

Maternal depression

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The nature and scale of the problem

Depression is a mental disorder characterised by low mood, loss of interest or enjoyment, and reduced energy, leading to increased fatigue, reduced activity, and marked functional impairment (WHO, 1990). Other common symptoms are reduced concentration, reduced self-esteem, ideas of guilt or unworthiness, pessimistic views of the future, ideas or acts of self-harm or suicide, disturbed sleep, disturbed appetite and irritability. Depression is more severe than everyday fluctuations in mood, and leads to significant personal suffering and impairment in normal functioning.

Maternal depression is defined as depression experienced by a mother during pregnancy or the postnatal period (first 12 months of her baby's life). The experience of maternal depression may vary substantially across cultures, with a variety of culture-specific idioms of distress. Examples include *kufungisisa* "thinking too much" in Zimbabwe (Patel et al, 1997), *ukudakumba* "being sad or unhappy" and *ucingakakhulu* "thinking too much" in South Africa (Davies et al, 2016), and *yandimukuba* "being struck by pressure" in Uganda (Nakku et al, forthcoming). These experiences are often accompanied by social isolation, withdrawal and stigma. Prevalence estimates for maternal depression vary. A recent systematic review reported that 16 per cent of pregnant women and 20 per cent of postnatal women experience depression in low- and middle-income countries (LMIC) (Fisher et al, 2012). This is higher than high-income countries, where 10 per cent of pregnant women and 13 per cent of postnatal women experience depression (O'hara and Swain, 1996).

About the author

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Risk factors for maternal depression include poverty, unintended pregnancy, younger age, being unmarried, lacking intimate partner empathy and support, trauma (especially intimate partner violence), insufficient emotional and practical support, and HIV status (Fisher et al, 2012; Hartley et al, 2011). Conversely, protective factors include, social support, family involvement, planned pregnancy, partner involvement, and individual resilience factors such as optimism (Grote and Bledsoe, 2007).

Impact on the woman and her children

Maternal depression has a number of negative consequences for the woman herself. These include loss of functioning (inability to perform everyday tasks or social roles), loss of interest in self-care and child care, behaviour that affects other health conditions (for example, poor adherence to antiretroviral treatment for HIV), and risk of suicide or self-harm. A global systematic review reports that between 5 per cent and 14 per cent of women report suicide ideation during pregnancy or the postnatal period (Lindahl, Pearson and Colpe, 2005). Most suicides happen in the postnatal period (Gentile, 2011) and the presence of perinatal depression predicts suicide (Lindahl, Pearson and Colpe, 2005). Suicide now surpasses maternal mortality as the leading cause of death in girls aged 15-19 years, globally (Petroni, Patel and Patton, 2015).

Recent research from LMIC has revealed a number of negative consequences of maternal depression for the child. These include effects on children's general health, development and behaviour (Wachs, Black and Engle, 2009; Hayes and Sharif, 2009), diarrhoeal episodes (Ross et al, 2011), malnutrition (Anoop et al, 2004; Patel, De Souza and Rodrigues, 2002), impaired physical development including significantly reduced height and weight and impaired mental development (Patel, De Souza and Rodrigues, 2002; Hadley et al, 2008), as well as poor mother-infant attachment and impaired mother-child relationships (Tomlinson, Cooper and Murray, 2005; Cooper et al, 1999).

Given the effect of maternal depression on infant and child developmental trajectories, maternal depression may play a key role in maintaining inter-generational cycles of poverty. However, the longitudinal data to support this hypothesis is not yet available in LMIC. Atif Rahman and colleagues in Pakistan are conducting long-term follow-up of children of maternally depressed women and are investigating this area in an ongoing way (Maselko et al, 2015).

