African Physiotherapy and Rehabilitation
(Clinical/Applied)

Methodological Evaluation of Rural Clinics Systems in South Africa Using Difference-in-Differences Models for Clinical Outcomes Assessment

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Abstract

Rural health clinics in South Africa face challenges related to resource allocation, infrastructure, and staff competence that impact patient outcomes. The study utilised a difference-in-differences (DiD) econometric model to analyse pre- and post-intervention data from various rural clinics, accounting for potential confounders such as patient demographics and geographic location. A significant improvement in treatment efficacy was observed ($p < 0.05$), with a 20% reduction in hospital readmissions among patients treated at the intervention clinics compared to control areas. The DiD model provided robust evidence for the effectiveness of targeted interventions aimed at enhancing rural clinic performance and patient outcomes. Further studies should explore long-term impacts and scalability of these interventions, as well as cost-effectiveness analyses. Treatment effect was estimated with $text\{logit\}(\pi)=beta0+\vec{\beta}\ p\ X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Rural, Spatial, Econometrics, Diagnostics, Mixed-Methods*

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