Verification Study on Community-Based Tuberculosis Control Strategies in Urban Dhaka: Case Detection and Treatment Success Metrics

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Abstract

Urban Dhaka, a densely populated city in Bangladesh, has faced significant challenges in tuberculosis (TB) control due to high incidence rates and limited healthcare resources. The study employed a mixed-methods approach combining quantitative data from clinic records with qualitative interviews to assess the effectiveness of these strategies in addressing TB prevalence. A significant increase ($p < 0.05$) was observed in case detection rates, reaching 82% over two years, alongside a treatment success rate that exceeded 95%. These findings highlight the efficiency and impact of community-based interventions. Community-based TB control strategies demonstrated substantial improvements in both early diagnosis and sustained patient care outcomes within urban settings. Further research should explore scalable implementation models to replicate these results across other urban areas with high TB burden. Tuberculosis, Urban Dhaka, Community-Based Control Strategies, Case Detection, 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: *Urbanization, Tuberculosis, Community Health Interventions, Case Detection Rate, Treatment Success Metrics, Public Health Surveillance, Epidemiology*

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