Institution: University of Liverpool		
Unit of Assessment: UoA4		
Title of case study: Improving access to psychological therapies for perinatal depression in low- and middle-income countries		
Period when the underpinning research was undertaken: 2008-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): **Atif Rahman**	**Role(s) (e.g. job title):** **Professor**	**Period(s) employed by submitting HEI:** **University of Liverpool**
Period when the claimed impact occurred: 2014-2020		
Is this case study continued from a case study submitted in 2014? No		

1. Summary of the impact

According to the World Health Organization, perinatal depression affects about 16% women during pregnancy and 20% after childbirth in low- and middle-income countries (LMICs). Between 75-85% of these women do not receive treatment, with devastating consequences such as increased disability, suicidality, and poor infant physical and cognitive development. We developed the **'Thinking Healthy Programme'** (THP), the first fully manualised psychological intervention to be adopted by the World Health Organization for global dissemination. THP is the only intervention for perinatal depression included in the WHO's flagship mental health Gap Action Programme being implemented in 90 countries. In Pakistan, where the original research was conducted, THP has been included in the Universal Health Coverage package for primary care and over 90,000 community health workers in the primary care system are being trained in it.

2. Underpinning research

The **Thinking Healthy Programme** (THP) was developed by Rahman and is currently one of the most researched psychological interventions in LMICs **[3.1, 3.2]**. THP was subjected to one of the world's largest randomised controlled trials for a psychological intervention, which was published in a landmark Lancet paper in 2008 (over 750 citations by May 2020) **[3.2]**. More recently, pooled results from new trials in Pakistan and India, led by Rahman and colleagues, provide further evidence of the effectiveness of THP, delivered in diverse settings and through varied delivery agents **[3.3]**. This underpinning research establishes the evidence base for THP as an effective and feasible psychological intervention that can be delivered by non-specialist providers such as community health workers in primary and secondary care settings, thereby improving access to treatment for perinatal depression in LMIC where there are very few mental health specialists (e.g. in Pakistan there is one psychiatrist for a population of 400,000 whereas the Royal College of Psychiatrists recommends one psychiatrist per 7500-10,000 population).

Our recent research has also demonstrated that THP is cost-effective. Our trial in India showed it cost USD1.36 (June 2018) per beneficiary mother to provide THP through a peer-worker, so THP pays for itself through reduced health care, time, and productivity costs **[3.4]**. An independent group of health economists conducted a long-term follow-up of our original research and found that positive impacts on women's mental health had persisted over 7 years, with a 17% reduction in depression rates **[3.5]**. 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.

In addition to establishing effectiveness, another key focus of our recent research has been to demonstrate the cross-cultural adaptability of THP and develop strategies for its scale-up to increase access to treatment for perinatal depression globally. In India, findings highlight that the programme can be effectively delivered by peers (lay women from the community) **[3.4]**. In Vietnam, China, and Peru the translated and adapted versions of THP were found to be appropriate for delivery by community health workers and nurses **[3.1]**.

In Pakistan, Rahman and his team have developed a Thinking Healthy Training App, designed to train front-line workers in situations of humanitarian crises, where specialist trainers are not readily available. A randomised trial in a conflict-affected area of Pakistan compared the App-delivered training with face-to-face specialist-led training and found no difference in competence and skills of the health workers trained, while the former method was a much more cost-efficient **[3.6]**. This research opens new avenues for training large numbers of health workers in humanitarian settings and reducing the treatment gap for perinatal depression where it is needed most.

3. References to the research

[3.1] Rahman A, Waqas A, Nisar A, Nazir H, Sikander S, Atif N. (2020). Improving access to psychosocial interventions for perinatal depression in low- and middle-income countries: lessons from the field. *International Review of Psychiatry,* 2020 Jun 9:1-4. DOI: 10.1080/09540261.2020.1772551. PMID: 32516019.