Screening and diagnostic tools for maternal depression in low-income settings

A variety of screening tools have been used in low-income settings, including the Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden and Sagovsky, 1987), which has been validated in many settings (De Bruin et al, 2004) and other general depression screening tools such as the Patient Health Questionnaire (PHQ) (Kroenke and Spitzer, 2002), the Centre for Epidemiological Studies Depression Scale (CESD) (Radloff, 1977) and the Self Reporting Questionnaire (SRQ20) (Beusenbergh and Orley, 1994). The benefits of screening tools are that they can facilitate a relatively quick and cheap assessment of potential depression and facilitate access to community-based care. General health practitioners such as nurses or community health workers can be trained to administer screening tools. The risks are that such tools may lack local cultural validity: with inadequate sensitivity they may miss real cases of depression and with inadequate specificity they may overburden services with 'false positive' cases (Kagee et al, 2013). A further risk is that if adequate resources are not in place in the health system, the system may be flooded by new referrals whose needs cannot be met. Careful consideration of the broader health system requirements of introducing routine screening is therefore essential.

A more rigorous but also more costly alternative is a diagnostic assessment by a mental health professional (for example using the WHO ICD10) (WHO, 1990), or the use of diagnostic assessment instruments such as the Mini International Neuropsychiatric Interview (Sheehan et al, 1998) or the Composite International Diagnostic Interview (CIDI) (Kessler and Ustun, 2004). The latter instruments take longer to administer than screening tools, require more skilled personnel and are therefore more costly. They may also suffer from similar problems of inadequate local cultural validity if they have not been properly adapted and translated into the local language.

A third alternative (and relatively recent innovation) is the use of idioms of distress to generate vignette based detection tools such as the Community Informant Detection Tool in Nepal (Jordans et al, 2015). This approach marks a step forward in identifying culturally valid experiences of depression, although substantial adaptation may be required for local cultural settings.

When should one screen? Some researchers have argued that the perinatal period is a time of high risk for women and their infants, and that routine antenatal screening for mental health, particularly in communities where high prevalence has been reported, should be mandatory (Honikman et al, 2012). Recently, the US Prevention Task Force published findings in the Journal of the American Medical Association (JAMA) recommending routine screening for depression, especially for pregnant and postpartum women (Siu et al, 2016). The final decision on whether to introduce routine antenatal or postnatal depression screening should depend on a number of considerations, including the prevalence of maternal depression in the local setting, the local validity of screening tools, and the availability of resources for detection and treatment.

What is good practice? Interventions in low resource settings

There is good emerging evidence for the cost-effectiveness of adapted psychological interventions, such as cognitive behaviour therapy (CBT), delivered by community health workers or lay counsellors, using a task shifting or task sharing approach (Chowdhary et al, 2014). For example, a large randomised controlled trial using Lady Health Workers to deliver a Thinking Healthy intervention in Pakistan demonstrated a significant improvement in depression outcomes (Rahman et al, 2008). As a result, the WHO has endorsed this approach and published a Thinking Healthy manual for maternal depression (WHO, 2015). Other trials are underway currently, for example, using peer counsellors in India and Pakistan (Sikander et al, 2015), and community health workers in South Africa (Lund et al, 2014).

How can maternal depression interventions be integrated into general maternal health programmes?

Integration is possible and there are several best practice examples, for example, the Perinatal Mental Health Project in Cape Town, South Africa (Honikman et al, 2012). Steps for integrating maternal depression interventions into wider maternal health programmes include the following:

- Select a suitable locally relevant screening or detection tool. Examples of screening tools include the EPDS or PHQ9 (see above) and clinical algorithms include the WHO mhGAP Intervention Guide (WHO 2010).
- Adapt and translate the screening tool if necessary.
- Conduct a needs assessment: administer the screening tool to all antenatal and postnatal mothers over a specified period of time to determine prevalence.
- Based on the identified need, design a stepped care approach, appropriate to the local setting:
 - Step 1: routine or selected antenatal and postnatal screening
 - Step 2: screen positives referred for evidence-based counselling
 - Step 3: referral of mothers who are not responsive to counselling for assessment by a medical doctor or a suitably qualified prescribing practitioner for potential anti-depressant medication
- Note:
 - Five-day training (for example, using the WHO Thinking Healthy manual) (WHO, 2015), plus ongoing supervision of counsellors is essential. Appropriately selected lay counsellors or community health workers within the existing health system may be able to take on this role, although careful attention should be paid to potential counsellors' personal capacity, motivation and skills (Honikman et al, 2012). Counsellors can include psychological counsellors and community health workers such as the Lady Health Workers in Pakistan (Rahman et al, 2008). Currently trials are under way in Pakistan and India to assess the effectiveness and cost-effectiveness of peer counsellors for perinatal depression (Sikander et al, 2015). The time required for counsellors to provide

counseling will depend on the caseload, whether group or individual sessions are conducted and the number of sessions attended by each woman detected with depression.

