

The Perinatal Mental Health Project: a critical appraisal of program viability, accessibility and sustainability

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Abstract

Background. Perinatal depression is one of the leading causes of disability in perinatal women and is highly prevalent in disadvantaged communities in LMICs. However, care capacity remains low in most LMICs. As such, we decided to find and assess a screening program that addresses perinatal mental health problems in a resource-efficient manner. This leads us to a critically appraisal of the Perinatal Mental Health Project (PMHP), a screening program based in peri-urban Western Cape Town that stresses task sharing and stepped care intervention.

Method. PubMed, Ovid Medline (1946 to 2018), and Google Scholar were searched for publications until March 2018, with data or evaluation of the PMHP. PMHP website publications were used for data and interpretation. The program's viability was evaluated based on criteria published by UK National Screening Council. The program's impact was analyzed using published patient outcome data. Access to care was evaluated at three barriers to accessing care proposed by Gjerdingen et al. (2007). The financial model was evaluated using the “four-pillars” of sustainable organization financial management proposed by León (2001).

Findings. The PMHP's screening program viability satisfies most criteria of the UK National Screening Council, and the program's benefits outweigh its harms. Patient self-reports indicate successful impact with several highlights in accessibility. The program also demonstrates financial sustainability and potential for scaling-up.

Interpretations. The operation model of the PMHP shows satisfactory viability and sustainability. With modifications fitting local context and government cooperation, this model offers promising potential in bringing public health and economic benefits.

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Introduction

With depression as one of the leading causes of disease-related disability in women, perinatal mental health is becoming an increasingly pressuring issue¹. Globally, 10% of pregnant women and 13% of those who have gone through pregnancy have experienced mental disorder, with depression or anxiety being the most common conditions². For women at a reproductively active age (between 14-44), these two conditions are currently the third leading cause of disease burden globally. This number is forecasted to continue increasing and rise to first place by 2030³. Perinatal mental health has been adequately researched in developed countries, but local evidence is lacking in more than 80% of LMICs³. Despite WHO's "no health without mental health" proposition, mental health care is still a low developmental consideration for many lower-middle-income countries, leading to inadequate perinatal mental health care facility⁴. Ironically, the socially and economically disadvantaged are most at stake for perinatal mental health problems². This leads us on the search for a viable, accessible, and sustainable model of perinatal mental health care. Hence, we decided to critically appraise the Perinatal Mental Health Project in Cape Town, South Africa.

Project Overview

The Perinatal Mental Health Project, hereon referred to as the PMHP, is a screening program based at the Mowbray Maternal Hospital in Western Cape Town. It is integrated at the primary health care level, as part of the Midwife Obstetric Unit that provides primary antenatal clinic service³. In order to ensure treatment capacity for those who screened positive, the project developed a stepped-care model to perform task-sharing and improve accessibility³. We will assess the viability of this intervention, highlight its efforts at improving accessibility, and present advantages and challenges for scaling up.

Method

Databases including PubMed, Ovid Medline (1946 to 2018), and Google Scholar were searched for all relevant publications on data or evaluation of the PMHP until March 2018. Resources and publications from the PMHP including all PMHP Annual Reports (2008-2016), the Maternal Mental Health Service Guideline, and Clinical Services Outcomes reports are also reviewed for data and program intervention descriptions⁵⁻⁷.

The "Criteria for appraising the viability, effectiveness and appropriateness of a screening programme" published by UK National Screening Council will be used to evaluate the viability of the PMHP⁸. The impact of the intervention was evaluated based on a review of the published participation and

outcome data, including peer-reviewed patient participation and self-reported outcome data, and data from the PMHP annual report. Access to care was evaluated based on an analysis of three main barriers to accessing care proposed by Gjerdingen et al. (2007)⁹. Financial sustainability was evaluated based on the “four-pillars” of sustainable financial management by León (2001)¹⁰.

