International Journal of Research In Paediatric Nursing

E-ISSN: 2664-1305
P-ISSN: 2664-1291
www.paediatricnursing.net
IJRPN 2022; 4(1): 05-08
Received: 22-10-2021
Accepted: 03-12-2021

Karthigaieswari S
Pediatrics Nursing Department, RVS College of Nursing, Sulur, Coimbatore, Tamil Nadu, India

Suja Santosh PS
Pediatrics Nursing Department, RVS College of Nursing, Sulur, Coimbatore, Tamil Nadu, India

Corresponding Author:
Karthigaieswari S
Pediatrics Nursing Department, RVS College of Nursing, Sulur, Coimbatore, Tamil Nadu, India

Reimagining paediatric health care with m-health technology

Karthigaieswari S and Suja Santosh PS

Abstract
m-Health otherwise known as mobile health, a term used for the practice of medicine and public health supported by mobile devices. m-health care services are more popular in Community Pediatrics, which has increased in the last five years especially during the COVID-19 pandemic. This trend runs counter to reluctance to adaptation of the new mode of healthcare that existed prior to the pandemic. We can expect that after the pandemic m-health care services will continue to be a significant mode of community Pediatric care.
There is an increased utilization of m- health by Pediatric providers during the COVID-19 pandemic. m-health care resulted in improved health care access, optimized disease management, progress in the monitoring of health conditions, and fewer exposures to patients with illnesses during pandemics such as Dengue, COVID-19, Swine flu etc.

Keywords: m-health, Pediatric care, health care access

Introduction
Technology has become very vital, especially in today's scenario. People have accepted technology in a much better way than they have done before. From buying a bus ticket to paying electricity bill has all become much easier and on fingertips. A similar revolution is being observed in healthcare system. The technologies that are implemented are based on the need of the common man focusing mainly on safety of patients and their family members in the community at a large. The healthcare system is also moving from 'going digital' to 'being digital' - from booking an appointment, being screened and seen by the doctor, paperless experience at all touch points, paperless billing, to educating the patient and family members.
Emerging trend in m-health care services can support decision making and assist doctors and other healthcare providers to provide more accurate and faster care. There is a lot that technology has to and can offer from digital reality to the Internet of medical things, 3D printing and to even 'app' based detection systems. Everything is being digital but at selected facilities and is very limited in its action. However, the larger challenge at hand is the availability of this technology from primary care to tertiary care, besides the cost and adoption challenges.

Fig 1: Shows m-Health care service

Definition
M-health is the monitoring and sharing of health information via mobile technology such as wearables and health tracking apps.

Aim of m-health care services

To provide effective, economical and timely healthcare services to all individuals, and especially to those people who have little access to healthcare services

History

The unprecedented spread of mobile technologies as well as advancements in their innovative application to address health priorities has evolved into a new field known as m-Health. The term m-Health was first coined by Robert Istepanian, Professor of London's Kingston University in 2003 to describe "emerging mobile communications and network technologies for healthcare".

