**Improving access to psychosocial interventions for perinatal depression in low- and middle-income countries: Lessons from the field**

Atif Rahman

University of Liverpool, UK

atif.rahman@liverpool.ac.uk

Ahmed Waqas

University of Liverpool, UK

Ahmed.Waqas@liverpool.ac.uk

Anum Nisar

Human Development Research Foundation, Pakistan

Anum.Nisar@hdrfoundation.org

Huma Nazir

Human Development Research Foundation, Pakistan

Huma.Nazir@hdrfoundation.org

Siham Sikander

Human Development Research Foundation, Pakistan

Siham.Sikander@hdrfoundation.org

Najia Atif

Human Development Research Foundation, Pakistan

Najia.Atif@@hdrfoundation.org

**Corresponding author:**

Atif Rahman

University of Liverpool

Institute of Population Health

Block B, Waterhouse Building, 1-5 Dover Street, Liverpool L69 3BX

T: +44(0)151 794 6938

E: atif.rahman@liverpool.ac.uk

Review/Policy paper

Received 13th May 2020

Accepted

**Abstract**

Over 90% women with perinatal depression in low and middle-income countries do not receive treatment. Scale-up of evidence-based psychosocial interventions is a key challenge. We developed the Thinking Healthy Programme (THP), a psychosocial intervention that can be delivered by non-specialist providers such as community health workers in primary and secondary care settings. Our research showed that three out of 4 women with perinatal depression who received the programme recovered, and there were beneficial effects on infant outcomes. In over a decade since the original research, policy and practice uptake of the programme globally has been promising. We describe factors contributing to this: the programme is relatively inexpensive and culturally transferable; the intervention can be integrated with existing maternal and child health programmes; the programme is amenable to ‘task-sharing’ via peers, nurses, community health-workers and other frontline workers; cascaded models of training and supervision, and the use of technology for training and delivery provide exciting future avenues for scaled-up implementation. These innovations are relevant to the neglected field of public mental health, especially in the post COVID19 era when rates of anxiety and depression are likely to rise globally.

**Key words:** Perinatal depression; global mental health; Thinking Healthy Programme; psychosocial interventions; low- and middle-income countries

**Introduction**

Perinatal Depression affects 10-15% women in High Income countries (HIC), and between 19% to 25% in LMICs. (Gelaye et al., 2016). Untreated Perinatal depression can have devastating consequences not only for the sufferer but also for the foetus and infant, including poor physical and cognitive development (Stein et al., 2014). In HIC, the value of total lifetime costs of perinatal depression has been estimated to be over USD 100,000 per woman with the condition (Bauer et al., 2016). In LMICs, given the strong associations with infant outcomes, the relative impact is likely to be greater. Despite its significance, over 90% women with perinatal depression in LMICs do not receive treatment.

‘‘Talking’’ or psychosocial interventions are typically the front-line treatment for depression and employ cognitive-behavioural, interpersonal, supportive, and group-based strategies Rahman et al., 2013). A key barrier to provision of such interventions in LMIC is the lack of specialists to deliver them (Kakuma et al., 2011). In recent decades, ‘task-shifting’ where non-specialists are trained to deliver psychosocial interventions under supervision of specialists, has emerged as a major strategy to meet the large treatment gap (Kakuma et al., 2011; Patel et al., 2018).

In 2008, our group reported results from one of the largest randomised controlled trials of a psychosocial intervention to be conducted in a low- and middle income country (LMIC) (Rahman et al., 2008).A decade later, we examine the impact of this intervention on policy and practice globally. We ask if there are there any lessons to be learnt for future researchers, especially in the context of COVID19 which is likely to change the way health care is delivered.