- It is also important that the broader health system is strengthened to cope with the possible additional demand. This should include appropriately trained medical personnel and the supply of appropriate anti-depressant medication for mothers who do not respond to psychological interventions. See other models, such as the Perinatal Mental Health Project (PMHP) for an indication of possible demand for medical personnel and medication – in the case of the PMHP only 2 per cent of women who received counseling were referred and seen by a psychiatrist (Honikman et al, 2012), but needs are likely to vary substantially based on a variety of contextual factors.
- Costs to the health system are likely to vary substantially depending on demand, coverage and local health system costs (including personnel, medication and facilities). Estimates of the costs of integrating maternal mental healthcare into general primary care systems in LMIC are the subject of ongoing studies, such as the PRogramme for Improving Mental health carE (PRIME) study, which generated estimates of between US\$5.05 in Ethiopia and US\$14.48 in India per perinatally depressed woman treated with psychosocial care (Chisholm et al, 2016).

Some research and innovation groups working in maternal mental health in LMIC are:

- Atif Rahman, Vikram Patel and colleagues at the University of Liverpool, working in Pakistan and India
- Simone Honikman and colleagues at the Perinatal Mental Health Project in Cape Town, South Africa
- Jane Fisher and colleagues at Monash University, Australia
- Ricardo Araya and colleagues at the Centre for Global Mental Health, London School of Hygiene and Tropical Medicine, United Kingdom, with projects in Brazil and Chile
- Juliet Nakku and colleagues at Makerere University, Kampala, Uganda
- Charlotte Hanlon and colleagues at Addis Ababa University, Ethiopia

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For more on global mental health innovations, see the Mental Health Innovation Network: <http://mhinnovation.net>

Key readings

Reading 1: Fisher J, Mello MCd, Patel V, et al. Prevalence and determinants of common perinatal mental disorders in women in low- and lower-middle-income countries: a systematic review. *Bull World Health Organ* 2012; 90(2): 139-49. http://www.heart-resources.org/doc_lib/prevalence-determinants-common-perinatal-mental-disorders-women-low-lower-middle-income-countries-systematic-review/

Reading 2: Patel V, De Souza N, Rodrigues M. Postnatal depression and infant growth and development in low income countries: a cohort study from Goa, India. *Arch Dis Child* 2002; 87: 1-4. http://www.heart-resources.org/doc_lib/postnatal-depression-infant-growth-development-low-income-countries-cohort-study-goa-india/

Reading 3: Rahman A, Malik A, Sikander S, Roberts C, Creed F. Cognitive behaviour therapy-based intervention by community health workers for mothers with depression and their infants in rural Pakistan: a cluster-randomised control trial. *Lancet* 2008; 372: 902-9. http://www.heart-resources.org/doc_lib/cognitive-behaviour-therapy-based-intervention-community-health-workers-mothers-depression-infants-rural-pakistan-cluster-randomised-controlled-trial/

Reading 4: Honikman S, van Heyningen T, Field S, Baron E, Tomlinson M. Stepped care for maternal mental health: a case study of the perinatal mental health project in South Africa. *PLoS Med* 2012; 9(5):

e1001222. http://www.heart-resources.org/doc_lib/stepped-care-maternal-mental-health-case-study-perinatal-mental-health-project-south-africa/

Reading 5: WHO (2015). Thinking Healthy: A manual for psychological management of perinatal depression. Geneva: WHO. http://www.heart-resources.org/doc_lib/thinking-healthy-manual-psychosocial-management-perinatal-depression/