Scope of m-Health

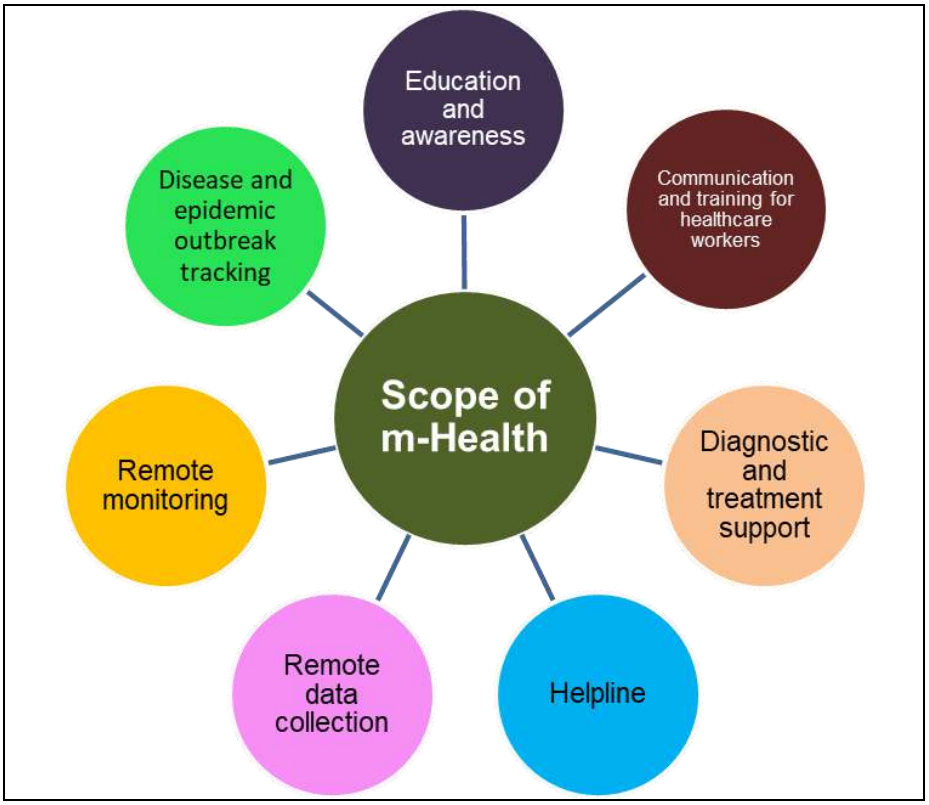

Fig 2: Shows scope of m-health

Benefits of m-health in Pediatric Population

- Allows parents to schedule remote or virtual appointments for children's symptoms and conditions
- Health care providers can assess a child's well being via real time video conferencing and can prescribe treatment from afar, if needed.
- Convenient for sick children and their parents as there is no need to travel to a clinic
- Use for disease surveillance, treatment support, epidemic outbreak tracking and chronic disease management.
- Bridge gaps in care by allowing children and parents to communicate with their physician or care team
- Provide children/parents with educational information about their conditions and allow them to track health data over time
- Provide children/parents medication reminders.
- Provide follow-up newborn care
- Empowerment of patients by providing services through the 24/7 mobile app. Through the app, one can book doctor consultations, order investigations, medications, and even request their own medical records
- Paperless outpatient experience has made this a comfortable and happy one
- Decreasing costs and enhancing the quality of health care

Emerging trends of m-health in Research

- Emergency response systems (e.g., accidents, emergency obstetric care).
- Clinical care and remote patient monitoring.
- Health extension services.
- Inpatient monitoring
- Health services monitoring and reporting.
- Health-related m-learning for the general public.
- Mental health promotion and illness prevention
- Training and continuing professional development for health care workers.
- Health promotion and community mobilization.
- Support of long-term conditions, for example medication reminders in case of juvenile diabetes management
- Social mobilization for infectious disease prevention.
- Surgical follow-up in case of congenital anomalies.

m- health apps

As of 2021, there were 325,000 m-health apps available for download from app store. Some mobile health apps, such as the Apple Health App, can integrate with a patient's electronic health record, allowing users to access their health data on their iPhone or iPad stores. The following are some m-health apps for download from play store.

- Apple Heart Study

Fig 3: Shows m-health app services

- GoogleFit
- Samsung Health
- AliveCor's KardiaMobile BlueStar
- True mobile Health
- M-Health
- Mobile Health
- Niva Bupa Health
- Practo-online Doctor Consultation
- Apollo 24/7- Online Doctor
- MediBuddy-Consult Doctor Online
- MedM Health
- Aarogya Setu app
- CoWIN app

How to Protect and Secure Health Information When Using a m health app in the Device

- Use a password or other user authentication
- Install and enable encryption
- Install and activate remote wiping and/or remote disabling
- Disable and do not install or use file sharing applications
- Install and enable a firewall
- Install and enable security software
- Keep your security software up to date
- Research mobile applications (apps) before downloading
- Maintain physical control
- Use adequate security to send or receive health information over public Wi-Fi networks
- Delete all stored health information before discarding or reusing the mobile device

m-health initiatives launched by the Government

In July 2015, the Prime Minister launched the Digital India campaign and m-Health was one of the initiatives launched with the campaign. Recently, due to the outbreak of covid-19, the government of India launched Aarogya Setu app for contact tracing, syndromic surveillance and self assessment of Covid. Another initiative taken on march 2021 by Govt was Co-WIN portal app which allow users to schedule an appointment through the app for COVID-19 vaccine by registering their phone number and providing relevant documents. Other m-health initiatives launched by the Government are as follows

- National network to provide for m-education and m-healthcare.
- National health portal for health awareness.
- m-Blood Bank and on-line registration in Hospitals
- Toll free number to provide round the clock support for treatment
- Swasthya Bharat Mobile Application to spread health awareness and promote healthy living.
- Mobile based applications for awareness and information sharing on dengue.

