

## Digitization and Maternal Healthcare

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Maternal Health is a significant feature for the development of any country to increase equity and also foremost in solving broader, economic, social and developmental challenges. WHO [1] reported that every day, approximately nearly 810 women die from preventable causes related to pregnancy and child birth. United Nations Sustainable Development Goals (SDG) aims is to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 [2].

In recent years, digitalization has gained utmost importance in health systems. With the on set of covid -19 delivery of maternal and child health care has become even more challenging and this has triggered and highlighted the need to move toward digitization of health.

During 71<sup>st</sup> World Health Organization (WHO) World Health Assembly, a digital health resolution was adopted to recognize the potential of digital technologies to improve the accessibility, quality and affordability of health services and for the attainment of the Sustainable Development Goals (The Seventy-first World Health Assembly, 2018). The US National Institutes of Health define mHealth as “the use of mobile and wireless devices (cell phones, tablets, etc.) to improve health outcomes, healthcare services, and health research. Africa has experienced an increase in use mobile phones and digital technology over the last few years. Many countries have utilized the power of technology to tackle the barriers and to provide access of services at low cost. Approximately forty-two countries of Africa as of March 2020 have developed national eHealth policies. mHealth is an integral part of the eHealth package.

Several Interventions have taken place both in developed and developing countries to adopt digitization in health care.

A digital platform called Mom Care was developed by Pharm Access Foundation across Sub Saharan Africa which helps women track their maternal health journey. This intervention helped in fulfilling the gap of limited in-person healthcare visits.

A research team of trained doctors and hospital administrators in Ethiopia used mobile phones and tablets to record causes of maternal and child mortality. The project helped in providing first-ever representative dataset on the causes of deaths, helping to better identify gaps in health services for women and children.

In Nigeria, home visitors used GPS enabled handsets to show videos to pregnant women and their spouses to educate them about the causes and consequences of short birth spacing. They also used the same handsets to collect real time data from the households for remote monitoring and quality control of the visits.

Another Initiative was launched in Morocco called The Mobile Ultrasound Patrol program in cooperation with Qualcomm’s wireless reach initiative which uses portable ultrasound machines and 3G smartphones to improve diagnostic times for expectant mothers. This

program works with rural clinics throughout Morocco and provides medical practitioners with devices that are wirelessly connected to maternal health specialists in urban hospital clinics to improve maternal health and fight Ebola using mobile technology. This program provided comprehensive diagnostics and reduced the turnaround time for diagnosis from two weeks to less than 24 hours [3].

There is an increase of digital health in both developed and developing countries. For example, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) released the electronic Maternal and Child Health Handbook application in 2017 and the electronic Non-communicable Diseases application in 2020 (United Nations Relief and Works Agency in the Near East, 2019) in Middle Eastern countries and territories like Jordan, Syria, Lebanon, West Bank, and Gaza [5].

A study by Ryunosuke Goto, *et al.* (2021) identified a socioeconomic divide toward digitization of an existing health intervention. A rapid digitization may result in an unbalanced uptake of the digitized health intervention among different social classes [4].

Another study by Tasfik Rahman, *et al.* [6] proposed a web platform which is capable of managing data in a well-structured manner reducing the scope of data loss and it will act as a bridge between pregnant women and doctors, donors and children support organizations by providing time-efficient, reliable, user-friendly and a secured platform.

Bassey Ebenso, *et al.* [7] suggested simultaneous and sustained implementation of VTR (digital tools for video training) and data digitization at scale enabled through Sat Com and 3G mobile networks are feasible approaches for supporting improvements in staff confidence and motivation and reported MNCH( maternal, newborn and child health) practices. The study also identifies mechanisms to see the impact of digital interventions on micro and macro levels of the health system and also to look at the evidence base for effectiveness of digital health and theoretical underpinnings to guide further technology use for improving Maternal, newborn and child health services in low resource settings.

Kerry Scott, *et al.* [8] conducted a study on Madhya Pradesh and Rajasthan states in India at the community, clinical and administrative levels of the health system. The study concluded increased focus on training, supportive supervision, and user-friendly data processes that prioritize accuracy and timeliness should be considered to build on existing positive patient-provider relationships and which will be further helpful in digitization.

Both Developing and developed countries struggle to provide basic health care to the population and post covid-19 this task has become even more difficult considering the size of the population and the risk of pandemic. The lack of access and quality of services available for maternal and child health has a devastating impact in developing countries. Most maternal deaths in developing countries are preventable through access to proper health care, adequate nutrition and the presence of a skilled birth attendant during delivery. This article provided examples of mHealth programs that are using mobile technologies and having a positive impact on the health of the people across the world. Different studies have also shown the impact of digitization on healthcare. Medical Specialists, policy makers, government and private sector have started to realize digitization can be used to develop and suggest solutions to improve the maternal and child health. The rapid expansion of mobile technologies and its use in mHealth is giving positive hope for improving the lives of women and their new born child across the world [9].

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