



Adoption and Accuracy of a Rapid Diagnostic Test for Typhoid Fever in Outpatient Departments of Blantyre District, Malawi: A Qualitative Study

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Abstract

Typhoid fever remains a significant public health burden in Malawi, with outpatient diagnosis historically reliant on clinical judgement. The introduction of a typhoid rapid diagnostic test (RDT) in Blantyre District's outpatient departments (OPDs) represents a potential shift in practice, but factors influencing its adoption and implementation accuracy are not well understood. This study aimed to explore healthcare workers' experiences, perceptions, and practices regarding the adoption and use of the typhoid RDT in OPDs of district hospitals in Blantyre, Malawi, to identify facilitators and barriers to its correct implementation. A qualitative study was conducted using semi-structured interviews with a purposive sample of clinicians and nurses from multiple OPDs. Interviews were audio-recorded, transcribed verbatim, and analysed using thematic analysis. Three key themes emerged: (1) Trust in the RDT's results was high, but this sometimes led to over-reliance, with clinicians occasionally disregarding contradictory clinical signs. (2) Stock-outs of test kits and consumables were a recurrent, major barrier to consistent adoption. (3) A significant proportion of participants reported difficulties in interpreting faint test lines, leading to potential inaccuracies in result reporting. While the typhoid RDT is generally accepted by healthcare workers, its adoption is inconsistent and its accuracy in practice is compromised by systemic supply issues and user interpretation challenges. This undermines its potential to improve typhoid management. To improve adoption and accuracy, health system managers should ensure reliable supply chains for RDT kits and provide targeted, practical training focusing on test interpretation. Further operational research is needed to assess

the test's real-world clinical impact. typhoid fever, rapid diagnostic test, qualitative research, Malawi, outpatient department, implementation This study provides insights into the contextual factors affecting the adoption and accurate use of a new typhoid RDT in a routine outpatient setting in Malawi, highlighting critical health system and user-related barriers that must be addressed for successful integration.

Keywords: *Typhoid fever, Rapid diagnostic tests, Qualitative research, Sub-Saharan Africa, Health services accessibility, Diagnostic accuracy, Outpatient departments*

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