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Quasi-Experimental Design in Off-Grid Communities: Evaluating Clinical Outcomes in Ugandan Quarters

Kabasirwe Okello[1], **Mukasa Nakalewa**[2], **Tumwesigye Byaruhanga**[2,3], **Kizza Namayanje**[1]

[1] Mbarara University of Science and Technology

[2] Kyambogo University, Kampala

[3] Department of Cybersecurity, Kampala International University (KIU)

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Correspondence: kokello@gmail.com

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Author notes

Kabasirwe Okello is affiliated with Mbarara University of Science and Technology and focuses on Computer Science research in Africa.

Mukasa Nakalewa is affiliated with Kyambogo University, Kampala and focuses on Computer Science research in Africa.

Tumwesigye Byaruhanga is affiliated with Kyambogo University, Kampala and focuses on Computer Science research in Africa.

Kizza Namayanje is affiliated with Mbarara University of Science and Technology and focuses on Computer Science research in Africa.

Abstract

Off-grid communities in Uganda face unique healthcare challenges due to limited access to electricity and infrastructure. A mixed-methods approach combining quantitative data from randomized controlled trials with qualitative insights from interviews and focus groups was employed to assess patient satisfaction and health service utilization. Telemedicine usage increased by 20% in randomly selected communities over a six-month period, demonstrating positive engagement despite initial skepticism among users. The quasi-experimental design successfully identified improvements in telemedicine adoption without significant negative side effects on existing healthcare systems. Further research should explore long-term impacts and scalability of telemedicine models within Ugandan off-grid communities to inform policy decisions. quasi-experimental design, off-grid communities, telemedicine, clinical outcomes, Uganda Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, African, Literature, SocialSciences, Ethics, Qualitative, ExperimentalDesign*

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