



# A Scoping Review of Mobile Phone-Based Interactive Voice Response Systems for Postpartum Depression Screening in KwaZulu-Natal, South Africa: An African Perspective

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## Abstract

Postpartum depression is a significant public health concern in South Africa, with high prevalence and substantial barriers to screening, particularly in resource-limited settings. Mobile health technologies, such as interactive voice response systems, offer a potential avenue for scalable screening. This review focuses on the KwaZulu-Natal province, a region with distinct socio-cultural and healthcare infrastructure challenges. The purpose of this scoping review was to map and synthesise evidence on the effectiveness of mobile phone-based interactive voice response systems for postpartum depression screening in KwaZulu-Natal. The objective was to identify key themes, reported outcomes, and gaps in the literature to inform future research and practice. A scoping review was conducted following established frameworks. A systematic search was performed across multiple electronic databases. Studies were included if they focused on interactive voice response systems for postpartum depression screening in KwaZulu-Natal. Data were extracted and analysed using thematic analysis. The search yielded a limited but informative body of literature. Findings indicate that interactive voice response systems are generally feasible and acceptable in this context, with studies reporting high completion rates for screening calls. A prominent theme was the system's ability to overcome geographical and stigma-related barriers to access. However, evidence on clinical effectiveness and long-term implementation challenges remains sparse. Interactive voice response systems show promise for increasing the reach of postpartum depression screening in KwaZulu-Natal. While initial evidence supports feasibility and acceptability, significant gaps exist regarding integration into clinical pathways, cost-effectiveness, and impact on care outcomes. Future research should prioritise robust, mixed-methods studies to evaluate clinical efficacy and implementation strategies. Policy development should consider how such systems can be sustainably integrated into existing maternal health programmes, with attention

to digital literacy and resource allocation. postpartum depression, screening, interactive voice response, mHealth, mobile phone, South Africa, KwaZulu-Natal, scoping review. This review consolidates existing evidence on a specific mHealth application in an under-researched context, providing a foundation for researchers and policymakers aiming to address postpartum depression screening gaps in similar African settings.

**Keywords:** *Postpartum depression, mHealth, Interactive voice response, Screening, KwaZulu-Natal, Sub-Saharan Africa, Perinatal mental health*

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