



Mobile Apps for Maternal Self-Management During Pregnancy in Northern Ghana: Impacts on Delivery Outcomes

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Abstract

Maternal self-management during pregnancy is crucial for maternal and child health outcomes in Northern Ghana, where access to healthcare services can be limited. A RCT was conducted with 300 participants randomly assigned to either an intervention group using maternal self-management mobile apps or a control group receiving usual care. Primary outcome measures included preterm birth and low birth weight. Among the intervention group, there was a reduction in preterm births by 15% (95% CI: -20%, -7%) compared to the control group, indicating a significant positive impact on pregnancy outcomes. The mobile app-based self-management programme showed promise in improving maternal and child health outcomes in Northern Ghana. Further studies should be conducted to explore scalability of these findings across different populations and contexts. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, MobileHealth, RandomizedControlledTrial, SelfManagement, MaternalHealth, GeographicDisparities, EHealth*

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