SHORT COMMUNICATION

Leverage of mHealth integration in Maternal and child health services and COVID-19 Pandemic

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Abstract

The growing use of mobile phones has enabled potential mobile health users to respond to various healthcare crises, even during the COVID-19 pandemic. In low- and middle-income countries where people lack access to basic healthcare, various "mHealth" interventions have been proven effective. In addition, it would facilitate public health researchers in developing new ways to improve the sustainability of MNCH programmes during emergencies or public health alerts. This article aims to provide evidence of mHealth integration in Pakistan's MNCH programme and to look into unique techniques used during the COVID-19 pandemic. This article suggested four key innovative mHealth strategies, including improving communication, teleconsultation, and CHW accessibility via mobile phones, providing free medication supplies to ANC&PNC mothers during health emergencies; and advocating for women's access to abortion services when necessary to support safe abortion.

This article observes that mHealth can help improve maternal health in Pakistan and other LMICs by increasing human resource management and training, quality service delivery, and teleconsultation. However, additional digital health solutions are needed to attain SGD 3.

Keywords: MNCH, Digital solution, Mobile health, Pakistan, LMIC, Quality health care.

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Introduction

As global health efforts become increasingly relevant, advanced technology, particularly mobile communication, is becoming increasingly important. Advanced technology, particularly mobile communication, is a crucial instrument becoming increasingly relevant in global health efforts for better population health. Several mobile health(mHealth) services were initiated, particularly in low- and middle-income countries (LMICs) where people lack basic health care facilities[1] to reduce public health issues and those factors which limit access, such as transport issues, distance to services, inadequate personnel or lack of financial resources, and adequate emergency guidance.[2] In the early stages of the COVID-19 pandemic, which negatively affected pregnant women's mental health, the extent of the hazards was unknown.[3] In addition to increasing fear and stress during pregnancy, the COVID-19 pandemic and lockdown which has resulted in a negative impact on many women's physical and mental health. Moreover, technology was utilized to cope with the pandemic effects.[4-7] This paper aims to create evidence of mHealth integration in Pakistan's MNCH programme and explores the innovative strategies used in LMIC during the COVID-19 pandemic. The outcomes of this paper aimed to help public health researchers to shed light on new techniques to create sustainable MNCH programmes that can function in emergency or public health alert situations.

Leverage of mHealth integration in MNCH programme in Pakistan

Almost half of Pakistan's population lives in rural areas that have insufficient healthcare facilities and infrastructure, which require attention to address such difficulties studies were conducted to enhance the use of technology to reduce the burden on healthcare services.[8-10] Rising mobile phone usage has the potential to continue care during emergencies such as the COVID-19 pandemic and other disasters. Although the mHealth phenomenon is not new,

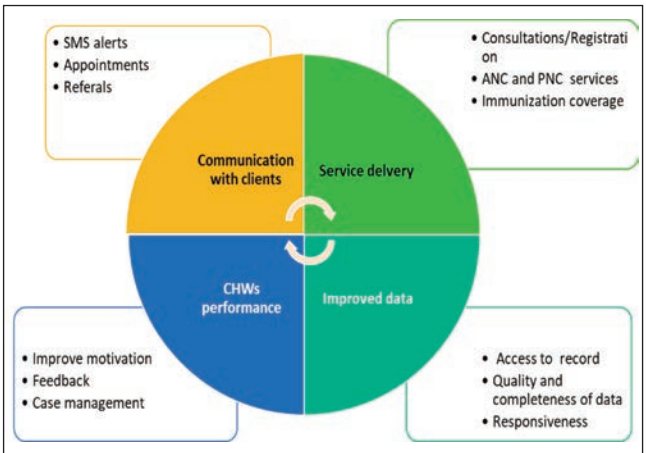

Figure: Use of mobile health in MNCH programme.

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the utilisation of mHealth is still in its infancy. This limited use of mHealth could be attributed to a lack of trust in and awareness of mobile technology among the users.

