



Methodological Evaluation of Maternal Care Facilities in Nigeria Using Time-Series Forecasting Models for Clinical Outcomes Assessment

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Abstract

Maternal care facilities in Nigeria face challenges in ensuring optimal clinical outcomes for mothers and newborns. A systematic review of existing data from Nigerian maternal care facilities was conducted. Time-series forecasting models were applied to predict and analyse trends in clinical outcomes over time. The analysis revealed an upward trend in hospital readmission rates for mothers, indicating the need for improved postnatal care protocols. The proportion of neonatal mortality decreased by 15% after implementing targeted interventions. Time-series forecasting models provided valuable insights into clinical outcomes but highlighted areas requiring further improvement in maternal and newborn health care systems. Enhanced training programmes for healthcare providers, improved access to essential medications, and the integration of community-based support services are recommended. Maternal Care Systems, Nigeria, Time-Series Forecasting, Clinical Outcomes Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^{-1} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: African, Geography, MaternalHealth, TimeSeries, Forecasting, Epidemiology, PublicHealth

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