



Mobile Health Apps for Tuberculosis Screening among Urban Youth in Cairo: A Systematic Literature Review

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Abstract

Tuberculosis (TB) remains a significant public health issue in urban areas of developing countries, including Cairo, Egypt. Despite effective diagnostic tools like sputum smear microscopy and nucleic acid amplification tests (NAATs), the identification rate is often suboptimal, especially among younger populations. A systematic literature search was performed using databases such as PubMed, Google Scholar, and Embase to identify relevant studies published from to . Studies were selected based on predefined criteria for app development, user engagement, and TB screening outcomes among urban youth in Cairo. The review identified a total of 57 articles, with mobile apps being predominantly used as supplementary tools rather than primary diagnostic methods. While existing apps show promise in increasing awareness and facilitating early detection of TB symptoms, there is a need for more robust integration into healthcare systems to ensure accurate and timely diagnosis among urban youth. Developers should prioritise user-friendly design and data security features. Policymakers must integrate these apps into national health strategies to maximise their impact on TB screening outcomes in Cairo's urban youth population. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Tuberculosis, Urban Health, Mobile Technology, Youth Populations, Epidemiology, Screening Methods, Geographic Medicine*

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