A Case Study on the Efficacy of a Mobile Health Reminder and Education System for Cervical Screening Adherence in Blantyre, Malawi

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Abstract

Cervical cancer is a leading cause of cancer-related mortality among women in Malawi. Screening uptake remains low, hindered by barriers such as limited awareness, access issues, and forgotten appointments. Mobile health (mHealth) interventions offer a potential strategy to improve adherence in low-resource settings. This case study assessed the effectiveness of a locally developed mHealth system, which combined SMS reminders with educational content, on improving appointment adherence for cervical cancer screening at a primary health clinic in Blantyre, Malawi. The study implemented an mHealth intervention for women scheduled for visual inspection with acetic acid (VIA) screening. Participants received automated SMS reminders in Chichewa prior to their appointments, alongside messages explaining the screening procedure and its importance. Adherence rates were compared to a historical cohort from the same clinic who received standard care, consisting of verbal appointment reminders only. Clinic records were analysed for appointment attendance. Findings indicated a positive trend in screening adherence. The proportion of women attending their scheduled screening appointment increased following the intervention. Informal feedback suggested the educational content helped reduce anxiety and increased the perceived value of screening. The mHealth reminder and education system demonstrated potential as a feasible, low-cost tool to improve cervical screening attendance in this setting. It addressed both informational and logistical barriers to care. Further evaluation using a controlled study design is warranted. Scaling up such interventions should involve collaboration with local community health workers and account for variable mobile network coverage. Integration into the national health management information system should be explored.

mHealth, cervical cancer screening, SMS reminders, Malawi, appointment adherence, low-resource setting This case study provides practical, early-stage evidence from a real-world implementation to inform the design of larger mHealth initiatives for cancer prevention in similar contexts.

Keywords: *mHealth, Cervical screening, Health education, Sub-Saharan Africa, Patient adherence, Reminder systems, Malawi*

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