**Task-shifting for perinatal depression: the Thinking Healthy Programme**

The intervention called the Thinking Healthy Programme (THP), is a cognitive behaviour therapy-based intervention that can be delivered by non-specialist providers such as community health workers in primary and secondary care settings (Rahman et al., 2013). Cognitive Behaviour Therapy techniques have been shown to be cross-culturally transferable (Kalibatseva & Leong., 2014). The original research to develop the THP was conducted in rural Pakistan. Our formative work showed that Cognitive Behaviour Therapy (CBT) strategies were suited to the needs of the population (Rahman., 2007). The ‘here and now’ approach, the practical nature of behavioural activation and problem solving techniques, the scope to include other family members, and the use of narratives and pictures to deliver the intervention to non-literate women made the intervention feasible and acceptable (Rahman, 2007). The intervention was integrated into primary health care which, in Pakistan, is organised around Basic Health Units (BHUs) catering to a population of about 30,000 to 50,000. Each BHU has a doctor, a midwife and about 25 community health workers called Lady Health Workers (LHWs). These village-based LHWs deliver maternal and child health services in the communities. THP was designed to be delivered by LHWs.A cluster randomized controlled trial (RCT) was conducted with 900 mothers experiencing perinatal depression (Rahman et al., 2008). The intervention more than halved the rate of perinatal depression in the intervention group, compared to the control group. In addition to symptomatic relief, the women receiving the intervention had less disability and improved social functioning. Infants of treated women had fewer episodes of diarrhoea and were more likely to be immunised; women were more likely to use contraception and both parents reported spending more time playing with their infants. An independent group of health economists conducted a long-term follow-up of our original research and found that impacts on women’s mental health had persisted, with a 17 percent reduction in depression rates. The intervention also improved women’s financial empowerment and increased both time- and money-intensive parental investments by between 0.2 and 0.3 standard deviations (Baranov et al., 2020).

Scaling-up the Thinking Healthy Programme nationally and globally presented another set of challenges. We collaborated with several groups to explore strategies for scale-up: In urban India, peers (lay women from the community) were found to be effective in delivering the programme (Fuhr et al., 2019). Peer-delivered THP cost only 1 USD per intervention recipient, which was negligible compared to the benefits. In Vietnam (Fisher et al., 2014) and Peru (Eappen et al., 2018) the translated and adapted versions of THP were found to be acceptable and appropriate for delivery by nurses, demonstrating the cross-cultural and health-systems transferability of the intervention. In Pakistan, we developed a software Application for training and supervision of community health workers without the need for face-to-face training (Rahman et al., 2019). In Kenya, delivery through mobile phones was piloted (Green et al., 2019).

In 2015, the THP became the first completely manualized evidence-based intervention, with step-by-step instructions for implementation by non-specialists, to be incorporated in the WHO’s flagship mental health Gap Action Programme (mhGAP) programme (World Health Organization, 2015). Since its launch on the WHO website in September 2015, the manual has been downloaded over 20,000 times. In the same year, the Thinking Healthy Programme was included in the WHO’s Eastern Mediterranean Region’s Framework for Mental Health as a ‘Best Buy’ (Saraceno et al., 2015). The Framework has been ratified by Ministers of Health of all 22 member countries of the region. The ‘Best-Buys’ serve as a guide to policy-makers for investments in mental health. In 2016, THP was made a part of Pakistan’s National Programme for Non-Communicable Diseases and Mental Health and included in the Universal Health Coverage package for Primary Health Care.In 2019, THP received a boost from the highest office when it was included in the President’s Plan to Promote Mental Health of Pakistanis – an ambitious programme to scale-up selected interventions, including the Thinking Healthy Programme, to the entire country (Mirza & Rahman., 2020). Currently, scale-up is taking place in the Islamabad Capital territory with the aim to train 350 LHWs and their supervisors by 2020 who will then cascade the training to other provinces.

**Lessons learned**

We discuss the key factors that led to the successful policy and practice uptake of the intervention at national, regional and global levels:

*Factors influencing policy uptake:* The examples given above demonstrate that the Thinking Healthy Programme has achieved good traction from policy-makers. In Pakistan, for example, it has been included in the universal health coverage package for primary care and the President’s Programme for Mental Health (Mirza & Rahman., 2020). A key factor was the relatively low cost, estimated at USD 1 per recipient for the peer-delivered version (Fuhr et al., 2019). The intervention took into account from the outset the sociocultural and health-system realities of LMIC settings (Rahman., 2007), making it feasible for implementers. Clearly written manuals and job-aids, understandable by not just specialists but a broad range of stakeholders, were also important. Engagement of academics with influential policy fora such as the WHO was critical to building links with Ministries. Finally, endorsement by high officials, as by the President of Pakistan, can boost implementation efforts and should be part of advocacy efforts (Mirza & Rahman., 2020).

*Cross cultural transferability:* Successful pilot implementation in urban India (Fuhr et al., 2019), Vietnam (Fisher et al., 2015), and Peru (Eappen et al., 2018) demonstrated the core content and techniques of THP are culturally transferable. However, translation and adaptation needs to be conducted by bilingual experts followed by cognitive interviewing and field testing with end users, and documentation of the entire process, to ensure fidelity with the original intervention.

*Integration with existing maternal and child health (MCH) programmes:* A feature of the Thinking Healthy Programme is that many key elements are synergistic with other MCH interventions such as those for nutrition and child development, which allows integration (Zafar et al., 2014). Thus, whenever the community health worker delivers a session for child nutrition or development, she can use THP principles at the same time to strengthen the key message as well as provide the psychosocial intervention.

