Prevalence and Severity of Anemia in Term Pregnant Women Admitted for Delivery: A Retrospective Study

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Background:

Anemia during pregnancy remains a significant public health concern and is associated with adverse maternal and neonatal outcomes, particularly in the presence of obstetric hemorrhage. While its prevalence has been extensively studied in low- and middle-income countries and within public healthcare systems, data regarding pregnant women assisted in private hospitals are scarce.

Objectives:

This retrospective observational study aimed to evaluate the prevalence and severity of anemia in term pregnant women admitted for delivery at a large private maternity hospital in southeastern Brazil, as well as its association with sociodemographic factors, obstetric characteristics, comorbidities, peripartum blood loss, and transfusion requirements.

Methods

- After approval by the institutional Research Ethics Committee, electronic medical records of women admitted for vaginal delivery or cesarean section between 01/2023, and 01/2024, were reviewed.
- Women aged ≥18 years, ASA II, with pregnancies at term (≥37 weeks), and with hemoglobin levels measured at hospital admission were included.
- Exclusion criteria comprised recent hospitalization, blood transfusion during pregnancy, active or chronic infections, oncologic disease, and incomplete records.
- Anemia defined as hemoglobin < 11.0 g/dL (WHO criteria) was classified as mild, moderate, or severe.

Results

- Of 9,783 admissions screened, 699 women met the inclusion criteria.
- The overall prevalence of anemia at admission was 15.0%, with all cases classified as mild (10.4%) or moderate (4.6%); no cases of severe anemia were identified. The median hemoglobin concentration was 12.6 g/dL.
- No significant associations were observed between anemia and maternal age, body mass index, race, educational level, parity, number of prenatal visits, fetal presentation, type of delivery, smoking status, previous bariatric surgery, or use of aspirin, enoxaparin, iron supplementation, prenatal vitamins.
- In contrast, anemia was significantly associated with the presence of thrombophilia and thrombocytopenia.
- Additionally, anemic women experienced greater peripartum blood loss and higher transfusion rates.
- Increasing volumes of blood loss were strongly associated with the presence of anemia at admission.

Conclusions

Even in a private healthcare setting with high prenatal care coverage and favorable socioeconomic conditions, anemia at the time of delivery remains clinically relevant.

Although predominantly mild or moderate, anemia was associated with increased blood loss and transfusion requirements, underscoring the importance of systematic screening and proactive management of anemia during pregnancy to improve maternal safety.