According to the Pakistan Telecommunication Authority, there are about 100 million mobile users and 29 million internet users in the country.[11] Mother and child mortality and morbidity remained chronic concerns due to poor health system performance, cultural barriers, political upheaval, poverty, and inadequate educational institutions. Lassi ZS et al proposed, in her chapter, investing in the integration of community care into the primary care system, improving sustainability, efficacy, and lifespan.[12] Thus, it is crucial to explore the new innovative tactics and how these interventions can integrate into the existing system. This literature search and context is a result of a survey of grey literature and websites. The goal of presenting health initiatives in Pakistan is to highlight gaps in existing work evidence. Fauzia et al conducted Community-based Interventions of mobile health for Pre-eclampsia (CLIP) to see how low-cost technologies operate in field-based programmes in Pakistan.[13] Another study in Pakistan conducted in Badin, is an ongoing implementation research project focusing on LHWs and Lady Health Supervisors (LHSs) to improve LHW supervision by providing thorough medical care.[9] In Pakistan, a study was designed to improve coordination among frontline workers, prompt referrals, and correct identification of diarrhoea and pneumonia patients at the field level to reduce missed opportunities.[13] Mobile health based immunization initiatives is a Pakistani effort that employs cutting-edge approaches to improve the country's national vaccination programmes.[14] Another, mobile integrated vaccination record system ensures that all immunization data were collected and made available for analysis and decision-making and has showed the potential to improve the country's immunization services with community-wide activism and engagement. Further helped vaccinators and child immunizations track and monitor with the help of the mHealth application and concluded that the most common challenging jobs associated with technology development in the previous decade have been to provide essential functionality while also ensuring its quality in usage.[15] Lady health workers could also efficiently utilise the Immunization tracking App and satisfied by mobile app for maintaining their record as compared to manual system and enhance their communication, trust and referral mechanism.[16]

Mobile Health's role in the MNCH programme during the COVID pandemic

Digital solutions have been applied successfully in Uganda and Ethiopia to increase CHW performance for COVID-19 responsibilities and other vital health services.[17]

Using Mobile-Health Interactive Messages substantially enhanced postpartum care behaviour of women and their husbands in Indonesia during the COVID19 pandemic.[18] According to a previous study, pregnant women received less healthcare services during Covid, and mobile health apps for prenatal follow-ups, which were popular among pregnant women during the COVID-19 pandemic particularly in underdeveloped countries.[19] Furthermore, in Bangladesh, Nigeria, and South Africa amidst the pandemic, there was a decrease in the use of basic essential MNCH services like antenatal care, family planning, and immunisation due to: a) the execution of lockdown, which triggered panic of exposure to the COVID-19 and discouraged people from seeking primary MNCH care, b) a shift in focus to the pandemic, which harmed other services, and c) supply constraints.[20] Similarly, in Pakistan, some critical services, such as maternity and neonatal care, should remain instrumental during a pandemic or any health crisis to provide better care to the mother and their children.[21] During the COVID-19 pandemic in Sindh, Pakistan, women who required regular or Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH) services at the primary health care level decreased significantly. This may reveal a significant concern about poor RMNCH and its consequences.[22] A review reported that the remote data collection and health assessments, short message service and voice messages for health education, digital megaphones for encouraging behaviour change, and digital contract tracing are all evidence of a significant digital transformation to support CHWs in these critical times.[17] The Mobile health initiative in Scotland addressed the advantages of offering phone or in-person consultations to meet the needs of a wide range of individuals.[23] Jago et al. As an alternative innovation, mobile technology may be used to provide social and emotional support in key life events such as pregnancy and labour.[24] Fisk M et al. reported that the general practitioners (GPs), specialists, nurses, and mental health allied health workers consult with patients via phone or video (e.g., Skype) in Australia and received free 24-hour assistance during ANC and PNC and medicines were delivered to their homes at with no cost during pandemic.[25]

This paper recommended four major innovative mhealth strategies including enhance communication, tele consultation and availability of CHWs through mobile phones, provided free of cost medication supplies to the ANC&PNC mother during health emergencies and Women should have access to abortion services when need to promote safe abortion In addition, mHealth may be more beneficial to improve maternal health specially child health

in Pakistan and other LMICs by increasing human resource management and training and quality service delivery.

Conclusion

This paper concludes that the front-line workers must use mobile technologies to engage with communities more effectively which provides confidence in delivering MNCH services in local communities. The existing literature on Pakistan's community midwifery programme focuses mainly on the deployed midwives' service delivery, distribution, and access. There is a shortage of evidence on the design and coordination of the MNCH programme. It is essential to maintain continuity of care for MNCH services, improve maternal and child health and to prevent unintended pregnancies and abortions. Health care institutions must be ready to provide protective equipment and sustainable operating procedures when they open their doors. In addition, LHWs and community mobilisers equipped with PPEs should continue to provide services, and mHealth can create more effective results. There is a growing interest in using mobile-based evidence and coordination for better decision-making at the health system level in post-COVID era.

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