A SCALABLE MENTAL HEALTH INTERVENTION FOR PREGNANT WOMEN IN KENYA

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This policy brief describes the adaptation and piloting of an evidence-based, low-cost, and scalable mental health intervention for pregnant women in Western Kenya. It demonstrates that the need for such an intervention is high among the target population. The study finds that integrating a contextualized group-based mental health intervention within routine antenatal care settings in the primary health sector seems feasible, acceptable and successful in terms of participation.

Why maternal mental health?

Despite an alarmingly high prevalence of perinatal depression (25-29%) and anxiety (26-35%), common maternal mental health problems often go undocumented and underdiagnosed in Low- and Middle-Income Countries (LMICs).[1,2,3] In Kenya, nearly one in every three pregnant women suffers from perinatal depression symptoms.[4,5] Maternal mental health (MMH), although interlinked with reduced maternal functioning and suicide in severe cases, is an often-neglected aspect in efforts to reduce maternal mortality and morbidity. In the absence of mental screening and support services, poor MMH can persist for years, adversely affecting the physical health and well-being of mothers as well as that of their children.[6,7]

RESULTS OF THE PILOT

- Urgent need for support: of 401 women screened, 36% show depressive symptoms
- Our Patient Health Questionnaire-2 (PHQ-2) is a good proxy for mental health distress.
- Acceptability of the intervention was high with attendance increasing to 72% in the third session
- Women who participated in the intervention have significantly more ANC visits than eligible women who did not participate
- There is no significant difference in skilled deliveries at a MomCare clinic between eligible women who participated and those who did not.

Factors contributing to maternal mental health challenges and disorders

Significant risk factors of MMH disorders are related to poverty and food insecurity, lack of social support from family or a partner, having a history of mental illness, and experiencing social or violent conflict. Other risk factors, tied to social disadvantage, are being of young age, being lowly educated and being single. Lastly, and perhaps most intuitively, having no reproductive autonomy, experiencing intimate partner violence or sexual abuse, and having an unintended or unwanted pregnancy are interconnected with MMH disorders.[8,9,10] In this context, pregnant adolescents are particularly at risk of perinatal mental distress. For example, pregnant adolescents are 14 times more likely to have experienced forced sex relative to their peers.[11] Furthermore, almost half of the pregnant girls in a study in Homa Bay and Narok, Kenya, had an unintended pregnancy.[12]

The need for research on effective and cost-efficient maternal mental health (MMH) services

While the determinants of poor mental health have been extensively researched, there is a lack of research that can support the implementation of maternal mental health (MMH) services in LMICs.[13] The Kenya Mental Health Policy 2015 – 2030 identifies the following as some of the key challenges that exist in the provision of effective and accessible mental health services.[14]

i. Shortage and inequitable distribution of human resources: Low-income countries have 0.05 psychiatrists and 0.42 nurses per 100 000 people. The majority of these are concentrated in the cities and large teaching hospitals, therefore magnifying the scarcity in rural areas
ii. Limited data on the prevalence of mental health disorders
iii. Lack of integration into primary health care for promotive, preventive, curative, and rehabilitative mental health care services at all levels of healthcare.

The integration of a mental health care intervention into existing health systems may be the most effective and cost-efficient approach to increase access to mental health services in low-resource settings.[15] To ensure affordability and scalability, task-shifting is recommended whereby tasks are moved or delegated from qualified health workers to individuals with shorter training, including Community Health Workers (CHWs), with linkage back to the health system leveraging existing facility-based community health units.

Empowering women and better care through data: MomCare

MomCare, is a value-based care program created by PharmAccess Foundation, focusing on maternal care. The overall goal is to create transparency to improve the quality of maternal care services and empower women in accessing good-quality, affordable care. Care services are focused on the pregnancy continuum, including antenatal care (ANC), skilled delivery and postnatal care (PNC). MomCare uses a trusted digital platform, 'MTIBA', to enable a digital value-based contract between providers, payers, and patients.

In Kenya, the MomCare implementation consists of:

   i. Data collection to track care utilization behavior and well-being of mothers
   ii. Support to clinics to upgrade their quality and hold them accountable to quality-of-care standards by providing
      a. Insights and feedback based on data analytics
      b. Capacity building from field teams with clinical and value-based care expertise
   iii. Financial coverage of the full journey of maternal care by social donors

In 2021, MomCare, in its existing health facility network, piloted the introduction of contextualized mental health services into routine antenatal care, aiming to contribute evidence to reducing pre- and post-natal depression and anxiety, ultimately improving the quality of life for women during and after pregnancy.

What did we do?

Our objective was to adapt and contextualize an evidence-based, low-cost, scalable group maternal mental health intervention and to assess its acceptability and feasibility in Western Kenya.