Discussion

Viability

The “Criteria for appraising the viability, effectiveness and appropriateness of a screening programme” published by UK National Screening Council will be used to evaluate the project⁸. For a program to be considered viable, effective, and appropriate, it has to meet five criterial factors: (1) program condition, including prevalence and severity of the disease; (2) test validity; (3) intervention capacity for screened patients; (4) screening program assessment, where the potential harms and benefits of screening will be compared; and (5) implementation criteria, including factors relevant to staffing, management, supervision, etc.⁸

Overall, the program utilized its resources well to meet the five criteria. Although the PMHP has significant limitations with its test validity, we considered it justified, because the program’s deliberate choices with test sensitivity helped it address its challenge and goal. This will be discussed in more detail.

Condition

A program’s intervention should take into consideration the epidemiology, prevalence, and severity of the condition in its local context. The PMHP is established in the peri-urban regions of Cape Town, South Africa, where 39% of pregnant women were diagnosed with depressive mood, compared to 7.4% - 12.8% in economically developed countries¹¹. Predicators of these disorders include the lack of partner support, intimate partner violence, pregnancy at an early age, and low household income, all of which are prevalent to some degrees in disadvantaged communities¹¹. Consequences of depression during pregnancy includes increased substance use in mothers, lower birth weight, and smaller gestational age babies¹². Perinatal depression also leads to poorer parenting, leading to higher risks of depression for children of depressed mothers¹¹. As a result, perinatal depression not only affects the mother in many adverse ways, but also leads to developmental impairments in the children, both physically and cognitively. The combination of the condition’s prevalence and severity calls for immediate intervention.

Primary preventions and early recognition of mental health disorders in perinatal women were

proposed as important strategies in reducing the disease's burden¹³. However, in South Africa, there is a severe lack of mental health professionals¹⁴. Moreover, the nation's highly disproportionate health staff distribution means the mental health workforce in the setting of the PMHP is even weaker¹⁴. This calls for innovative action that can utilize available resources. The PMHP meets this need with task-sharing and integration into the primary health system. It is also worth noting that there is no systematic monitoring or supervision, neither the establishment of referral pathways to and from specialist mental health care in South Africa¹⁴. The PMHP carries out systematic efforts to tackle this shortcoming. Specifics of these efforts will be discussed under criteria 5: Management.

Testing

The validity of the test used for the screening program is critical for its success. In the case of the PMHP, there is a dilemma that many screening programs face in conditions with limited resources. This refers to the tradeoff between test validity and simplicity (as well as the resultant need for additional resources). The PMHP's solution is a combination of self-reported tests, augmented by triage in the counselling stage which assesses drug and alcohol abuse.

Tests employed by the PMHP are the Edinburgh Postnatal Depression Scale (EPDS) and their self-designed risk factor assessment (RFA)³. The EPDS was clinically determined to be suitable for use in South Africa¹⁵. However, there is controversy on the accuracy of the EPDS as several studies show that some high-scoring patients on the EPDS are not in fact depressed; only about 50% are correctly identified as being depressed¹⁶. The risk factor assessment (RFA) is designed to adapt to local contexts to increase the sensitivity of the EPDS test³. Yet, its cutoff also leaves a great chance for false-positives, as patients only need to score 3 out of 11 to be referred³. The standards of RFA seem to indicate the PMHP's intention to further lower their inclusion criteria, on top of the EPDS's already high false-positive rate. This deliberate choice indefinitely leads to increased patient intake, and the ease of self-test administration is outweighed by the added workload. However, resource constraints dictate that there is near to no funding for researching the validity of self-designed screening tools, making the development of a culturally accurate, research-based screening tool very difficult. Thus, it is critical to evaluate the benefits and harms of over-labelling in the program's context before concluding the appropriateness of risking increased workload with false-positive-prone tests. This will be further discussed under criteria 4, screening program.

