



A Study of The Mobile Phone Usage and Preferences on m Health Among the Expectant Mothers

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ABSTRACT

The ubiquitous presence of mobile phones in the developing world shows a promising gateway for using it to address the various health impediments faced by their populace. The low cost, low tariff, less technical efficacy requirement all makes it a feasible option to reach out to the marginalized segments of the society. The use of mobile phones for health services (m Health), can be made to address maternal mortality, the most challenging health aspect of developing countries. In our study among expectant mothers in India, mobile phone competency was found to be high and at the same time only an average willingness to use the major areas of m Health- appointment reminders, treatment compliance, expert consultation, emergency helpline and health promotion was found. Being proficient in handling mobile phones, the women can be made to use m Health to create awareness on the issues relating to maternal healthcare

KEYWORDS : Maternal mortality, m Health, mobile phones, expectant mothers.

Background

Advancements in the Information and Communication Technologies (ICTs) more particularly mobile phones have paved a way for bringing in improvements in the health outcomes of the people in the developing world. A sub-segment of e Health, m Health can be defined as the provision of health services and information via mobile technologies such as mobile phones and Personal Digital Assistants (PDAs) (WHO 2012).

It is an assuring fact that mobile phones have made its ubiquitous presence even among the poor and the marginalized. This has allowed the countries with resource limited health systems to use mobile phones as a tool to produce the most required advancements in the delivery of health services. The presence of basic mobile phones allows for facilitating health consultation, remote diagnosis, tracking patients, treatment compliance, emergency transport and many other healthcare facilities available to the otherwise underprivileged populace.

A great concern has been shown for the health status of women living in low income societies of the world (WHO,2009) which is greatly determined by their way of life. In the continuum of healthcare needed for women, maternal healthcare is given utmost priority as the rates of maternal mortality is quite alarming. The rates of maternal mortality poses great challenge for the developing countries as these deaths occur due to direct obstetric complications and mostly as a result of avoidable causes.

Given the concern on reducing maternal mortality and uplifting the health status of women, there is a need to understand how the women use the mobile phones for their health purposes. This study, thus has the objectives

1. To find out the pattern of mobile phone usage among expectant mothers
2. To find out the level of mobile phone proficiency among the expectant mothers.
3. To understand the preferences of the expectant mothers in the areas of m Health

Based on the review, willingness to use mobile phones for received healthcare services was found among the people in Africa (Jager&Belle, 2014); receive medication and appointment reminders (De Souza, 2014); receive messages on ANC informa-

tion (Cormick, et.al, 2012), received health and literacy messages on TB treatment adherence (Albino, et.al, 2014)

Materials and Methods

For the purpose of the study, a sample of 198 expectant mothers visiting the Primary Health Centres in Coimbatore for their antenatal visits were taken. The data was collected during November 2015, with a questionnaire in Tamil the regional language of Tamil Nadu, India.

The sample consisted of women aged between 19 years and 33 years. About 57% of them were from joint family and the rest were from nuclear family. Majority of them had an education upto 10th standard only (52%) and others till plus two (27%), graduates (13%) and post graduates (8%). More than 90% were housewives and the rest were working women.

Results and Discussions

For the successful implementation of any m Health programmes, competency in handling various features of the mobile phones is essential. Our study findings show a moderate competency among the respondents as 67% (Table 2) of them knew to handle all the features in mobile phones such as handling calls, messages, retrieving messages, taking photos, charging mobile phones, set up alarm and play games. However only handling the calls was known to nearly all of the respondents (99%) while the knowledge in other features was averaging between 70 to 86% (Table 1). Being the prerequisite for the implementation of m Health, the respondents of the study were found to be more than averagely competent to receive and act on m Health messages.