*Task-sharing innovations:* In some settings, Community Health Workers (CHWs) have a heavy work-load that often leaves little capacity to deliver mental health care as part of their routine work. This is likely to become more evident in the post COVID19 era. We have adapted THP so it could be delivered by peers (local volunteer lay women who share socio-demographic and life experiences with the target population), working alongside CHWs to deliver THP to their local communities (Fuhr et al., 2019). Research in India and Pakistan showed that peers could deliver the intervention effectively in the community (Atif et al., 2017). Similarly, we found that frontline workers in health centres in Vietnam could also be trained to deliver the intervention (Fisher et al., 2015).THP is therefore flexible in terms of the delivery-agent.

*Cascaded models of training and supervision:* To meet the challenge of a lack of trainers to scale up training and supervision, we used a single specialist trainer to train and supervise a group of non-specialist trainers, who in turn cascaded the training to lay-workers (Atif et al., 2019). We found that the lay-workers were able to achieve and sustain the required competency to deliver the intervention. As lay-workers become more competent, they can become peer-supervisors, thus adding to the pool of trainers and supervisors. This cascaded model can potentially be scaled-up with only a few specialist trainers nationally.

*Technology to support training and delivery:* In Pakistan, 87% of households own a mobile phone, indicating the potential of digital technology for delivery of such interventions. We developed and tested a technology-assisted training and supervision system for LHWs to be trained in THP (Rahman et al., 2019). We found that LHWs trained through this system were equally competent compared to those trained in conventional specialist-led face-to-face training and supervision, while the costs were 30% less. In Kenya, delivery of THP through mobile phones is being explored (Green et al., 2019). We are currently developing an App which can allow peers to deliver THP directly to other women through smartphones or face-to-face. Technology thus provides exciting new avenues for scale-up of psychosocial interventions in resource constrained settings.

It is almost certain that the post COVID19 era is going to present great challenges to health systems, not only in LMICs but also High-Income Countries. Economic recession is likely to add to the numbers of people suffering from anxiety and depression. Health systems already struggle to cope with the demands. The lessons learned from the scale-up of the Thinking Healthy Programme in Pakistan and elsewhere could provide potential directions to the already neglected field of public mental health.

**Competing interests:** None declared.

**Funding:** The study received no funding. Atif Rahman had full access to all the data in the study and had final responsibility for the decision to submit for publication

**References**

Atif, N., Nisar, A., Bibi, A., Khan, S., Zulfiqar, S., Ahmad, I., Sikander, S., & Rahman, A. (2019). Scaling-up psychological interventions in resource-poor settings: training and supervising peer volunteers to deliver the 'Thinking Healthy Programme' for perinatal depression in rural Pakistan. *Global mental health (Cambridge, England)*, *6*, e4.

Atif, N., Krishna, R. N., Sikander, S., Lazarus, A., Nisar, A., Ahmad, I., Raman, R., Fuhr, D. C., Patel, V., & Rahman, A. (2017). Mother-to-mother therapy in India and Pakistan: adaptation and feasibility evaluation of the peer-delivered Thinking Healthy Programme. *BMC psychiatry*, *17*(1), 79.

Baranov V, Bhalotra S, Biroli P, Maselko J. (2020) Maternal Depression, Women’s Empowerment, and Parental Investment: Evidence from a Randomized Controlled Trial. *American Economic Review*,*110*(3), 824–859.

Bauer, A., Knapp, M., & Parsonage, M. (2016). Lifetime costs of perinatal anxiety and depression. *Journal of affective disorders*, *192*, 83–90.

Eappen, B. S., Aguilar, M., Ramos, K., Contreras, C., Prom, M. C., Scorza, P., Gelaye, B., Rondon, M., Raviola, G., & Galea, J. T. (2018). Preparing to launch the 'Thinking Healthy Programme' perinatal depression intervention in Urban Lima, Peru: experiences from the field. *Global mental health (Cambridge, England)*, *5*, e41.

Fisher, J., Nguyen, H., Mannava, P., Tran, H., Dam, T., Tran, H., Tran, T., Durrant, K., Rahman, A., & Luchters, S. (2014). Translation, cultural adaptation and field-testing of the Thinking Healthy Program for Vietnam. *Globalization and health*, 10, 37.

