



# Implementation and Analysis of a Tuberculosis Community Health Worker Programme in Niger's Semi-Arid Regions,

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## Abstract

Tuberculosis (TB) remains a significant public health challenge in Niger's semi-arid regions, where socio-economic conditions and environmental factors contribute to high infection rates. A comprehensive search strategy was employed across multiple databases, including PubMed and Web of Science. Studies published between and were included for analysis, with data extraction using a standardised form. The review identified a significant decline in TB incidence among community members who received health worker intervention ( $p < 0.05$ ), suggesting the programme's effectiveness in reducing transmission rates. While the programme demonstrated initial success in lowering TB prevalence, it encountered challenges related to funding and sustainability that need addressing for long-term impact. Further research should explore sustainable financing mechanisms and strategies to maintain community health worker programmes post-intervention. Treatment effect was estimated with  $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^{-1} p X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Tuberculosis, Niger, Semi-arid Regions, Community Health Workers, Programme Evaluation, Public Health Strategies, Socioeconomic Factors*

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