Mobile Health Interventions in TB Control: A Two-Year Urban South African Case Study

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Abstract

The global tuberculosis (TB) epidemic disproportionately affects urban areas in low- and middle-income countries, necessitating innovative control strategies. A mixed-methods approach was employed, including SMS-based symptom screening, peer-led education sessions, and follow-up appointments. Data were collected through surveys and administrative records. SMS-based symptom screenings detected an average of 25% more TB cases than traditional methods, with a confidence interval (CI) for the detection rate at 95% CI: 18-34%. Peer-led education sessions led to a significant increase in knowledge about TB transmission and prevention. Mobile health interventions showed promise in improving TB case detection and community engagement, suggesting their potential as scalable control strategies. Further research should explore the sustainability of these interventions and their impact on TB-related healthcare outcomes. TB Control, Mobile Health Interventions, Urban South Africa, SMS-Based Screening The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Sub-Saharan, African, Networks, Social, Digital, HIV, Trajectories, Interventions*

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