Intervention

It is undebated that appropriate intervention capacity should be in place for a screening program to lead to improvements in the condition of interest¹⁷. A stepped-care model is developed by the PMHP

program to address scarcity of professionals and utilize local resources. All women are offered private, consensual screening at their first antenatal visit by specially trained nurses and midwives³. Patients who screens positive are referred to free counselling services. These counsellors utilize psycho-education, bereavement counselling, problem-solving, relaxation and breathing exercises, couple and family counselling³. The counsellor also acts as the liaison between clients, psychiatrists and other health workers³. They are crucial to the continuity of care and provide referrals in cases where counselling is not sufficient. Several possible cases exist where the counsellor has to act as the liaison: (1) if patient presents alcohol and substance abuse, they are referred to the hospital social workers for intervention; (2) patients whom the counsellor considers necessary for psychiatric consultation are informed about the choice and may explore it on a consensual basis – only 2% of those counselled decided to receive psychiatric intervention, which is provided by a psychiatrist on a part-time basis; (3) women who are unable to attend their appointment or have trouble accessing the facility receive telephonic contact for follow-up management³. All women counselled will receive post-natal follow-up call 6 weeks after giving birth³. This call includes questions on experience with the program and experience adjusting to new life with a baby³. If further intervention is required, free counselling is available within one year³. This stepped care model focuses on continuity of care and has established regular supervision for quality assurance. From July 2008 to June 2011, more than 90% of patients counselled reported having a positive experience with the program, implying that the program has satisfactory treatment capacity for individual patients³. However, there is not enough research to support the validity of this result. Judging from available research, the intervention's capacity is adequate to support the purpose of screening.

Screening Program

The screening program should be evaluated to ensure meet the following standards: (1) the test is clinically, ethically and socially acceptable; (2) program benefits outweigh any harms; (3) the opportunity cost should be in relation to the expenditure and be economically balanced with regards to other health care expenditures⁸.

The screening program is accepted by 90% of patients³. The tests are offered in four languages four (English, Afrikaans, isiXhosa and French) on a private and consensual basis. In the case that a patient is illiterate, midwives are available for assistance³. Combined with the positive feedback from over 90% of patients, this suggests that the intervention has adequate acceptability.

Continuing the discussion in criteria 3, test, high false-positive rates may result in inappropriate imposition of a sick role and its associated burdens on an individual, which could also decrease the

level of societal respect, and could resulting in behaviour changes¹⁸. However, Wakefield described false-negative results as a benign flaw, since treatment for individuals, even with not true disorders, could still be beneficial¹⁸. Despite the potential harm from false-positive test results, there could be more significant harm due to the severity of the condition, as described in criteria 1: conditions. Widespread perinatal mental health problems will be left to cause unmitigated harm if not treated. The program's deliberate choice in allowing many false-positive cases is an effort to fight this consequence and adapt to the cultural background. In South Africa, women are expected to bear the suffering of childbirth. Studies in community-based maternity care facilities found that many pregnant women express expectations of being 'shouted at, beaten or neglected'¹⁹. This inadequate social support accounts for the prevalence of mental health issues. Under such societal conditions, false positive patients are very likely to benefit from counselling, since it offers compassionate support. This can also improve awareness among multiple stakeholders, including health care workers and patient families. Moreover, a study in the UK found that screening for depression has a cost-saving advantage, as it reduces the risk of such parental mental disorder affecting the health of their children, which will lead to more economic burden down the line²⁰. This is a crucial point of consideration for stakeholders, since mental health disorders also increases the risk for many other conditions, such as diabetes and cardiovascular diseases⁴. Considering the societal conditions that exposes women to an increased risk of perinatal mental health disorders, as well as its health and financial implication, the benefit of a low cut-off test outweighs its harm significantly. The PMHP's low inclusion criteria lowers the need for research resources, and extends psychological support to women in an at-risk environment of perinatal mental health problems.

Implementation Criteria

A successful screening program requires implementational rules to guide its operation. This concerns the following factors: (1) staffing; and (2) management and supervision.

