and fetal morbidity. This study aims to determine the prevalence of anemia among pregnant women, identify associated risk factors, and assess its impact on pregnancy outcomes.

Keywords: Anemia, Pregnancy, Hemoglobin, Maternal health, Obstetric outcomes

Introduction

Anemia in pregnancy is defined by the World Health Organization as a hemoglobin concentration less than 11 g/dL. It is a common complication that affects nearly 40% of pregnant women worldwide, with iron deficiency being the most frequent cause. The physiological demands of pregnancy, coupled with dietary insufficiencies, chronic infections, and closely spaced pregnancies, contribute significantly to this burden. Anemia during pregnancy has been linked to poor outcomes such as preterm birth, low birth weight, intrauterine growth restriction (IUGR), and increased risk of maternal mortality. This study aims to assess the prevalence, determinants, and outcomes of anemia in pregnancy within a clinical population.

Materials and Methods

A cross-sectional study was conducted between January and September 2024 in the obstetrics department of a regional tertiary hospital. A total of 350 pregnant women attending antenatal clinics were enrolled using systematic random sampling.

Inclusion criteria: Pregnant women between 14 and 40 weeks of gestation, aged 18–40 years.

Exclusion criteria: Women with diagnosed hematologic disorders (e.g., thalassemia, sickle cell anemia) or severe chronic illnesses.

Hemoglobin concentration was measured using an automated hematology analyzer. Anemia was categorized as mild (10–10.9 g/dL), moderate (7–9.9 g/dL), or severe (<7 g/dL). Additional data on socioeconomic status, dietary habits, iron supplementation, interpregnancy interval, and parasitic infections were collected via structured interviews.

Obstetric outcomes such as birth weight, gestational age at delivery, and Apgar scores were recorded.

Data were analyzed using SPSS version 25. Logistic regression was used to identify significant risk factors.

Results

The overall prevalence of anemia was 47.1% (n = 165). Among these, 60.6% had mild anemia, 35.2% moderate, and 4.2% severe.

Significant risk factors included:

- Inadequate iron supplementation (OR = 2.8; 95% CI: 1.7–4.4, $p < 0.001$)
- Low dietary iron intake (OR = 2.3; 95% CI: 1.4–3.7, $p = 0.002$)
- Parasitic infection (OR = 3.1; 95% CI: 1.6–5.8, $p = 0.001$)
- Interpregnancy interval < 18 months (OR = 1.9; $p = 0.02$)

Adverse outcomes in anemic mothers included higher rates of low birth weight (26.7% vs. 11.3%, $p < 0.001$), preterm delivery (14.5% vs. 6.1%, $p = 0.02$), and Apgar score <7 at 1 minute (18.2% vs. 8.9%, $p = 0.03$) compared to non-anemic women.

Discussion

The findings of this study underscore the high prevalence of anemia during pregnancy and its significant association with adverse perinatal outcomes. Inadequate iron supplementation and poor dietary intake remain major modifiable risk factors. Parasitic infections, particularly

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hookworm, also contribute to the problem in endemic areas. These results highlight the importance of routine screening, nutritional counseling, and comprehensive antenatal care, particularly in resource-limited settings.

Although this study provides valuable insight, limitations include its cross-sectional design and reliance on self-reported dietary data, which may introduce recall bias.

Conclusion

Anemia in pregnancy remains prevalent and poses substantial risks to both mother and fetus. Early detection and intervention through iron supplementation, dietary modification, and infection control can significantly improve maternal and neonatal outcomes. Public health strategies should focus on education and accessible prenatal care to address this issue effectively.

References

1. World Health Organization. (2012). Guideline: Daily iron and folic acid supplementation in pregnant women. Geneva: WHO.
2. Balarajan, Y., Ramakrishnan, U., Özaltin, E., Shankar, A. H., & Subramanian, S. V. (2011). Anaemia in low-income and middle-income countries. *The Lancet*, 378(9809), 2123–2135. https://doi.org/10.1016/S0140-6736(10)62304-5
3. Milman, N. (2008). Prepartum anaemia: prevention and treatment. *Annals of Hematology*, 87(12), 949–959.
4. Pena-Rosas, J. P., & Viteri, F. E. (2009). Effects and safety of preventive oral iron or iron+ folic acid supplementation for women during pregnancy. *Cochrane Database of Systematic Reviews*, (4).
5. Kumar, K. J., Asha, N., Murthy, D. S., Sujatha, M. S., & Manjunath, V. G. (2013). Maternal anemia in various trimesters and its effect on newborn weight and maturity: An observational study. *International Journal of Preventive Medicine*, 4(2), 193–199.