



Methodological Evaluation of Emergency Care Units in Nigeria Using Difference-in-Differences Approach for Clinical Outcome Assessment

Fadiyi Ibrahim¹, Usman Musa^{1,2}

¹ University of Calabar

² Department of Epidemiology, University of Lagos

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Correspondence: fibrahim@gmail.com

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Author notes

Fadiyi Ibrahim is affiliated with University of Calabar and focuses on Medicine research in Africa.

Usman Musa is affiliated with University of Calabar and focuses on Medicine research in Africa.

Abstract

Emergency care units (ECUs) in Nigeria are critical for patient management during acute events. However, their effectiveness and efficiency vary significantly across different regions. A comprehensive search strategy was employed, including electronic databases and grey literature. Studies were selected based on predefined inclusion criteria, focusing on quantitative evaluation methods for clinical outcomes. The analysis revealed that the use of difference-in-differences model improved the assessment of ECU performance by accounting for potential confounders. A notable trend indicated a 20% improvement in patient survival rates attributed to standardised care protocols implemented in ECUs. This review underscores the importance of robust methodological approaches, particularly the difference-in-differences model, in evaluating ECU effectiveness and suggests further research with longitudinal data. Researchers should prioritise using validated statistical models like difference-in-differences to enhance the reliability of their findings. Policy makers are advised to implement standardised care protocols based on evidence from this review. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Nigerian, geographical, healthcare systems, evaluation methods, randomized trials, regression discontinuity, longitudinal studies*

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