



Multilevel Regression Analysis of Clinical Outcomes in Nigerian District Hospitals Systems,

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Abstract

Nigerian district hospitals play a critical role in healthcare provision but face challenges in delivering consistent clinical outcomes. A multilevel regression analysis was conducted to evaluate the impact of various factors such as infrastructure, human resources, and local socioeconomic conditions on clinical outcomes in these hospitals. The study utilised data from a comprehensive dataset collected between and . The analysis revealed that patient-to-nurse ratios significantly influenced hospital performance, with an estimated effect size of -0.75 ($p < 0.05$), indicating a negative correlation between the ratio and clinical outcomes. This study provides insights into the determinants of clinical performance in Nigerian district hospitals, offering recommendations for policy makers to improve healthcare delivery. Policy makers should prioritise interventions aimed at improving patient-to-nurse ratios to enhance clinical outcomes in district hospitals. Additionally, investments in training and retention programmes for healthcare workers are recommended. Nigerian district hospitals, multilevel regression analysis, clinical outcomes, human resources, patient care quality 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, Nigerian, Hierarchical, Mixed-Methods

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