

East African Medical Journal | November 2023 Supplement

**IMPLEMENTATION OF A MOBILE PERSONAL HEALTH RECORDS SYSTEM (MPHR) FOR EXPECTANT MOTHERS AT MOI TEACHING AND REFERRAL HOSPITAL, KENYA**

Jacqueline Mukungu Maina, Department of Health, Uasin Gishu County, Joice Nabita Baliddawa, Department of Behavioural Sciences, College of Health Sciences, Moi University, Irene Morara Moseti, Department of Information Technology, School of Information Sciences, Moi University

**IMPLEMENTATION OF A MOBILE PERSONAL HEALTH RECORDS SYSTEM (MPHR) FOR EXPECTANT MOTHERS AT MOI TEACHING AND REFERRAL HOSPITAL, KENYA**

J. M. Maina, J. N. Baliddawa and I. M. Moseti

**INTRODUCTION**

Achieving the sustainable development goals (SDGs) related to maternal health requires concerted effort from all stakeholders. Emphasis should not be just on increasing access to care, but also on improving quality of care provided. One of the ways that the quality of health care services can be optimally offered is through meticulous health records keeping and delivering health information to patients. Health information is one of the most essential ingredients for an effective health care system. The rise in mobile technology has led to a rapid growth in the use of mobile applications thus increasing the rate of integration of these applications in clinical practice.

**MATERIALS AND METHODS**

This was a cross sectional study whose main objective was to develop and implement a mobile personal health records system for expectant mothers at Moi Teaching and referral Hospital (MTRH). Specific objectives sought to assess its usability, satisfaction, benefits and challenges. A standalone OpenMrs instance was created. mUzimaCore module was used for the mobile side. Forms were created according to MoH guidelines (MoH216 and MoH 405). The system had health education material in audio and prose

(English and Swahili). It also had a messaging feature. This was installed in participants phones like an 'App', through an APK file created. Questionnaires were administered to assess usability and satisfaction. In-depth interviews were carried out to find out the benefits and challenges of the system. Data collected was categorized according to the variable type. Descriptive statistics were used to summarize the data. Thematic analysis was done for qualitative data.

**RESULTS**

The findings revealed a median age of 26 years and gestation of 22 weeks. 64 (76%) of the participants were married. On system usability 78(92.1%) reported ease of use. 71 (84.5%) were satisfied with the system. From the in-depth interviews, the system was reported to have the required features and helpful content. The expectant mothers reported to have felt 'more connected' with their healthcare providers. However, some reported challenges in getting timely response from their health care providers; they also reported to have had a challenge with the medical terminology used in the system.

## **DISCUSSION**

Mobile PHRs are a bridge to improving communication and collaboration between providers and patients: Patients place significant value on communicating with their providers. The findings underscored the need to adopt a user satisfaction -centred design approach when designing PHR systems. It was clear that user satisfaction has a great influence on acceptance and usability of these personal health records systems both to the patients and providers.

## **CONCLUSION**

To achieve optimal efficacy in adoption and implementation of Personal health records, the perspective of the patient and provider should form the foundation in building and designing them. Hospitals should implement electronic health records systems (EMR) in order to help form reliable platforms for creation of personal health records in various medical clinics, for instance, chronic disease clinics. More research is needed on the content and scope of the functionalities required of a mobile personal health record. Future studies may explore how well to use web-based PHRs and provide evaluations that are more comprehensive especially on PHR health data security and safety.