

CASE REPORT



How mobile devices can transform health care: A case report of an expectant mother with special needs

Vivek Narayan, Susan Thomas, K. Arun Rao

Department of Public Health Dentistry, Government Dental College, Kottayam, Kerala, India

Correspondence

Dr. Vivek Narayan, Department of Public Health Dentistry, Government Dental College, Kottayam, Kerala, India. Fax: 00-91-481-2594046. Phone: 00-91-9895319384. E-mail: drviveknarayan@gmail.com

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Abstract

Mobile health technology enables greater patient access to medical information and could dramatically improve health outcomes. This case report highlights the oral health challenges faced by a differently abled expectant mother. The utility of mHealth tools in managing this special situation is described.

Keywords: Differently abled, expectant mother, mHealth, oral health

Introduction

There has been an explosion of mHealth activities around the world. Mobile health, or mHealth, uses mobile technologies as tools and platforms for health research and health-care delivery. Mobile technology is helping with chronic disease management, empowering the elderly and expectant mothers, reminding people to take medication at the proper time, extending service to underserved areas, and improving health outcomes and medical system efficiency.^[1] mHealth has served as a useful model in various aspects of health care: Information, health promotion, health surveillance, health helplines, etc. mHealth has potential to fill the gaps in the system by providing expanded access at a lower cost. India is the second largest populated country in the world with two-thirds living in rural areas. Official records of the telecom regulatory authority of India have recorded a national teledensity of 83.36, with a high rural teledensity of 51.37.^[2] Thus, mobile health applications serve as a useful tool to reach out to rural areas and help in bridging the gap in lack of other sources of information and communication.

Kerala, a state in south India, stands apart from the rest of the country in developments made in education and health sectors. These achievements are appreciated considering that they were attained despite the slow economic growth and low per capita income.^[3,4]

Kerala has the highest density of public and private medical facilities among major states in India. Its highly developed public health-care system comprises medical colleges, district and local hospitals, and primary health centers and subcenters. A high mobile penetrance and high levels of utilization of health services have prompted the authorities to implement mHealth initiatives in the state. The state was the first to launch a comprehensive mobile-based health surveillance system which collects all health-related data using a mobile-based application “mCARE.” It enables health workers to use handheld devices such as personal digital assistant for capturing data from field and thus to analyze public health data from grass root level. A recent population-based survey has shown the potential for mHealth-based health promotion for prevention of cardiovascular diseases in the state.^[5]

It has been recognized that the hearing disabled population is at risk of receiving inadequate health care and health-related information because of limitations of communication between the patient and the healthcare workers. Dental problems have been identified as important unmet needs for disabled patients.^[6] This report discusses how effective health-care communication can be delivered and received using simple yet innovative methods in a differently challenged expectant mother.

Case Report

A 35-year-old differently abled (hearing and speech disabled) patient in the last trimester of her second pregnancy reported for routine oral screening at the antenatal services provided by the Department of Public Health Dentistry, Government Dental College, Kottayam, Kerala, India. Information regarding medical/dental history, family history was gathered with the help of personal interview assisted by a close relative who communicated with sign language.

The patient hailed from a poor socioeconomic background and had studied up to secondary education in a disabled friendly school. She is married to a 40-year-old person with similar disability. The couple has one daughter aged 2 years who has attained normal milestones of development.

Intraoral examination showed poor oral hygiene, generalized gingival inflammation, bleeding on probing, and presence of multiple periodontal pockets. Early dentinal caries was noted in teeth 14 and 26. Oral hygiene was maintained using powdered charcoal.

The couple had no prior exposure to dental treatment and was unaware about proper oral hygiene methods. The importance of maintaining oral hygiene and need for dental treatment were communicated using mobile text messaging and mobile-based video applications. Although the patient was anxious of undergoing dental treatment during her third trimester, she was very cooperative. Demonstrating the importance of good oral hygiene using a study model and mobile text messaging (SMS) helped to overcome the communication barrier. Proper communication is important in any health-care system. Poor health communication can lead to lower patient satisfaction, adherence, use of health services, and education regarding healthy behaviors. The patient's level of education and understanding the

digital technology could help her to be motivated to use valuable apps to gain further information regarding oral health.

Conclusion

Mobile health technology enables greater patient access to medical information and could dramatically improve health outcomes. Access to the patient's personal data will allow people to make better decisions about their health. Overcoming barriers in communication are vital to improve patient's adherence to treatment.

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