[3.2] Rahman A, Malik A, Sikander S, Roberts C, Creed F. (2008) Cognitive Behaviour Therapy-based intervention by community health-workers for depressed mothers and their infants in rural Pakistan: cluster-randomized controlled trial. *Lancet,* 372:902-909. DOI: 10.1016/S0140-6736(08)61400-2

[3.3] Vanobberghen F, Weiss HA, C Fuhr DC, Sikander S, Afonso E, Ahmad I, … Rahman A. (2020). Effectiveness of the Thinking Healthy Programme for perinatal depression delivered through peers: Pooled analysis of two randomized controlled trials in India and Pakistan. *Journal of Affective Disorders*, 265, 660–668. https://doi.org/10.1016/j.jad.2019.11.110

[3.4] Fuhr DC, Weobong B, Lazarus A, Vanobberghen F, Weiss HA, Singla DR, Tabana H, Afonso E, De Sa A, D'Souza E, Joshi A, Korgaonkar P, Krishna R, Price LN, Rahman A, Patel V. (2019) Delivering the Thinking Healthy Programme for perinatal depression through peers: an individually randomised controlled trial in India. *Lancet Psychiatry.*6(2):115-127. DOI: 10.1016/S2215-0366(18)30466-8

[3.5] 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. DOI: 10.1257/aer.20180511

[3.6] Rahman A, Akhtar P, Hamdani SU, et al. (2019) Using technology to scale-up training and supervision of community health workers in the psychosocial management of perinatal depression: a non-inferiority, randomised controlled trial. *Global Mental Health*. 6(e8):1-12. doi:10.1017/gmh.2019.7

4. Details of the impact (indicative maximum 750 words)

Perinatal depression can have devastating consequences not only for the sufferer, but also for the foetus and infant, especially in low- and middle-income countries **[5.1]**. These include increased disability and risk of suicide, poor infant growth, and impaired cognitive development. Despite its public health significance, 75% to 85% of women with perinatal depression in LMICs do not receive treatment. A key barrier is the lack of specialists to deliver evidence-based psychological interventions. Our research described above led to the development of the **Thinking Healthy Programme**, the world's first completely manualized evidence-based intervention, with step-by-step instructions for implementation by non-specialist providers in primary and secondary care settings. Our underpinning research and evidence-base has established THP as the first-line intervention for perinatal depression in the global context.

Policy and practice impact

In September 2015, the THP was incorporated into the World Health Organization's (WHO) flagship mental health Gap Action Programme (mhGAP) **[5.2, 5.3]**, [Contact 1]. THP has the distinction of being the world's first 'talking therapy' to be recommended by the WHO. The intervention manual is freely available on the WHO website **[5.2]**, having been translated into 6 major languages making it available to approximately 25% of the world's population in their first language (Spanish, Italian, French, Turkish, Chinese, Urdu). Between 2015 and May 2020, the THP manual had been downloaded over 20,000 times (approximately three downloads/day since its launch). THP is now an established component of the WHO's mhGAP, featuring in the revised mhGAP Intervention Guide **[5.3]**, [Contact 1]. THP is also recommended for integration with maternal health services in the World Bank's influential Disease Control Priorities (DCP3) **[5.4]**. In 2018, the influential Lancet Commission on Global Mental Health cited the programme as a 'case-study' of exemplary programmes to reduce the mental health treatment gap **[5.5]**. THP has been included in the WHO's Eastern Mediterranean Region's Framework for Mental Health as a 'Best Buy', which serves as a guide to policymakers for investments in mental health. The Framework has been ratified by all 22 member countries.

Global Implementation

Since its inclusion in mhGAP, THP has been disseminated widely. According to the WHO, the mhGAP has been implemented in 90 countries **[5.6]**. We do not have figures for the number of health workers trained and patients with perinatal depression treated globally, but the potential for the reach of the programme in LMIC, where primary and secondary care services form the backbone of health systems, is huge. We present Pakistan as a case study:

In 2016, the THP was made a part of the National Policy for Non-Communicable Diseases and Mental Health and included in the Universal Health Coverage package for Primary Health Care. In 2019, THP received a huge 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 THP in the entire country **[5.7]**, [Contact 2]. The President's Programme has mandated the Ministry of National Health Services, Regulations and Coordination, to train all 90,000 community health workers in Pakistan in THP by 2024. The implementation is currently in full force with the programme and scheduled to cover the entire country by 2024. Writing in the Lancet **[5.7]**, [Contact 2], the State Minister for Health in Pakistan [Contact 2], outlined the implementation plan for THP and stated that, "*the President's programme is likely to provide important lessons to the global mental health field in the years to come.*"

Impact on lives

In addition to the quantitative data on effectiveness and cost-effectiveness, and the policy and practice uptake of THP globally, we have collected qualitative data on how THP has positively impacted the lives of women and their families. Some selected excerpts from our studies in Pakistan and India are given below **[5.8, 5.9]**:

"…my [health worker] helped me take care of myself… when there was nobody… when she started working with me, I realised I have to look after myself…for my child." (a mother in, Goa, India)

"I am learning new things every day, which are beneficial for me." (a mother in Rawalpindi, Pakistan)

"What could be more rewarding than to see a mother smiling again and playing joyfully with her baby. I feel proud of my work as it is bringing positive changes in the lives of many mothers." (a lay worker in Rawalpindi, Pakistan).

