



Home-Based Cardiopulmonary Exercise Interventions for HIV-Positive Youth in Kampala Slums: A Perspective from Uganda's Urban Context,

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Abstract

Home-based cardiopulmonary exercise interventions have shown promise in improving cardiovascular health among HIV-positive populations globally. However, their application in urban slums remains underexplored. A cross-sectional study design was employed to assess participants' baseline fitness levels and their responses to a structured home exercise programme. Data collection included self-reported physical activity logs and medical records review. Participants reported an average of 5 days per week of moderate-intensity exercise, with significant improvements in maximal oxygen uptake (VO₂ max) compared to pre-intervention levels ($p < 0.05$). Home-based exercises were well-received and promoted adherence among HIV-positive youth in Kampala slums, warranting further research into long-term health outcomes. Future studies should explore the integration of these programmes with existing healthcare services to enhance sustainability and impact. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: African Context, Home-Based Care, HIV/AIDS, Youth, Exercise Interventions, Urban Health, Public Health Strategies

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