



A Systematic Review of Community Health Worker-Led Hypertension Management with Digital Pillboxes for Blood Pressure Control in Ibadan, Nigeria

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Abstract

Hypertension is a leading cause of morbidity and mortality in Nigeria, with control rates remaining suboptimal. In Ibadan, challenges in medication adherence and sustained blood pressure monitoring persist. Community health worker (CHW) programmes, augmented by digital health tools such as digital pillboxes, present a potential strategy to improve management within community settings. This systematic review aimed to synthesise existing evidence on the impact of a CHW-led hypertension management programme using digital pillboxes on blood pressure control among patients in Ibadan, Nigeria. A systematic search of multiple electronic databases was conducted following PRISMA guidelines. Peer-reviewed studies evaluating CHW-led interventions that incorporated digital pillboxes for hypertension management in Ibadan were eligible for inclusion. Studies were screened, selected, and data were extracted independently by two reviewers. The quality of included studies was appraised using appropriate tools. No empirical studies meeting the inclusion criteria were identified. The search revealed a significant gap in primary research specifically evaluating the combined use of CHWs and digital pillboxes for hypertension control in this geographical context. Available literature focused on either CHW programmes or digital adherence tools in isolation, but not their integrated application in Ibadan. There is a notable absence of direct evidence on the impact of integrated CHW-digital pillbox interventions for hypertension control in Ibadan. This underscores a critical evidence gap regarding the potential synergistic effect of this combined approach in a real-world setting. Primary research, including robust feasibility studies and randomised controlled trials, is required to evaluate the effectiveness and cost-effectiveness of this integrated intervention model. Future studies should also investigate implementation barriers and facilitators from the perspectives of CHWs and patients. systematic review, hypertension, community health workers, digital pillbox, medication adherence, blood pressure control, Nigeria, Ibadan This review identifies and delineates a specific gap in the evidence base for a combined community health worker and digital health intervention for hypertension management in Ibadan, Nigeria. It provides a foundation and rationale for future primary research in this area.

Keywords: *Hypertension, Medication adherence, Community health workers, Telemedicine, Sub-Saharan Africa, Blood pressure monitoring, Digital health*

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