A Systematic Review of Mobile Health Interventions for Pre-ART Retention in Southern Africa: Evaluating Appointment and Medication Reminders in Maputo, 2003

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Abstract

Retention in care prior to antiretroviral therapy (ART) initiation remains a critical challenge in sub-Saharan Africa, with high rates of pre-ART loss to follow-up undermining the HIV care continuum. Mobile health (mHealth) interventions, including appointment and medication reminders, are increasingly deployed in Southern Africa to improve engagement, but their specific impact on pre-ART retention requires systematic evaluation. This systematic review aimed to synthesise evidence on the impact of mobile app-based appointment and medication reminder systems on pre-ART retention among newly diagnosed individuals in Maputo City, Mozambique. Its objective was to evaluate the efficacy of such interventions in improving clinic attendance and adherence to pre-treatment protocols. A systematic search of peer-reviewed literature was conducted across major electronic databases. Studies were included if they evaluated mHealth reminder interventions targeting pre-ART populations in Southern Africa, with a specific focus on Maputo. Data extraction and quality assessment were performed independently by two reviewers using standardised tools. The search yielded a limited number of studies meeting the inclusion criteria. No studies were identified that specifically evaluated a mobile app-based intervention for pre-ART retention in Maputo. Consequently, no empirical results on the impact of the specified intervention are available. The review identified a significant evidence gap for this specific intervention type and setting. There is a notable absence of peer-reviewed evidence on the impact of dedicated mobile app-based reminder systems on pre-ART retention in Maputo. This underscores a critical gap in the literature, despite the recognised potential of mHealth strategies in the region. Future primary research should prioritise robust, context-specific evaluations of mHealth applications for pre-ART engagement in Southern Africa. Programme planners should consider piloting such interventions with embedded rigorous evaluation to generate actionable evidence for scale-up. mHealth, HIV, pre-ART retention, loss to follow-up, Southern Africa, Mozambique, systematic review This review systematically maps the existing evidence and identifies a specific, critical gap regarding mobile app-based interventions for pre-ART retention in Maputo. It provides a clear rationale and direction for future primary research and informed programme development in this field.

Keywords: *HIV, pre-ART retention, loss to follow-up, mobile health, sub-Saharan Africa, reminder systems*

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