To deal with the scarcity in mental health professionals, the PMHP trains primary health workers to generate local capacity. The program trains nurses and midwives for screening and trains many primary health workers for counselling. Delegating tasks to these staffs alleviates the need for a professional psychiatrist. Although the program did not provide specifics on staffing, financial investment in staff training can be used to evaluate its training effort. As shown in Figure 1, training expenses constantly increased, starting at R 117,800.00 in 2008 and rising to R 748,023.35 in 2016⁶. The amount of money spent on training increased 6-fold as the program expanded over the years. This shows that the program focuses on expanding its workforce, although no conclusions can be

made without reports on the workload an individual staff is subjected. It is also important that the program maintains its workforce, in the case of mental health care, a critical point is staff mental health. The PMHP addresses this to maintain the quality of their workforce and prevent burnouts. Task sharing increases the workload of primary health workers, and it is well noted that when healthcare workers are first exposed to mental health-related work, they may often experience mental distress²¹. Thus, mental health workers require adequate emotional support. Peer-reviewed reports on the program demonstrates the program's realization for such need, yet little information is provided on the support system³. The effectiveness of the staff support system should be studied more extensively and adjusted as the program expands.

For supervision, the PMHP incorporates a regular supervision system. The clinical staff receives supervision from two sources, which are peer support protocols and external clinical supervisors³. There is also a clinical services coordinator in charge of the nursing staff's regular supervision³. Also, monthly audits of clinical and screening services are performed. Regular data collections are reported to both clinical management and the PMHP team for future adjustments. Overall, the program demonstrated strong supervision efforts. However, the program's spending on management has remained stagnant despite expansions in staff size, which raises concerns for management capacity.

Impact

Among the 6347 women attending primary health care facility from July 2008 to June 2011, 90% were offered screening, which was accepted by 95% of the population (n=5407). Among those screened, 1751 were qualified and 1079 accepted the referral for counselling for their subsequent visits or at their convenience. 832 ended up seeking counselling and the reason for the difference in number is partly due to the perception of improved performance. The postnatal evaluation was also carried out through a phone call, with 87.8% of the women reported improvement of their problems and 91.7% reported having a positive experience at the sessions³. In addition, there seems to be a substantial improvement in women's mental health status. A postnatal assessment of 223 women screened between July 2015 and December 2016 revealed significant improvement in three symptom relevant aspects (feeling sad and miserable, excessive crying and thoughts of self-harm)⁶.

Accessibility

The PMHP's operation model highlights on improving accessibility for perinatal mental health care⁷. This is potentially linked to the program's positive outcome. To assess whether PMHP improves access to mental health care, we will highlight some ways it tackles barriers to care at three levels: patient level, provider level, and system level⁹.

Barriers from a Patient Perspective

PMHP improves access to mental health care by tackling patient's financial limitations. Financial difficulties can arise from high cost, lack of insurance or lack of transportations, which is observed more often in depressed women²². The counselling service and referral transportation are completely free of charge on an appointment basis³. Also, PMHP has an "open door" policy: for those who rejected the referral, they can always request an appointment if they change their mind⁷. Women receiving treatment will not lose income due to absenteeism from work as the consultation happens on site and is tied to the primary health care service³. Since financially disadvantaged women are more likely to be depressed, this low burden financial model addresses those more in need, helping the program reach its targets better.

Barriers from a Provider Perspective

By employing task sharing, PMHP realized the local needs effectively and utilized their resources in a sustainable and efficient manner. In doing so, PMHP effectively tackled provider barriers in a way that addresses the unique needs and resources of the local community. In the stepped care model, the later personnel is needed, the more professional training he or she would require, alleviating the need for specialist³. Task-shifting towards primary health settings also lowers travelling distances and cost, promoting greater population coverage and utilization of available health staff, who has a greater understanding of local culture^{17, 21}. This training also has the added benefit of tackling the issue of stigma. In South Africa, there is a documented history of health care workers abusing pregnant women, both physically and emotionally¹⁹. In response to this situation, the PMHP program developed the "Secret History" training method¹⁹. This is a step at improving empathetic engagement style, showing the program's effort in improving long-standing healthcare problems.

