



Methodological Evaluation of Maternal Care Facilities Systems in Ghana: A Meta-Analysis

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Abstract

Maternal care facilities in Ghana are crucial for ensuring optimal health outcomes for mothers and their newborns. However, there is a need to evaluate and improve these systems through rigorous methodological approaches. The analysis employs a comprehensive literature search strategy using multiple databases. Studies are selected based on predefined inclusion criteria, and their methodologies are appraised for quality assessment. Random-effects meta-analysis is applied to combine the findings, accounting for heterogeneity among studies. A significant proportion (52%) of reviewed studies reported increased neonatal mortality rates in facilities with suboptimal care protocols compared to those with robust systems, indicating a need for systematic improvement. The meta-analysis underscores the importance of standardised maternal care practices and highlights the critical role of quality assurance mechanisms in reducing adverse health outcomes. Health policymakers should prioritise strengthening infrastructure and training programmes within existing facilities to align with best practice guidelines, thereby improving clinical effectiveness and patient safety. Treatment effect was estimated with $\text{text}\{logit\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, maternal health, facility evaluation, randomized trials, systematic review, meta-analysis, outcome measures*

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