African Health Economics (Medical focus)

Xpert-RNA Testing Accuracy in Early Diagnosis of Tuberculosis Among Rural DRC Communities: A Senegalese Meta-Analysis

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Abstract

Xpert-RNA testing has emerged as a significant tool for early diagnosis of tuberculosis (TB), particularly in resource-limited settings like rural DRC communities. The study employed a systematic review approach, synthesizing data from nine-month studies conducted in Senegal. Findings indicate that Xpert-RNA testing had a sensitivity of 85% for detecting TB cases among rural DRC communities with a 95% confidence interval (CI). The results suggest that Xpert-RNA can significantly enhance early diagnosis and treatment initiation, potentially reducing TB morbidity and mortality. Health authorities should consider integrating Xpert-RNA testing into routine diagnostic protocols for rural DRC communities to improve TB control efforts. Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, diagnostic accuracy, meta-analysis, resource-limited settings, tuberculosis detection, Xpert-RNA, serological assessment*

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