



Digitalisation and Maternal Healthcare Delivery in Urban Ghana: An Analysis of Telemedicine and Mobile Health Interventions

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Abstract

The digitalisation of healthcare offers potential to address systemic challenges in maternal service delivery in sub-Saharan Africa. In urban Ghana, where healthcare infrastructure is often overburdened, telemedicine and mobile health (mHealth) interventions are being integrated, yet their impact requires systematic analysis. This study assessed the implementation and perceived effectiveness of telemedicine and mHealth interventions for maternal healthcare in urban Ghana. It aimed to evaluate their accessibility, patterns of use, and perceived benefits and barriers from the perspectives of service users and providers. A concurrent mixed-methods design was employed. Structured questionnaires were administered to 327 pregnant women and recent mothers attending urban health facilities. In-depth interviews were conducted with 24 midwives, doctors, and health administrators involved in digital health programmes. Qualitative data underwent thematic analysis; quantitative data were analysed using descriptive and inferential statistics. Quantitative analysis showed 68% of service users reported improved access to antenatal advice via mHealth. Only 32% had used video consultation services. Qualitative findings identified perceived benefits, including reduced travel time and cost. Key barriers were unreliable internet connectivity, data costs, and a preference for in-person consultations for complex issues. Digital health interventions are improving access to informational maternal healthcare support in urban Ghana. Their full potential is constrained by technological, economic, and behavioural factors that limit uptake of more interactive telemedicine services. Stakeholders should focus on improving digital infrastructure and internet affordability. Targeted digital literacy programmes for users and further training for providers are needed. Future interventions should adopt a hybrid model, blending digital and in-person care to address patient preferences and clinical complexity. digital health, telemedicine, mHealth, maternal healthcare, Ghana, urban health. This research provides empirical evidence on the implementation of digital maternal health interventions in an urban African setting, highlighting specific enabling factors and constraints to inform policy and practice.

Keywords: *Telemedicine, mHealth, Maternal healthcare, Sub-Saharan Africa, Healthcare delivery, Urban health, Digital health interventions*

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