

Role of Digital Health Tools in Improving Maternal and Adolescent Mental Health Services in Pakistan: A Way Forward

Armughan Tauheed Farooqui¹, Sehrish Karim¹ and Nurose Karim²

¹Department of Medicine, The Aga Khan University Hospital, Karachi, Pakistan

²Department of Neurology, East Carolina University Health, USA

The significance of Digital Health Interventions (DHIs) for health service delivery has been well established over the past decade, with various projects across the developed and developing countries. The potential of mHealth in improving health-care access through cost-effective strategies, especially in low- and middle-income countries (LMICs) is reinforced by the ever growing smartphone penetration and broadband coverage in these regions.¹ In Pakistan, 82.90 million people are using the Internet as of January 2022, the number of users increased by approximately 36% between 2021 and 2022.²

With raised awareness around mental health, DHIs have also been integrated into supplementing support for patients with mental health disorders, reporting significant reach and impact. However, concurrent stigmatisation around mental health, distrust towards digital health tools, and insufficient capital often hinder the sustainable implementation of mental digital health interventions. The aim of this write-up is to highlight the potential of existing DHIs for mental health problems related to maternal and adolescent health accessible in LMICs, as well as to discuss the challenges, and strategies to improve the uptake and implementation of digital mental health innovations.

In Pakistan, mental health disorders contribute to 4% of the total disease burden, the majority of which comprises women.³ Around 24 million Pakistanis require psychiatric support, however, only 0.19 psychiatrists per 100,000 individuals are available to address this need.³ Nevertheless, efforts have been made by multiple non-governmental organizations (NGOs) to improve access to mental healthcare facilities using online platforms, helplines, and telemedicine tools. Even though it is in the early stages, the need for digital health solutions was further reinforced after the strict quarantines of the COVID-19 pandemic.

Sehat Kahani, an online telemedicine platform providing several mental health-related teleconsultations since 2017, prioritises connecting female psychiatrists with female patients to promote ease and comfort. Through *Taskeen* Health Initiative, 35 million people were reached through the digital media awareness campaigns and awareness videos, and 8,615 teleconsultation sessions were conducted with the patients suffering from psychological complaints since its inception in 2015.

In addition, the government and private hospitals have also supported such NGOs and attempted to incorporate DHIs in their service delivery. Following a hub-and-spoke model, telepsychiatry consultations are offered at multiple clinics of The Aga Khan University Hospital across Pakistan. The patients are connected over online conferences with consultants and psychiatrists for therapy sessions, enabling mental health service access from great distances.

Ongoing projects like the *mPareshan* app have been training lady health workers (LHWs) in the interior Sindh to evaluate, diagnose, and provide support for mental health within the community, primarily catering to postpartum mothers, as per the World Health Organization's (WHO) Mental Health Gap (mhGAP) intervention guide.

To address the mental health issues in children and adolescents, the President's Programme started in 2019 provides online training to school teachers to recognise mental health issues in young students. This programme also aims to develop self-help applications and mental health service delivery tools to expedite the healthcare access.⁴

Despite the arduous efforts from both the private and public sectors, the strategies to meet mental health needs with digital health tools are met with a legion of barriers, especially in the context of an LMIC, ranging from the public's perspective to supply-demand and the core design of the digital health interventions. Although digital literacy has increased massively over the last few years, especially among adolescents studying at higher education level and for online transactions,^{5,6} hesitation still exists when using the telehealth interventions. Moreover, the youth living in areas with reduced digital connectivity may feel further marginalised and frustrated with the slow digital health service delivery and digital inequality.⁷

Correspondence to: Dr. Armughan Tauheed Farooqui,
Department of Medicine, The Aga Khan University
Hospital, Karachi, Pakistan
E-mail: armughan.tauheed91@gmail.com

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The lack of awareness and prevalent stigmatisation around mental health issues such as postpartum depression in young mothers cannot be understated.⁸ People in different regions face unique circumstances and need more motivation to reach out to the generic support facilities. Furthermore, varying education levels, cultural norms, and languages often prevent the masses from using interventions designed primarily in English, compromising user acceptance, and user-friendliness.

This issue can be explained by the disconnect between system designers and end-users as most often, consumer feedback is not taken into consideration while designing and launching such applications. A lack of interest from the target population discourages local investments in the interventions and is exacerbated by depleting funds, resulting in negligible upscaling of programmes.⁹

Telehealth interventions require an active role from the health professionals who may provide their services through digital health tools. However, due to multiple reasons such as lack of training in handling digital health solutions, shortage of mental health experts, and lack of balance between in-person consultations and teleconsultations, the healthcare providers are overburdened and need more incentives to continue using these tools.

The government-endorsed projects often have much more successful implementation as people have more trust in interventions affiliated with and approved by the national authorities. Illustrating the results achieved through the pilot programs reinforces the potential for health system strengthening and increases the chance for these programs to scale up through the external and internal stakeholder engagement and public-private collaborations, as the ownership of such interventions can be handed to the local governments over gradual absorption.

Obtaining the local support for advertisement and promotion can be extremely beneficial. Caller Tune promotion about the breast cancer awareness was highly appreciated in Pakistan, hence similar awareness campaigns on mental health issues may be potentially well received. It can help address the stigmatisation broadly, regarding the prevalent yet unspoken psychological problems that people of all age groups face and encourage them to seek the mental health services and resources.

People with mental health issues are often hesitant in approaching the new and unknown territories of therapeutic solutions, and given the novelty of digital health services in Pakistani settings, it is completely understandable. Feedback from the end users must be sought out and considered when designing the digital health services so that the system's utility and ease of use can be maximised to ascertain acceptance and empower the end users to take ownership of the interventions.

Interventions incorporating characteristics that ensure user privacy and confidentiality are unequivocally important, as it can promote trust between the users and the service providers. Pairing patients to culturally sensitive, gender-appropriate, and well-trained healthcare providers can motivate the continuation of mental health service utilisation and attract more users from all walks of life - from the young to old generation, from victims of violence to pregnant women - to avail these health tools.

Access to mental health facilities is particularly problematic in the conservative and misinformed populations. Joint efforts on strengthening health system with decision-makers in the local authorities, health departments, and social mobilisers are essential in creating awareness, dissolving taboos and stigmas, and normalising the utilisation of digital health tools for safe, private, and convenient mental health services for all communities.

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