Our starting point was the group-based Problem Management plus (PM+) intervention, which was developed by the World Health Organization (WHO) to provide psychological help for adults in communities exposed to adversity, improving a person's ability to cope with problems and stressful experiences.[15] Individual-based PM+ has been demonstrated to be effective in helping people with mood and anxiety disorders in Kenya. The group-based version has not been adapted to the Kenyan context yet, nor has it been adjusted to our target population of pregnant women. A recent pilot of the group-based PM+ intervention for pregnant women in Uganda shows promising early results.[16]

After obtaining ethical clearance from the AMREF Health Africa Ethics and Scientific Review Committee in Kenya (P1033/2021), our pilot study consisted of the following steps. For replication purposes, all steps are described.

1. Determine the geographic scope of the pilot: Kisumu County, Western Kenya.
2. Select three interested health facilities in the existing MomCare program panel (Masaba Hospital, Kombewa County Hospital and St Monica Hospital).
3. Conduct baseline Focus Group Discussions (FGDs) with mothers, fathers, nurses, and CHWs to investigate their opinions regarding the need for and the acceptability and feasibility of a mental health intervention for pregnant women.
4. Contextualize and locally adapt the WHO group-based PM+ manual (inclusive of adjusted materials and posters) based on the qualitative input from the FGDs and the psychological expert advice of TINADA, a non-governmental organization working on the integration of mental health into sexual and reproductive health and rights.
5. Nurses screen pregnant women and girls who enroll in MomCare (i.e., during their first routine ANC visit) for signs of psychological distress using the Patient Health Questionnaire-2 (PHQ-2).

Fig. 1 Contextualized stress management poster

6. Invite eligible women (with a PHQ-2 score of at least 3 and above) to the group-based mental health intervention. If distress was significant, women were referred to specialized care.
7. Recruit CHWs as non-specialized facilitators linked to each of the three facilities (per the Kenya Community Health Strategy)[17], based on i.a. their prior involvement in maternal health-strengthening activities and understanding of the local context.
8. Provide a 5-day-training to the recruited CHWs by a team of specialized TINADA psychologists, followed-up with on-the-job supervision during the implementation of the sessions.
9. Conduct 5 biweekly mental health sessions for groups of on average ten eligible women – each session lasted approximately two hours, including teaching, discussion and activities. Each session was facilitated by a pair of two trained CHWs. In addition, women were encouraged to practice what they learned at home between the sessions.
10. Before the first session and after the last session, conduct standardized mental health assessments with participant women using the PHQ-9 and EPDS tools as validated in the Kenyan context.[18,19,20]
11. Conduct endline FGDs with mothers, fathers, nurses, and CHWs upon completion of the mental health sessions to receive their feedback on the intervention.
12. Further readjust the contextualized group-based PM+ manual to include the feedback and lessons learnt from the implementation.
13. Merge the attendance, baseline and endline assessment data with the eligibility scores and maternal health outcomes from MomCare for further analyses.

What did we find?

In total, we screened 401 women on the PHQ-2 during their routine ANC visit, of whom 143 (36%) were identified as eligible for the mental health intervention based on a PHQ-2 score equal to or larger than 3 **(Figure 2)**. Thus, the need for mental health support appears large. Mental health problems were most common among women in the age group of 20 to 34 years and women in their second trimester of pregnancy. We did not find evidence that women with a greater risk of pregnancy-related complications were more likely to suffer from mental health problems.
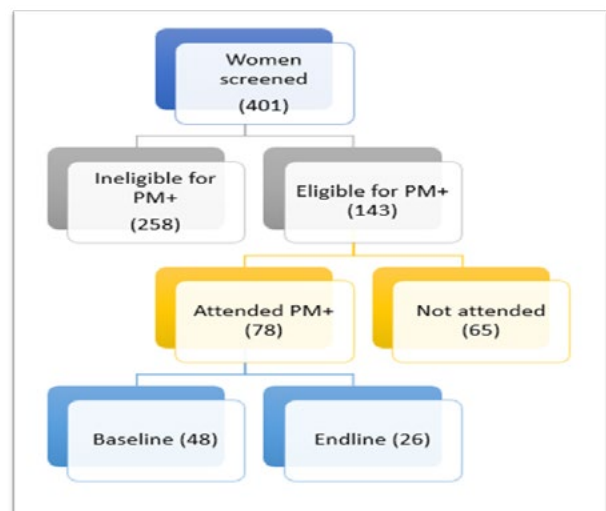

Fig. 2 women' attendance in different phase of the program

Participation in the intervention

More than half of the eligible women (78 out of 143, or 54.5%) participated in the intervention, indicating acceptance among women in need. Some of the reasons posited for non-participation include: a lack of understanding of the mental health intervention and therefore hesitancy, a lack of accessibility due to inadequate funding prior to attendance of the sessions, and a lack of opportunities to attend the sessions due to competing activities in the household.

