



Methodological Evaluation of Emergency Care Units Systems in Nigeria: A Multilevel Regression Analysis for Measuring Clinical Outcomes

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Abstract

Emergency care units (ECUs) in Nigeria face significant challenges affecting patient outcomes. A multilevel logistic regression model was employed to analyse data from 50 Nigerian ECUs, stratified by level (primary, secondary) and region. Data on patient demographics, treatment protocols, and outcome measures were collected over two years. Primary ECU systems showed a higher likelihood of positive clinical outcomes compared to secondary units (OR = 1.67, CI: 1.04-2.68), with significant regional variations in effectiveness. The multilevel regression analysis revealed that certain regional factors significantly influence the efficacy of ECU systems in Nigeria. Enhanced training programmes and standardised protocols should be implemented to improve outcomes across all ECUs, particularly in regions where effectiveness is lower. Emergency Care Units, Clinical Outcomes, Multilevel Regression Analysis, Nigeria

Keywords: *Geographic, Multilevel, Regression, African, Healthcare, Evaluation, System, Outcome*

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