Analytical Framework for Evaluating Community Health Worker Training Programmes on TB Awareness in Kibera Slum Residents, Tanzania

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Abstract

Tuberculosis (TB) remains a significant public health challenge in Tanzania, particularly within marginalized communities like Kibera Slum. Limited community health worker training programmes have been implemented to enhance TB awareness among residents. A mixed-methods approach was employed, integrating quantitative data from pre- and post-training surveys with qualitative insights through semi-structured interviews. Survey responses were analysed using a two-stage hierarchical linear model (HLM) to assess knowledge gain over time. Interview transcripts underwent thematic analysis to identify key themes. Analysis of the HLM revealed an average increase in TB awareness scores from baseline to post-training, with a significant proportion (35%) demonstrating substantial improvement in understanding of TB transmission and prevention strategies. Interviews highlighted the importance of ongoing support and community engagement for sustained knowledge retention. The analytical framework provides insights into effective training methodologies that can be scaled up to other communities facing similar health challenges. Future research should focus on evaluating long-term outcomes and exploring how different intervention strategies impact TB awareness across diverse populations. TB Awareness, Community Health Workers, Kibera Slum, HLM Model Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

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