A Meta-Analysis of Mobile Phone-Based Interactive Voice Response for Postpartum Depression Screening in Ibadan, Nigeria: An African Perspective, 2008

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Abstract

Postpartum depression is a significant public health concern in Nigeria, with many cases undetected due to barriers in traditional screening methods. Mobile health interventions, including interactive voice response systems, present a potential solution for improving screening accessibility in low-resource settings. This meta-analysis aimed to synthesise evidence on the effectiveness of a mobile phone-based interactive voice response system for postpartum depression screening among new mothers in Ibadan, Nigeria. The primary objective was to determine the system's efficacy in identifying probable cases. A systematic literature search was conducted across multiple electronic databases. Included studies were randomised controlled trials or observational studies evaluating the specified interactive voice response system for postpartum depression screening in the target population. Data on screening uptake, prevalence rates, and diagnostic accuracy were extracted. A random-effects model was used for meta-analysis where appropriate, with heterogeneity assessed using the I^2 statistic. The analysis included data from three eligible studies. Pooled results indicated the interactive voice response system achieved a screening uptake of approximately 78%, which was higher than rates for standard clinic-based screening in the same context. The system demonstrated good feasibility and acceptability, with a pooled prevalence of probable postpartum depression of 18.2% among screened women. The mobile phone-based interactive voice response system appears to be an effective and acceptable tool for increasing the uptake of postpartum depression screening in an urban Nigerian setting. It can facilitate early identification of probable cases, enabling timely referral. Health

policymakers in Nigeria and similar contexts should consider integrating validated interactive voice response systems into routine maternal healthcare programmes. Further research is needed to evaluate the cost-effectiveness and long-term impact on clinical outcomes. postpartum depression, screening, interactive voice response, mHealth, mobile phone, Nigeria, meta-analysis. This meta-analysis provides consolidated evidence on the utility of a specific mHealth tool for postpartum depression screening from an African perspective, informing public health strategy and future research directions.

ABSTRACT-ONLY PUBLICATION

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