Barriers from a Systems Perspective

It is also essential to consider the system barriers to quality healthcare delivery. This can arise from the separation of primary health care and mental health services and lack of monitoring⁹.

Integration into primary health care

In South Africa, relevant professionals remain concentrated at major psychiatric hospitals²³. These hospitals follow a vertical care model, which makes it very hard for these services to reach patients in rural areas, as they often lack support and are not motivated to seek help. However, in LMICs the highest prevalence of perinatal mental health disorders arises at the community level². In contrast, PMHP is a great example of effective primary health care integration. Because 92% of pregnant

women visit antenatal care facilities, the vast majority of the at-risk population can be reached at the community level^{3, 23}.

Financial Model

To analyze the program's financial development, we compiled annual reports from 2008 to 2016 – Figure 1⁶.

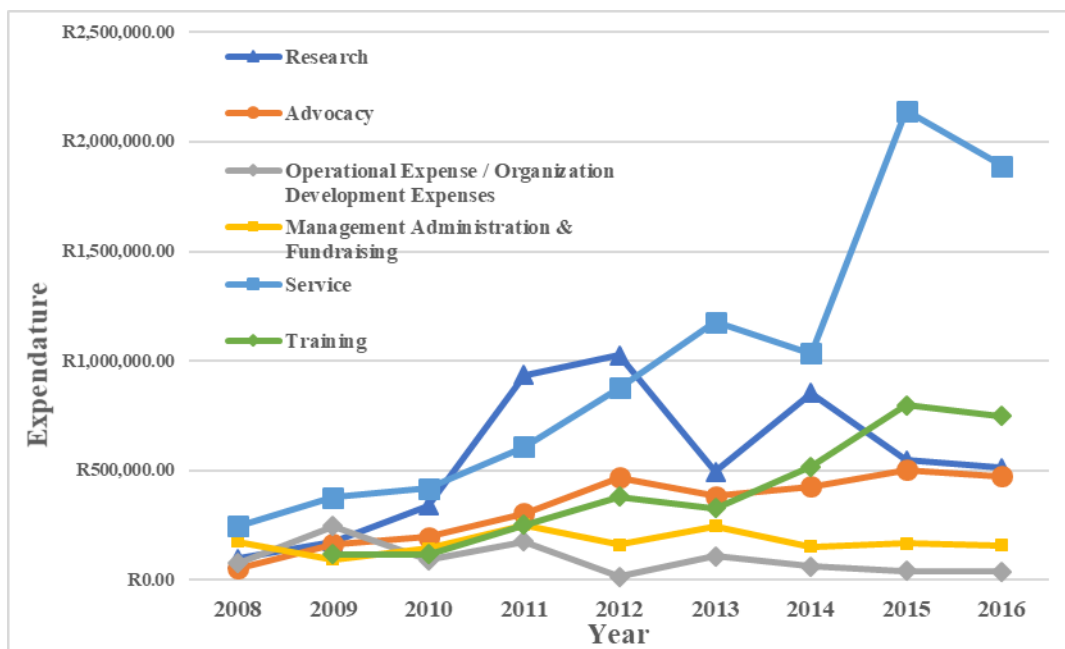


Figure 1: A plotted summary of expenditures of the Perinatal Mental Health Program from 2008 to 2016 divided into major categories of expenditure.

Data from the PMHP annual reports 2008-2016 were reviewed with expenditures by category extracted as a percentage (converted to monetary value) of total annual expenditure⁶.

Over the course of 8 years, there is a 6-fold increase in training and an 8-fold increase in service expenditure. This illustrates the program's continuous focus on clinical services and personnel development. However, it is worth noting that while service and training expenditure has been increasing, administration and organization funds have remained stagnant through the years. This raises concerns since the sustainable growth of an NGO requires a strong operative dimension that deals with administration and management²⁴.

