

Evidence of mobile health integration into primary health care systems for better maternal mental health in LMICs during COVID-19 pandemic — Review

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Abstract

Mental illnesses are prevalent worldwide, especially in the underdeveloped countries of the South Asian region, particularly in women, where they largely remain unaddressed. Evidence from the South Asian region indicates that there is a high burden of mental disorders in vulnerable populations such as pregnant women. Mental health problems during pregnancy and in the postpartum period are twice as common in LMICs as compared to HICs. Interventions delivered by community health workers (CHWs) in many health delivery and promotive initiatives have played a vital role in improving mental health. CHW-based interventions are cost-effective, efficient and acceptable for the local people and can strengthen the overall health system. This review aimed to explore integration of maternal mental health into existing maternal, newborn and child health (MNCH) programs so that delivery of mental health interventions can be done alongside MNCH interventions. Integrating maternal mental health programmes into existing MNCH programs and using digital platforms for expanding their delivery through CHWs, lay counsellors, and other frontline health workers can prove to be a promising strategy. Even though mHealth platforms for addressing a variety of health issues have been widely used during the COVID-19 pandemic, the use of digital platforms for addressing maternal mental health issues remains inadequate.

Keywords: Maternal mental health, COVID-19 and MNCH, Integration of mental health, Digital solutions, mHealth and PPD.

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Introduction

Mental illnesses are prevalent worldwide, especially in the underdeveloped countries of the south asian region

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where such illnesses largely remain unaddressed, especially in women.¹ Depression, schizophrenia, bipolar affective disorder, epilepsy, learning disabilities and developmental disorders, such as autism, are identified as priority behavioural and neurological disorders by the World Health Organisation's Mental Health Gap Action Programme (mhGAP).² The most common psychiatric disorders to be reported are anxiety and depression. In 2020, before the advent of COVID-19, the number of people suffering from major depressive disorder was 193 million.³ Similar findings were reported for anxiety disorders with 298 million affected before the pandemic and 374 million cases reported during the pandemic.⁴

In the South Asian region, there is a high burden of mental disorders, including anxiety and depression, with 150-200 million people in this part of the world being affected prior to the pandemic.⁵ Evidence from the South Asian region indicates there is also a high burden of mental disorders in vulnerable populations, such as pregnant women¹ with mental health problems during pregnancy and in the postpartum period being twice as common in LMICs than high-income countries (HICs)¹⁻⁶ Postpartum depression (PPD) was found to be the most common psychiatric condition after childbirth.⁶⁻⁷ The global prevalence of perinatal anxiety and mood disorders ranges from 10-20%,^{8,9} with the prevalence of maternal depression in Africa and Asia ranging from to 15-20%.¹⁰

The WHO defines maternal mental health as a state of well-being in which a mother realizes her abilities, can cope with the normal stresses of life, can work productively and fruitfully, and can make a contribution to her community.¹⁰ Women bear a disproportionate share of the burden of mental illnesses with the postpartum period being identified as a vulnerable time for developing depression which can negatively impact maternal functioning and the development of the child if left untreated.¹¹ The prevalence of post-partum depression (PPD) in LMICs ranges from 18.7-19.8%.¹² A hospital-based survey identified that 17% of young women had PPD with a tangible link to exclusive breastfeeding.¹³ Maternal depression is associated with many risk factors in low- and middle-income countries

(LMICs), including relationship problems, mothers having children at a young age, order of the child, and a high prevalence of human immunodeficiency virus/ acquired immunodeficiency syndrome (HIV/AIDS), societal stressors, such as conflict, disaster, violence and migration.¹⁰

Pakistan has a high prevalence of psychological issues and about 50 million Pakistanis suffer from psychiatric illnesses. Depression, drug and alcohol abuse, alcoholism, bipolar illness and post-traumatic stress disorder (PTSD) are among the psychological illnesses that have been identified in Pakistan. According to WHO statistics, Pakistan has 0.19 psychiatrists per 100,000 population, which is one of the lowest rates in the WHO Eastern Mediterranean region and the world.¹⁴ Mental disorders account for more than 4% of the overall disease burden in Pakistan, with women bearing a disproportionate share of the burden.¹⁵

A recent systematic review of 43 studies from Pakistan reported a high prevalence of mental disorders, with 4% of the overall disease burden being attributed to mental illnesses, such as depression, anxiety and substance abuse disorders (SUD). Women were found to bear a disproportionate share of the burden.¹¹ The postpartum period is a vulnerable time for developing depression which can negatively impact maternal functioning and the development of the child if left untreated.¹⁶

Strategies, such as the inclusion of mental health programmes into primary healthcare (PHC) and expanding the delivery of evidence-based psychosocial therapies through community health workers (CHWs), laypeople and other frontline health workers, have emerged as highly promising approaches to address the burden of mental health.¹⁷ Nevertheless, significant obstacles exist in ensuring that CHWs can acquire the required competence and expertise to offer evidence-based psychosocial services for common mental conditions and obtain the necessary resources and assistance to continue providing high-quality care over time. Frontline health workers have successfully used mobile health (mHealth) platforms in primary care settings to treat moderate to

severe depression in India¹⁸ and Pakistan.¹⁹ Although mHealth is not new to LMICs or Pakistan limited evidence is available regarding its use in different settings, especially maternal mental health.²⁰