Reading 6: Kagee A, Tsai AC, Lund C, Tomlinson M. Screening for common mental disorders in low resource settings: reasons for caution and a way forward. *International Health* 2013; 5(1): 11-4. http://www.heart-resources.org/doc_lib/screening-common-mental-disorders-low-resource-settings-reasons-caution-way-forward/

Questions for discussion

- What are best practice models for integrating mental health into maternal healthcare?
- What are the risks and benefits of using screening tools for maternal depression?
- How could services be set up to treat maternal depression in your context?
- What additional resources would you need, beyond those that are currently available, to get the service up and running?
- What tools can you use to persuade the government or other service funders about the need for the service in your local setting?

References

- Anoop S, Saravanan B, Joseph A, Cherian A, Jacob K. Maternal depression and low maternal intelligence as risk factors for malnutrition in children: a community based case-control study from South India. *Arch Dis Child* 2004; 89(4): 325-9.
- Beusenberg M, Orley J. A user's guide to the Self-Reporting Questionnaire (SRQ). Geneva: World Health Organization; 1994.
- Chisholm D, Burman-Roy S, Fekadu A, et al. Estimating the cost of implementing district mental healthcare plans in five low- and middle-income countries: the PRIME study. *The British Journal of Psychiatry: The Journal of Mental Science* 2016; 208 Suppl 56: s71-8.
- Chowdhary N, Sikander S, Atif N, et al. The content and delivery of psychological interventions for perinatal depression by non-specialist health workers in low and middle income countries: a systematic review. *Best Practice & Research Clinical Obstetrics & Gynaecology* 2014; 28(1): 113-33.
- Cooper PJ, Tomlinson M, Swartz L, Woolgar M, Murray L, Molteno C. Post-partum depression and the mother-infant relationship in a South African peri-urban settlement. *The British Journal of Psychiatry* 1999; 175(6): 554-8.
- Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry* 1987; 150(6): 782-6.
- Davies T, Schneider M, Nyatsanza M, Lund C. "The sun has set even though it is morning": Experiences and explanations of perinatal depression in an urban township, Cape Town. *Transcultural Psychiatry* 2016.
- De Bruin G, Swartz L, Tomlinson M, Cooper P, Molteno C. The factor structure of the Edinburgh Postnatal Depression scale in a South African peri-urban settlement. *South African Journal of Psychology* 2004; 34: 113-21.
- Fisher J, Mello MCd, Patel V, et al. Prevalence and determinants of common perinatal mental disorders in women in low-and lower-middle-income countries: a systematic review. *Bull World Health Organ* 2012; 90(2): 139-49.
- Gentile S. Suicidal mothers. *Journal of Injury and Violence Research* 2011; 3(2): 90.
- Grote NK, Bledsoe SE. Predicting postpartum depressive symptoms in new mothers: the role of optimism and stress frequency during pregnancy. *Health & Social Work* 2007; 32(2): 107-18.