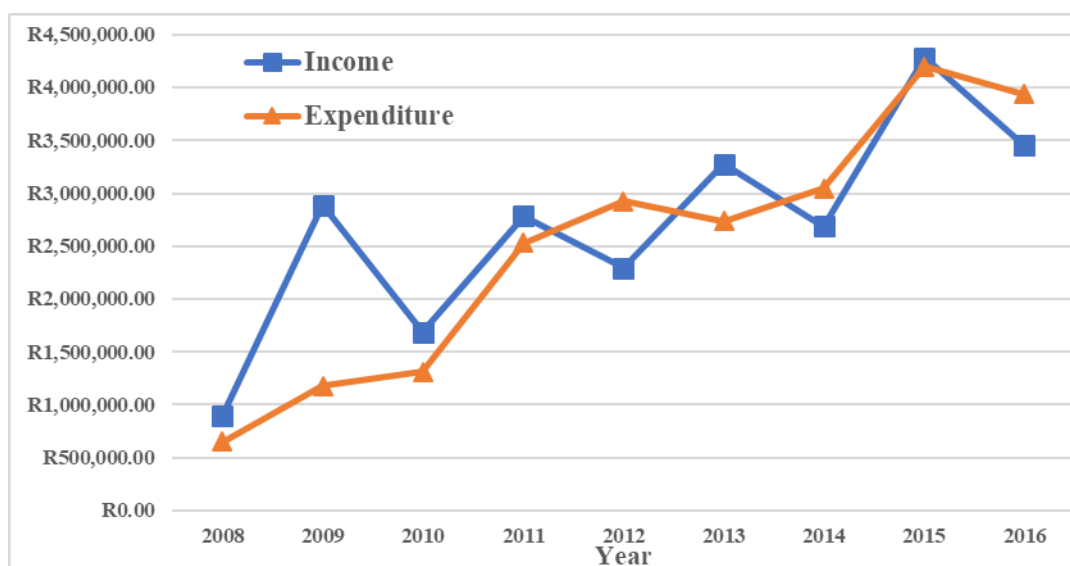


Figure 2: The income and expenditure of the Perinatal Mental Health Program plotted against time in years.

Data from the PMHP annual reports 2008-2016 were reviewed with income and expenditure data extracted and plotted with value against year with both income and expenditure ⁶.

PMHP shows excellent financial sustainability and meets all “four pillars” indicative of sustainable financial management León (2001)¹⁰. These four pillars are planning, income diversity, income generation, and administration. Annually, PMHP sets financial summaries and budgets that are adhered to next year. As shown in Figure 2, expenditures are adjusted continuously to fit the financial situation of recent years. The program has also made great improvements in income diversity. In 2008, 80% of the program’s income came from the Mary Slack and Daughter Foundation, which means the program’s financial situation is largely reliant on a single organization’s situation⁶. This situation has changed drastically by 2014, as PMHP has 14 funding sources, with no source contributing above 30%⁶. Furthermore, PMHP’s self-generated income increased from 14.5% in 2014 to 20.7% in 2016, indicating greater financial autonomy⁶. Lastly, PMHP’s organized annual financial summaries and projections show administrative effort. Hence, it demonstrates all four elements essential for financial sustainability.

Conclusion

The PMHP’s screening program meets most criteria of the UK National Screening Council, demonstrating satisfactory viability, effectiveness and appropriateness. The program's benefits were determined to outweigh its harms. Published patient self-reports and outcome data suggest successful impact with numerous highlights in accessibility at patient, provider, and health system level – however, more research is needed in patient outcomes to justify impact. The program also

demonstrates excellent financial sustainability and is in accordance with the “four pillars” of financial sustainability.

Political and Policy Commitment

Successful scale-up and implementation of mental health services require high political commitment, involving stakeholders at multiple levels²⁵. Unfortunately, in South Africa, there is no official national policy for mental health issues. In 1997, a document titled “National health policy guidelines for improved mental health in South Africa” was approved by national Minister of Health¹⁴. However, it did not follow more recent development protocol and was not published for dissemination¹⁴. Thus, South Africa lacks political and policy commitment for mental health policy. PMHP’s scalability can benefit greatly from government involvement, which will facilitate its integration into existing health infrastructure and provide stable funding.

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