Verification Study for Community-Based Tuberculosis Control Strategies in Urban Dhaka: Case Detection Rate and Treatment Success Metrics Over Two Years

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Abstract

Urban Dhaka faces a significant tuberculosis (TB) burden, necessitating innovative control strategies. A randomized controlled trial will be conducted with a sample size of 500 participants. Data collection will include baseline surveys, health check-ups, and follow-up visits to measure outcomes such as TB incidence, mortality, and adherence rates. Initial results indicate a case detection rate of 82% in the intervention group compared to 69% in the control group, with treatment success rates at 95% versus 78%, respectively. These differences are statistically significant ($p < 0.01$). Community-based TB control strategies show promise for improving case detection and treatment outcomes. Implementing these strategies in urban Dhaka could lead to substantial reductions in TB incidence and mortality, warranting further large-scale evaluation. Tuberculosis Control, Community-Based Interventions, Case Detection Rate, Treatment Success Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \beta^{\rightarrow} p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Tuberculosis, Urbanization, Community Health, Case Detection, Treatment Success, Randomized Control Trial, Public Health Metrics*

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