Qeios

Peer Review

# Review of: "Factors Associated With Hospital Outcomes for Cases of Anemia in Pregnancy at a Regional Level in Burkina Faso"

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Strengths:

i. Relevance: Addresses a critical public health issue in a low-resource setting with a high prevalence of anemia.

ii. Comprehensive Outcome Measure: Combines maternal and fetal outcomes, offering a holistic view of healthcare system performance.

iii. Robust Sample Size: 1,815 cases provide sufficient power for multivariable analysis.

iv. Methodological Rigor: Appropriate use of logistic regression and acknowledgment of limitations (e.g., retrospective design).

Suggestions:

Data Currency and Contextualization:

☒ Issue: Data from 2009–2011 may not reflect current trends.

☒ Suggestion: Discuss recent interventions (e.g., policy changes, programs like free maternal healthcare in Burkina Faso post-2016) and whether findings remain relevant. Consider a brief analysis of more recent data if accessible.

Handling Missing Data:

☒ Issue: 18% missing gestational age data categorized as “unknown” may introduce bias.

☒ Suggestion: Perform sensitivity analyses (e.g., multiple imputation) to assess the robustness of results. Clarify how the “unknown” group differed from others.

Definitions and Measurements:

☒ Issue: “Quality of anemia prevention” relies on antenatal visits and supplementation but overlooks

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dietary factors or compliance.

☒ Suggestion: Acknowledge this limitation and propose future studies to incorporate dietary data or patient adherence metrics.

Statistical Analysis:

☒ Issue: Use of an “unknown” category for gestational age in regression models.

☒ Suggestion: Justify this approach or explore alternative methods (e.g., trimester estimation techniques validated in similar settings).

Discussion Enhancements:

i. Systemic Factors: Expand on systemic barriers (e.g., blood transfusion access, healthcare worker training) contributing to repeated referrals.

ii. Maternal Mortality: Contextualize the extremely high maternal mortality ratio (3,732/100,000) against national averages and discuss potential causes (e.g., delays in care, resource limitations).

iii. Abortion Rates: Address cultural/legal factors influencing abortion reporting and access to safe procedures.

Generalizability and Recommendations:

☒ Issue: Findings are region-specific.

☒ Suggestion: Highlight actionable, scalable interventions (e.g., community-based iron supplementation, mobile prenatal clinics for rural areas) and call for multi-center studies to validate results nationally.

References:

☒ Issue: Some references are outdated (e.g., 2011 guidelines).

☒ Suggestion: Update citations (e.g., WHO 2020 guidelines on antenatal care, recent studies on anemia management in sub-Saharan Africa).

Ethical and Equity Considerations:

☒ Issue: High mortality in rural populations underscores inequities.

☒ Suggestion: Recommend targeted policies for rural healthcare access (e.g., telemedicine, transportation subsidies) in the conclusion.

The manuscript provides valuable insights into a pressing health issue. Addressing the points above, particularly data currency, missing data handling, and systemic factors, will enhance its impact. Emphasizing actionable recommendations will make the study a stronger tool for policymakers.

## Declarations

**Potential competing interests:** No potential competing interests to declare.