Attendance over the five sessions was not uniform (see Figure 3). After some initial hesitancy and the need for women to organize and prepare to come to the session, attendance from the third session onwards was high. Moving the session days from weekend to weekdays partially contributed to this improvement. The less than full attendance towards the later sessions can be explained by an increasing number of women who delivered and were not able to attend, highlighting the importance of capturing women early in their pregnancy. Attendance was not correlated with women's mental well-being (baseline PHQ-9 & PHQ -2) as recorded at the start of the intervention.
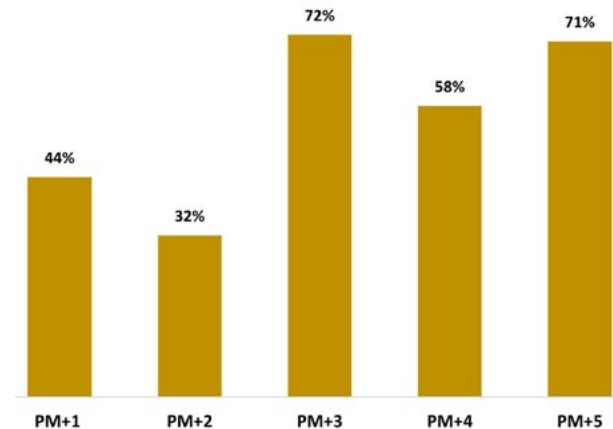

Fig. 3 PM+ attendance per session

We have baseline PHQ-9 assessments for 48 participants. On average, participant women scored 10.7 on the PHQ-9, with n = 20 women (41.7% of those who attended and responded to the survey) having a score of 10 or above, 10 being the cut-off score indicative of clinical depression. The PHQ-9 correlated significantly with the PHQ-2 subset (correlation coefficient 0.855, p-value .000), indicating that our PHQ-2 screening tool was a good proxy for mental health disorders.

Mental health improvements – the first indicators

We have endline PHQ-9 assessments for 26 participants; two thirds of whom showed improvements in mental health from the first to the last session while one third showed a deterioration in depressive symptoms. These results should be interpreted with caution, however, since 22 women who responded to the baseline survey did not respond to the endline assessment due to data collection challenges, driven mostly by differential efforts of the community health workers. If the mental health of these 22 women improved more or instead less than average, this would bias the interpretation of our findings.

Women with the highest PHQ-9 scores at baseline (i.e., with the worst mental health) showed significantly greater improvements. Since this could be partly due to a regression to the mean, it is important for future research to investigate the impact of the mental health intervention on a large enough sample and include a control group for comparisons.

Increased ANC visits

Among eligible women (with a PHQ-2 screening score of 3 or above), we find that women who attended the intervention completed 2.9 ANC visits on average while women

who did not attend any session completed 2.6 ANC visits. This difference is borderline insignificant (p-value 0.105). Women who were not eligible for the intervention (with a PHQ-2 score of less than 3) completed on average only 2.3 ANC visits (p-value < .001).

Looking at facility-based skilled deliveries within a MomCare clinic, percentages among eligible women who attended versus those who did not attend any session were 57% and 61%, respectively. This difference is not statistically significant (p-value 0.625). In comparison, ineligible women (without mental health problems) had a 71% delivery rate at a MomCare clinic (p-value 0.014). We note that some women may have delivered at a non-MomCare facility, but this is not captured in our data.

Conclusions

To conclude, our pilot study showed that there is a substantial need for mental health support interventions for pregnant women in Western Kenya: 36% of the women in our low-income study communities screened positive for mental health problems. The extensive adaptation stages, which included expert psychological insights as well as inputs from mothers themselves, their partners, community health workers and nurses, ensured that the group-based mental health intervention was locally adjusted and culturally acceptable. Uptake of the intervention was high after some initial logistical challenges. A wholistic approach can be taken to invest in community health systems to ensure its sustainability.

Overall, our approach shows that it is feasible and successful in terms of participation, to integrate affordable mental health support into routine antenatal care services within the primary health sector, while the principles of task-shifting (i.e., working with trained CHWs from the villages as facilitators) can keep costs low, ensuring patient-centeredness and scalability.

More research is needed to understand the link between perinatal mental health support and maternal health outcomes. We also recommend investigating the impact of incorporating mental health topics within group ANC sessions, to maximize the benefits. Additionally, we recommend to further investigate how to extend the coverage of the mental health intervention to the PNC period after delivery.

RECOMMENDATIONS

Policymakers and healthcare providers:
   i.   Community health workers and nurses can be upskilled to offer basic mental health screening and support to pregnant women, given a clear criteria selection, training and mentorship process.
   ii.   Standard operating procedures should be developed for referral procedures to specialized psychological care of pregnant women with more severe problems
   iii.   Incorporate mental health screening and clear guidelines within the standard pregnancy booklets, to increase awareness of perinatal psychosocial issues

Community:
   i.   Awareness should be raised in the community of the signs of perinatal mental disorders and ways to provide support to pregnant women, while simultaneously working towards stigma reduction and improvement of health-seeking behaviors with cultural sensitivity
   ii.   Partners and close family members of pregnant women should be encouraged to participate in psychosocial support activities for lasting impact and acceptability

Pregnant mother:
   i.   Women should be educated on psychosocial danger signs with equal measure as to clinical danger signs, to encourage early health-seeking when needed
   ii.   Group-based interventions can help women to understand that perinatal psychosocial issues are common and that they are not alone in their journey

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