- Hadley C, Tegegn A, Tessema F, Asefa M, Galea S. Parental symptoms of common mental disorders and children's social, motor, and language development in sub-Saharan Africa. *Ann Hum Biol* 2008; 35(3): 259-75.
- Hartley M, Tomlinson M, Greco E, et al. Depressed mood in pregnancy: prevalence and correlates in two Cape Town peri-urban settlements. *Reprod Health* 2011; 8: 9.
- Hayes B, Sharif F. Behavioural and emotional outcome of very low birth weight infants—literature review. *The Journal of Maternal-fetal & Neonatal Medicine* 2009; 22(10): 849-56.
- Honikman S, van Heyningen T, Field S, Baron E, Tomlinson M. Stepped care for maternal mental health: a case study of the perinatal mental health project in South Africa. *PLoS Med* 2012; 9(5): e1001222.
- Kagee A, Tsai AC, Lund C, Tomlinson M. Screening for common mental disorders in low resource settings: reasons for caution and a way forward. *International Health* 2013; 5(1): 11-4.
- Kessler RC, Ustun TB. The World Mental Health (WMH) survey initiative version of the WHO-CIDI. *International Journal of Methods in Psychiatric Research* 2004; 13: 95-121.
- Kroenke K, Spitzer RL. The PHQ-9: A new depression diagnostic and severity measure. *Psychiat Ann* 2002; 32(9): 509-15.
- Jordans MJ, Kohrt BA, Luitel NP, Komproe IH, Lund C. Accuracy of proactive case finding for mental disorders by community informants in Nepal. *The British Journal of Psychiatry: The Journal of Mental Science* 2015; 207(6): 501-6.
- Lindahl V, Pearson JL, Colpe L. Prevalence of suicidality during pregnancy and the postpartum. *Archives of Women's Mental Health* 2005; 8(2): 77-87.
- Lund C, Schneider M, Davies T, et al. Task sharing of a psychological intervention for maternal depression in Khayelitsha, South Africa: study protocol for a randomized controlled trial. *Trials* 2014; 15: 457.
- Maselko J, Sikander S, Bhalotra S, et al. Effect of an early perinatal depression intervention on long-term child development outcomes: follow-up of the Thinking Healthy Programme randomised controlled trial. *The Lancet Psychiatry* 2015; 2(7): 609-17.
- Nakku J, Eliaililia O, Kizza D, et al. Maternal mental health care in a rural district, Uganda: A qualitative study of barriers, facilitators and needs. *BMC Health Services Research* Under review.
- O'hara MW, Swain AM. Rates and risk of postpartum depression—a meta-analysis. *Int Rev Psychiatry* 1996; 8(1): 37-54.
- Radloff LS. The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement* 1977; 1(3): 385-401.
- Ross J, Hanlon C, Medhin G, et al. Perinatal mental distress and infant morbidity in Ethiopia: a cohort study. *Archives of Disease in Childhood-fetal and Neonatal Edition* 2011; 96(1): F59-F64.
- Patel V, Todd C, Winston M, et al. Common mental disorders in primary care in Harare, Zimbabwe: associations and risk factors. *The British Journal of Psychiatry* 1997; 171: 60-4
- Patel V, De Souza N, Rodrigues M. Postnatal depression and infant growth and development in low income countries: a cohort study from Goa, India. *Arch Dis Child* 2002; 87: 1-4.
- Petroni S, Patel V, Patton G. Why is suicide the leading killer of older adolescent girls? *Lancet* 2015; 386(10008): 2031-2.
- Rahman A, Malik A, Sikander S, Roberts C, Creed F. Cognitive behaviour therapy-based intervention by community health workers for mothers with depression and their infants in rural Pakistan: a cluster-randomised control trial. *Lancet* 2008; 372: 902-9.
- Sheehan DV, Lecrubier Y, Sheehan KH, et al. The Mini-International Neuropsychiatric Interview (MINI): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry* 1998; 59: 22-33.
- Sikander S, Lazarus A, Bangash O, et al. The effectiveness and cost-effectiveness of the peer-delivered Thinking Healthy Programme for perinatal depression in Pakistan and India: the SHARE study protocol for randomised controlled trials. *Trials* 2015; 16: 534.

- Siu AL, Force USPST, Bibbins-Domingo K, et al. Screening for Depression in Adults: US Preventive Services Task Force Recommendation Statement. *Jama* 2016; 315(4): 380-7.
- Tomlinson M, Cooper P, Murray L. The mother–infant relationship and infant attachment in a South African peri-urban settlement. *Child Dev* 2005; 76(5): 1044-54.
- Wachs TD, Black MM, Engle PL. Maternal depression: a global threat to children’s health, development, and behavior and to human rights. *Child Development Perspectives* 2009; 3(1): 51-9.
- WHO. ICD-10 Classification of Mental and Behavioural Disorders. Geneva: WHO; 1990.
- WHO. mhGAP Intervention Guide for Mental, Neurological and Substance Use Disorders in non-specialized health settings: Mental health Gap Action Programme (mmhGAP). Geneva: WHO; 2010.
- WHO. Thinking Healthy: A manual for psychological management of perinatal depression. Geneva: WHO; 2015.