



Methodological Assessment of Maternal Care Facilities in South Africa Using Quasi-Experimental Design for Clinical Outcome Measurement

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Abstract

Maternal care facilities in South Africa are crucial for ensuring maternal and neonatal health outcomes. However, there is a need to evaluate their effectiveness systematically. A quasi-experimental design was employed to measure clinical outcomes in South African maternal care facilities. The study utilised propensity score matching (PSM) with logistic regression for estimating causal effects. The analysis revealed that the proportion of newborns receiving timely neonatal care improved by 20% after facility upgrades, though there were variations across different regions. This quasi-experimental design provided robust evidence on the impact of facility upgrades on clinical outcomes in South African maternal care settings. Further research should focus on long-term follow-up and implementation strategies to sustain these improvements. Maternal Care, Quasi-Experimental Design, Clinical Outcomes, Propensity Score Matching Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Maternity, ClinicalEvaluations, QuasiExperimentalDesign, HealthSystemsResearch, OutcomeAssessment*

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