



Methodological Assessment of Quasi-Experimental Designs in Rural Clinics Systems within Rwanda: A Meta-Analysis

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Abstract

Rural clinics in Rwanda often use quasi-experimental designs to assess clinical outcomes. However, these methods require rigorous methodological assessment for reliable results. We employed a comprehensive review approach to synthesize data from multiple studies. Our analysis included statistical methods for assessing bias and validity. In our synthesis, we identified a significant proportion (35%) of quasi-experimental designs lacking adequate control groups, which could affect the generalizability of findings across clinics. The methodological quality of quasi-experimental designs varied widely among studies reviewed. Future research should prioritise robust design elements to enhance reliability. Clinic managers and researchers should adopt standardised protocols for conducting quasi-experiments, including proper control group implementation and clear reporting of study methods. 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, Rwanda, Quasi-experimental, Methodology, Evaluation, Randomization, Bias*

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