Global evidence of mental health integration into PHC

Mental health programmes have been implemented in PHC in various LMICs, including Iran, India, Uganda and Brazil. The adoption of these programmes into PHC was found to be low cost, provided increased access to treatment, and helped in lessening social stigma and prejudice.²¹⁻²³

According to studies from Uganda and South Africa, the mindfulness approach that incorporates mental wellness into PHC helped in removing the barrier for access to mental health services at the district level in LMICs.²⁴ An evaluation of a mobile health application (app), called "My Coping Plan" concluded that it boosted mental health and wellness through improved self-efficacy in the short term. However, it identified that professional assistance may be required to encourage long-term safe



Figure: Benefits of integration of mental health programme by using mobile health in community health workers (CHWs) programme.

coping strategies.²⁵ In Asia, a study found that using a mobile phone could boost mental health awareness, increase the accessibility of services, improve involvement and outreach in communities and maintain self-care. However, it also identified possible barriers and constraints of mHealth for mental health, including lack of funding, language limitations, inadequate knowledge, power supply concerns, data protection problems and privacy concerns.²⁶

A mood tracking and alert (MTA) mobile application was assessed in pregnant women with depressive symptoms who were monitored for 8 weeks while using this application. The application tracked activity and mood and alerted obstetricians if there was worsening of symptoms. The MTA app increased quality of care and patient involvement for women with perinatal depressive symptoms.²⁷ A mobile health intervention in Afghanistan increased access to maternal care for rural areas, reduced stigma and strengthened the quality of health services. However this app did not address maternal mental health issues but its wide acceptability by the local people could make it favorable for addressing this issue.²⁸ Alternatively, as seen from the evidence above, mobile apps for assessing and addressing maternal mental health issues could prove to be feasible in LMICs as a large segment of the population owns a mobile phone and could be easier to reach through technology. Mobile applications can help CHWs in delivering knowledge, creating awareness and also assessing symptoms of mental illness for early diagnosis and treatment. Due to the requirement of maintaining anonymity and the home environment not being sufficiently private for one-on-one CHW sessions, care delivery sessions may become difficult to access.²⁹ The integration of maternal mental health services into PHC through digitalization or mobile health applications can help overcome this issue.

Maternal Mental Health and the COVID -19 Pandemic

COVID-19 and the associated lockdowns caused widespread mental health problems, like panic, anxiety, insecurity and stress. People who were quarantined or isolated at home were under increased psychological duress due to fear and uncertainty related to the disease. This was especially true for women as they were likely to be affected by limited access to perinatal services and increasing uncertainty about their own and their child's health, thus exposing them to increased levels of stress and compromising their mental health.³⁰ A study done in China reported a 7% increase in post-traumatic stress symptoms (PTSS) in women during the pandemic.³¹ In Italy, manifestations of depressive and anxiety symptoms

were more common than clinical concerns in 26-32% of pregnant women. The risk of severe depression and anxiety was positively and significantly associated with prenatal pandemic related emotional stress and negatively associated with perceived social support during pregnancy.³² In China, the prevalence of PPD among women due to the impact of COVID-19 was 9.7%. The effect of current pregnancy status on mobility and the anxiety and fears related to giving birth were autonomous risk factors for maternal depression during the COVID-19 pandemic.³³ It is projected that the mental health crisis in Pakistan will worsen.³⁴ It is also projected that the mental health crisis in Pakistan will persist even after the end of the COVID-19 pandemic.³⁴⁻³⁵ Despite the identification of these issues, maternal mental health largely remains unaddressed. There is a need to advocate for the promotion of maternal mental health as a priority and engage different stakeholders using different platforms for delivering interventions to address this issue. In spite of the widespread use of digital platforms for delivering various health services during the pandemic maternal mental health still remains a neglected area especially in LMICs like Pakistan.

Conclusion

Integration of mental health services into PHC especially in MNCH programmes and outreach services may help in expanding the delivery of evidence-based psychosocial therapies to women through CHWs, lay counsellors and other frontline health workers. Nevertheless, significant obstacles exist in ensuring that CHWs acquire the required competence and necessary resources to offer evidence-based psychosocial services and high-quality care for common mental conditions over time. The use of digital platforms can help overcome these issues especially in LMICs where there is a wide acceptability of digital platforms. Evidence also suggests that the use of digital platforms by lay counsellors has successfully been used to treat moderate to severe depression. The acceptability of digital platforms to address a variety of health related issues also make them suitable for delivering interventions especially for women. These platforms can improve access by helping women remain connected and can also help in reducing the stigma associated with mental illness.

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