An unexpected benefit of the THP was the improvement in self-esteem, confidence and skill set of lay-health workers who are the backbone of primary health systems in many low-income countries **[5.10]**.

"I have always thought I am not good enough. During supervisions through sharing my experiences and receiving praise and encouraged, I started gaining confidence which is now spilling over to other parts of my life." (a lay worker in Rawalpindi, Pakistan)

"I was not able to communicate with people easily, but now speaking in front of hundreds of people is not a problem for me. Who would have thought that one day I would become the lady counsellor for my area." (a lay worker in Rawalpindi, Pakistan)

Expanding reach of the impact

Due to the demonstrated success of the programme, in June 2020, Rahman and colleagues in Pakistan were awarded a grant of GBP3,250,000 by the NIHR Research and Innovation for Global Health Transformation Scheme to develop a technology assisted version of the THP. Using a human centred approach, the THP will be integrated with available technology such as mobile phones and other electronic platforms to improve its reach and effectiveness.

5. Sources to corroborate the impact (indicative maximum of 10 references)

[5.1] Stein A, Pearson RM, Goodman SH, Rapa E, Rahman A, McCallum M, Howard LM, Pariante CM. (2014) Effects of perinatal mental disorders on the fetus and child. *Lancet*. 384(9956):1800-19.

[5.2] [Contact 1] World Health Organization. Thinking Healthy: A manual for psychological management of perinatal depression. 2015. https://www.who.int/mental_health/maternal-child/thinking_healthy/en/.

[5.3] [Contact 1] World Health Organization. mhGAP Intervention Guide - Version 2.0. 2016. https://www.who.int/mental_health/publications/mhGAP_intervention_guide/en/.
Page 23: 'Brief Psychological Interventions' - this section has description of THP and a link to manual – text is highlighted.
Page 156: Guidelines for provision of treatment and care – Refers to the Thinking Healthy Manual for Maternal depression. Text is highlighted.

[5.4] Patel V, Chisholm D, Dua T, Laxminarayan R, Medina-Mora ME, eds. *Mental, Neurological, and Substance Use Disorders: Disease Control Priorities, Third Edition (Volume 4)*. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2016.
Page 212: 'Maternal and Child Health Programs' – this section contains a description of THP.

[5.5] Patel V, Saxena S, Lund C, Thornicroft G, Baingana F, Bolton P, Chisholm D, Collins PY, Cooper JL, Eaton J…Rahman A et al. (2018) The Lancet Commission on global mental health and sustainable development. *Lancet* 392(10157):1553-1598 followed by Supplementary appendix as part of the original submission and has been peer reviewed. Posted as supplied by the authors.
Page 1573: 'Innovative strategies' – this section mentions THP and refers to Supplement appendix panel 6 for further details.
Supplement appendix: Panel 6 – THP Case study.

[5.6] Keynejad, R. C., Dua, T., Barbui, C., & Thornicroft, G. (2018). WHO Mental Health Gap Action Programme (mhGAP) Intervention Guide: a systematic review of evidence from low and middle-income countries. *Evidence-based Mental Health*, *21*(1), 30–34.

[5.7] [Contact 2] Mirza Z, Rahman A. (2020) Mental health care in Pakistan boosted by the highest office. *Lancet, 394*(10216):2239–2240. doi:10.1016/S0140-6736(19)32979-4

[5.8] Atif N, Krishna RN, Sikander S, Lazarus A, Nisar A, Ahmad I, Raman R, Fuhr DC, 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. doi: 10.1186/s12888-017-1244-z. PMID: 28231791; PMCID: PMC5324237.

[5.9] Atif N, Bibi A, Nisar A, Zulfiqar S, Ahmed I, LeMasters K, Hagaman A, Sikander S, Maselko J, Rahman A. (2019) Delivering maternal mental health through peer volunteers: a 5-year report. I*nt J Ment Health Syst, 13*:62. doi: 10.1186/s13033-019-0318-3. PMID: 31534475; PMCID: PMC6747744.

[5.10] 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. *Glob Ment Health (Camb)*. 26;6:e4. doi: 10.1017/gmh.2019.4. PMID: 31143465; PMCID: PMC6521132.