Challenges for m-health

- Leads to health disparities in vulnerable populations such as those with low health literacy
- People, who do not have the money, skill and access to technology and networks, cannot avail this facility.
- Involves new forms of patient-physician interaction and poses new challenges and threats to ethical issues such as informed consent, privacy and equity issues.
- Difficult to ensure patient information, security and data protection

Future trends in m-health

Looking forward to the future of m-health systems, it is clear that smart phones with multi-functionality medicinal feature will bring the intelligence, ease and smartness in the global healthcare sector.

Conclusion

The recent years have shown a tremendous growth in m-health. The relatively larger m-health care architecture has become light, convenient and cost-effective with the advent of smart phones. The available m-health system have drastically changed the nature of health management and treatment. With the development of m-health and wireless communication, the way in which doctors care for patients will change dramatically and the role patients play in their own healthcare will increase. Healthcare will become more personalized through tailoring of interventions to individual patients.

Although more research is needed, the evidence from reviews suggests that m health for the general public and pediatric care are comparable to or better than in-person services. Patients, health care professionals, and caregivers may benefit from using both m health care services and traditional, in-person health care services.

References

1. www.wikipedia.org/wiki/MHealth
2. www.nhp.gov.in/miscellaneous/m-health
3. healthit.techtarget.com/definition/mHealth
4. Bert F, Giacometti M, Gualano MR, *et al*. Smartphones and health promotion: a review of the evidence. J Med Syst. 2014;38:9995. 10.1007/s10916-013-9995-7 [PubMed] [CrossRef] [Google Scholar]
5. World Health Organization (WHO) mHealth: new horizons for health through mobile technologies: second global survey on eHealth. Switzerland: Global Observatory for eHealth, 2011. Available online: http://whqlibdoc.who.int/publications/2011/9789241564250_eng.pdf

6. O'Shea CJ, McGavigan AD, Clark RA, *et al*. Mobile health: an emerging technology with implications for global internal medicine. Intern Med J. 2017;47:616-9. 10.1111/imj.13440 [PubMed] [CrossRef] [Google Scholar]
7. Jusoh S. A survey on trend, opportunities and challenges of mHealth apps. International Journal of Interactive Mobile Technologies. 2017;11:73-85. 10.3991/ijim.v11i6.7265 [CrossRef] [Google Scholar]
8. Ali EE, Chew L, Yap KY. Evolution and current status of mHealth research: a systematic review. BMJ Innovations. 2016;2:33-40. 10.1136/bmjinnov-2015-000096 [CrossRef] [Google Scholar]
9. JB Kathiriya, NM Shah, JS Patel, BB Javia, MM Tajpara, SN Ghodasara, DB Barad. Epidemiological surveillance of Dengue fever: An overview. Int J Vet Sci Anim Husbandry 2020;5(6):01-10.
10. Lipschitz J, Miller CJ, Hogan TP, *et al*. Adoption of mobile apps for depression and anxiety: cross-sectional survey study on patient interest and barriers to engagement. JMIR Mental Health. 2019;6:e11334. 10.2196/11334 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
11. Singh A, Wilkinson S, Braganza S. Smartphones and pediatric apps to mobilize the medical home. J Pediatr. 2014;165:606-10. [PubMed] [Google Scholar] mHealth in pediatrics-finding healthcare solutions for the next generation Published online 2015 Mar 25, Alisa L. Niksch
12. World Health Organization (WHO). Ten top issues for women's health in 2015. Available online: https://www.who.int/life-course/news/commentaries/2015-intl-womens-day/en/
13. Mobile Health Apps on COVID-19 Launched in the Early Days of the Pandemic: Content Analysis and Review.
14. Server-Focused Security Assessment of Mobile Health Apps for Popular Mobile Platforms.