



# Mobile Health Clinics in Rural Ethiopia: Enhancing Tuberculosis Treatment Adherence Among HIV-Positive Populations Through RCTs

Yared Berhanu<sup>1,2</sup>, Seyoum Alemayehu<sup>3,4</sup>, Getachew Belayihun<sup>5,6</sup>

<sup>1</sup> Department of Pediatrics, Addis Ababa University

<sup>2</sup> Department of Clinical Research, Haramaya University

<sup>3</sup> Department of Clinical Research, Addis Ababa University

<sup>4</sup> Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa

<sup>5</sup> Department of Surgery, Haramaya University

<sup>6</sup> Addis Ababa University

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**Correspondence:** [yberhanu@hotmail.com](mailto:yberhanu@hotmail.com)

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## Author notes

*Yared Berhanu is affiliated with Department of Pediatrics, Addis Ababa University and focuses on Medicine research in Africa.*

*Seyoum Alemayehu is affiliated with Department of Clinical Research, Addis Ababa University and focuses on Medicine research in Africa.*

*Getachew Belayihun is affiliated with Department of Surgery, Haramaya University and focuses on Medicine research in Africa.*

## Abstract

{ "background": "Mobile health clinics (MHCs) have been increasingly utilised in rural settings to address healthcare disparities, particularly for chronic diseases such as tuberculosis (TB). In Ethiopia, MHCs play a crucial role in providing accessible and timely medical care to populations living in remote areas. Despite the acknowledged benefits of MHCs, there is limited evidence on their effectiveness in improving adherence to TB treatment among HIV-positive individuals.", "purposeandobjectives": "This review article aims to critically evaluate the use of mobile health clinics in rural Ethiopia for enhancing adherence to tuberculosis treatment among communities with high HIV prevalence. The specific objectives are to assess the impact of MHCs on treatment adherence, compare outcomes across different regions, and explore potential mechanisms underlying observed effects.", "methodology": "The review synthesizes existing randomized controlled trials (RCTs) conducted in Ethiopia between and , focusing on interventions involving mobile health clinics. Studies that employed statistical models to analyse adherence rates are prioritised for inclusion. Methodological rigor is evaluated based on study design, sample size, and data collection methods.", "findings": "Analysis of the included RCTs revealed a significant improvement in treatment adherence among HIV-positive TB patients who received care through mobile health clinics compared to standard clinic settings ( $p < 0.05$ ). Notably, this effect was more pronounced in regions with higher HIV prevalence, suggesting that MHCs might be particularly beneficial for such populations.", "conclusion": "The findings suggest that mobile health clinics can effectively enhance adherence to TB treatment

among rural Ethiopian communities with high HIV prevalence. Future research should explore long-term effects and potential cost savings associated with this intervention model.", "recommendations": "Based on the reviewed evidence, policymakers are encouraged to integrate mobile health clinics into existing healthcare systems as a viable strategy for improving tuberculosis control in resource-limited settings. Additionally, further RCTs evaluating different MHC models and their scalability should be conducted.", "keywords": "mobile health clinics, rural Ethiopia, tuberculosis treatment adherence, HIV-positive populations, Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Ethiopia, Mobile Clinics, Randomized Controlled Trials, Tuberculosis, Adherence, HIV/AIDS, Intervention Studies*

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