Table 1: Knowledge to operate various features of mobile phones

Features of mobile phones	No	%
To make and receive Calls	196	99
To send and receive Messages	155	78.3
To set alarm	155	78.3
To find old messages from messages history	138	69.7
To play games	150	75.8
To take photos/videos	154	77.8
To charge mobile phones	170	85.9

Table 2: Number of features competent to operate

No. of features competent with	No.	%
1	20	10.1
2	12	6.1
3	7	3.5
4	4	2.0
5	14	7.1
6	20	10.1
7	121	61.1

Preferences of the pregnant women to use mobile phones for health services

According to Mechael et al, the five key areas of mHealth emergence are treatment compliance, data and disease surveillance, health information systems, health promotion/disease prevention, and emergency medical response. From the patients' perspective, we have identified five core areas in which the patients would be interested in: appointment reminders, treatment compliance, expert consultation, emergency helpline and health promotion. The results of the study show willingness from only 50% of the respondents to use mobile phones for health services (Table 3)

Appointment/Vaccination reminders.

Forgetfulness and negligence towards medical appointments and vaccination can cause serious damage to the health of an individual. It was found that text messages were used for reminding parents of Western Kenya about vaccination due and their Conditional Cash Transfers(CCTs)(Wakadha, 2013). In our study, positive response from nearly 52% of the pregnant women for receiving appointment a (Jager & Belle, 2014)nd vaccination reminders, an essential part of antenatal care shows promises for m Health implementation.

Table 3: Preferences on areas of m Health

Areas of m Health	Yes	
	No.	%
Appointment /Vaccination Reminders	102	51.5
Consultation from Doctors/VHNS/Hospitals	102	51.5
Health counseling	117	59.1
Treatment Compliance	23	11.6
Emergency Services	103	52

Expert Consultation

Scarcity of medical professionals is one of the biggest challenges facing the healthcare system of countries like India. This creates a gap between the doctors and the patients which can be bridged with the presence of mobile phones. For the patients in India, a detailed counseling with doctors for the health problems was enabled through mobile phones(Ramakrishnan,2013). In line with this findings, possibilities of using mobile phones for expert consultation appears more convincing with nearly 52% acceptance from the respondents.

Health Counseling

Results from m Health studies found that the pregnant women in remote areas were able to receive counseling from the health workers through mobile phones (Huq et.al, 2014). Encouraging results with 60% of the respondents willing to use mobile phones for health counseling is found in the study. This result reaffirms the use of the maternal healthcare messages sent to the pregnant women through MCTS(Mother and Child Tracking System) by the Ministry of Health and Family Welfare, Government of India

Treatment Compliance

Adherence to medication and hospital visits are very crucial for many diseases including Tuberculosis, HIVAIDS, Diabetes, etc. The health workers in South India found mobile phones very useful in tracking and counseling their TB patients on medication adherence and other issues(Elangovan, Arulchelvan, 2013). Like these ailments, maternal healthcare also needs to be provided in a continuum, from perinatal, antenatal, delivery and post natal. This requires continuous follow up of the patients and this is possible through mobile phones. However we find very low percentage(11.6%) of the respondents willing to use

mobile phones for treatment compliance.

Emergency Services

Maternal deaths occur mainly due to complications which are not attended to immediately. Mobile phones were found to be helpful in bringing timely help and reduce the delay in seeking emergency healthcare for maternal complications (Nquimfack, 2012). Nevertheless the responses for using mobile phones for emergency services(52%) seems inadequate in comparison to the value of the services.

Conclusion

Availability and accessibility of mobile phones for women in India offers tremendous opportunity for using m Health for maternal healthcare. In our study, we find accessibility of mobile phones and operational competency to be high among the respondents. On the other hand the results of the study also shows only an average of 50% of the respondents expressing their willingness to use the core areas of m Health, thereby confirming a moderate awareness on the value of m Health. The reasons may be due to the socio-cultural aspects which strongly influence the way an Indian woman thinks and acts and the way healthcare provision is happening so far. With efforts directed to address these aspects, m Health can make a break-through in providing quality healthcare to the women in India.

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