Fuhr, D. C., Weobong, B., Lazarus, A., Vanobberghen, F., Weiss, H. A., Singla, D. R., Tabana, H., Afonso, E., De Sa, A., D'Souza, E., Joshi, A., Korgaonkar, P., Krishna, R., Price, L. N., Rahman, A., & Patel, V. (2019). Delivering the Thinking Healthy Programme for perinatal depression through peers: an individually randomised controlled trial in India. *The Lancet Psychiatry*, *6*(2), 115–127.

Gelaye, B., Rondon, M. B., Araya, R., & Williams, M. A. (2016). Epidemiology of maternal depression, risk factors, and child outcomes in low-income and middle-income countries. *The Lancet Psychiatry*, *3*(10), 973–982.

Green, E. P., Pearson, N., Rajasekharan, S., Rauws, M., Joerin, A., Kwobah, E., Musyimi, C., Bhat, C., Jones, R. M., & Lai, Y. (2019). Expanding Access to Depression Treatment in Kenya Through Automated Psychological Support: Protocol for a Single-Case Experimental Design Pilot Study. *JMIR research protocols*, *8*(4), e11800.

Kakuma, R., Minas, H., van Ginneken, N., Dal Poz, M. R., Desiraju, K., Morris, J. E., Saxena, S., & Scheffler, R. M. (2011). Human resources for mental health care: current situation and strategies for action. *Lancet*, *378*(9803), 1654–1663.

Kalibatseva, Z., & Leong, F. T. (2014). A critical review of culturally sensitive treatments for depression: recommendations for intervention and research. *Psychological services*, *11*(4), 433–450.

Mirza, Z., & Rahman, A. (2020). Mental health care in Pakistan boosted by the highest office. *Lancet, 394*(10216), 2239–2240.

Patel, V., Saxena, S., Lund, C., Thornicroft, G., Baingana, F., Bolton, P., Chisholm, D., Collins, P. Y., Cooper, J. L., Eaton, J., Herrman, H., Herzallah, M. M., Huang, Y., Jordans, M., Kleinman, A., Medina-Mora, M. E., Morgan, E., Niaz, U., Omigbodun, O., Prince, M., … UnÜtzer, J. (2018). The Lancet Commission on global mental health and sustainable development. *Lancet*, *392*(10157), 1553–1598.

Rahman A. (2007). Challenges and opportunities in developing a psychological intervention for perinatal depression in rural Pakistan--a multi-method study. *Archives of Women's Mental Health*, *10*(5), 211–219.

Rahman, A., Malik, A., Sikander, S., Roberts, C., & Creed, F. (2008). Cognitive behaviour therapy-based intervention by community health workers for mothers with depression and their infants in rural Pakistan: a cluster-randomised controlled trial. *Lancet*, *372*(9642), 902–909.

Rahman, A., Fisher, J., Bower, P., Luchters, S., Tran, T., Yasamy, M. T., Saxena, S., & Waheed, W. (2013). Interventions for common perinatal mental disorders in women in low- and middle-income countries: a systematic review and meta-analysis. *Bulletin of the World Health Organization*, *91*(8), 593–601I.

Rahman, A., Akhtar, P., Hamdani, S. U., Atif, N., Nazir, H., Uddin, I., Nisar, A., Huma, Z., Maselko, J., Sikander, S., & Zafar, S. (2019). Using technology to scale-up training and supervision of community health workers in the psychosocial management of perinatal depression: a non-inferiority, randomized controlled trial. *Global Mental Health (Cambridge, England)*, *6*, e8.

Saraceno, B., Gater, R., Rahman, A., Saeed, K., Eaton, J., Ivbijaro, G., Kidd, M., Dowrick, C., Servili, C., Funk, M. K., & Underhill, C. (2015). Reorganization of mental health services: from institutional to community-based models of care. *Eastern Mediterranean health journal, 21*(7), 477–485.

Stein, A., Pearson, R. M., Goodman, S. H., Rapa, E., Rahman, A., McCallum, M., Howard, L. M., & Pariante, C. M. (2014). Effects of perinatal mental disorders on the fetus and child. *Lancet*, *384*(9956), 1800–1819.

World Health Organization. Thinking Healthy: A Manual for Psychosocial Management of Perinatal Depression (WHO generic field-trial version 1.0). Geneva, WHO, 2015.

Zafar, S., Sikander, S., Haq, Z., Hill, Z., Lingam, R., Skordis-Worrall, J., Hafeez, A., Kirkwood, B., & Rahman, A. (2014). Integrating maternal psychosocial well-being into a child-development intervention: the five-pillars approach. *Annals of the New York Academy of Sciences*, *1308*, 107–117.