**Introduction**

Research on mental health problems following humanitarian emergencies has been dominated by a focus on post-traumatic stress disorder (PTSD) ([George *et al.*, 2012](#_ENREF_14)). However, a broad range of mental health consequences following exposure to humanitarian emergencies are recognised ([WHO, 2007](#_ENREF_44)). While the prevalence rates of mental health problems during and after humanitarian emergencies tend to be higher compared to other populations, there is considerable variation between studies and settings ([IASC, 2007](#_ENREF_18), [Steel *et al.*, 2009](#_ENREF_38)). One meta-analysis of higher quality studies suggest that the average rates for depression and PTSD range between 15-20% ([Steel *et al.*, 2009](#_ENREF_38)). Women are especially vulnerable to common mental disorders due to lack of resources, low education, limited social support ([Allden *et al.*, 1996](#_ENREF_2), [Bhui *et al.*, 2003](#_ENREF_5)), and gender-based violence ([Ellsberg *et al.*, 2008](#_ENREF_13)). A recent survey in Swat district, Pakistan (current study site) found 38% were psychologically distressed, and this was associated with previous exposure to conflict-related trauma and major stressors ([Khan *et al.*, 2015](#_ENREF_21)).

The evidence base regarding psychological treatments for mental health problems specifically related to trauma is increasing ([Tol *et al.*, 2013](#_ENREF_40)), however, the majority of research has been conducted in high income settings or through specialized professionals ([Tol *et al.*, 2011](#_ENREF_39)). In order to serve the large number of people affected by humanitarian emergencies, it is important to establish whether such interventions remain effective when delivered by non-specialists under supervision. Adapted psychological interventions by trained non-specialist -workers has received significant attention as part of the global mental health research agenda ([Kakuma *et al.*, 2011](#_ENREF_19)). In order to be scalable, these interventions should be brief and simple, so that they can be delivered by people in the community - ranging from people with high school degrees (e.g., community workers) to those with bachelor degrees ([Rahman *et al.*, 2008](#_ENREF_32)). In addition, interventions should address a range of outcomes, including functioning and common mental health and psychosocial problems relevant to communities affected by adversities.

WHO, as part of its Mental Health Gap Action Programme (mhGAP), has started to develop guidance for humanitarian settings ([Ventevogel *et al.*, 2015](#_ENREF_42)) and test psychological interventions adapted for delivery by non-specialists, including Problem Management Plus (PM+) ([Dawson *et al.*, 2015](#_ENREF_10)). PM+ has been developed for adults affected by symptoms of common mental health problems like depression or anxiety and practical problems like unemployment and interpersonal conflict, within contexts of communities affected by adversity such as conflict.

In order to fit different services, contexts and beneficiary groups, it will likely be important to have available both individual and group versions of PM+. This would help ensure accessibility by a range of target groups exposed to adversity. The group format draws on the same therapeutic strategies as the individual version of PM+ but in also on the therapeutic benefits of peer interaction and the potential for group members to be therapeutic agents to each other ([Yalom and Leszcz, 2005](#_ENREF_45)). Meta-analysis suggests that group psychotherapeutic interventions based upon cognitive behavioural approaches are as effective as individual interventions at 6-month follow-up ([Cuijpers *et al.*, 2008](#_ENREF_9)). Due to the ability of group formats to reach larger numbers of people, the group format offers a potentially scalable approach that may also be a cost-effective means of intervening. Furthermore, when the groups are implemented at the village level, it offers a way to address barriers to service accessibility ([Rahman *et al.*, 2016](#_ENREF_33)). Such community-based approach can be seen as more culturally appropriate especially when adversity (conflict and disaster) occurs at the communal level.

The aim of this study was to evaluate the feasibility and acceptability of the PM+ group intervention in rural settings of Swat district, recently exposed to conflict and militancy. A key feature of this mixed-methods study was to explore the feasibility of delivering the intervention by non-specialists (hereafter referred to as “lay-helpers”) working in collaboration with the established community health Lady Health Worker (LHWs) programme, and under regular supervision.

**Methods**

**Study design**

This mixed-methods study incorporates a two arm cluster randomised controlled feasibility trial, and qualitative evaluation of the acceptability of PM+ group to a range of stakeholders. A cluster design was chosen to reduce the chance of contamination.

**Settings and participants**

Swat is a rural district in the northern part of the Khyber Pakhtunkhwa province, Pakistan. The majority of the population (86%) live in rural villages. Male literacy is 43% and female literacy is 14% (http://www.pbs.gov.pk/content/district-glance-swat). Since 2007, Swat has witnessed widespread conflict and militancy. During the active conflict between army and militants in 2009, nearly 2.5 million people of the district were internally displaced across the country ([Bile and Hafeez, 2009](#_ENREF_6)). In July 2009, the internally displaced persons (IDPs) were asked to return home after the Government declared the area safe, although continued military presence in the district creates social unease ([Rome, 2010](#_ENREF_35)), with sporadic conflicts between militants and security agencies continuing .

The current trial was conducted from 21st March until 12th August, 2015 in Qambar Union Council (UC), a rural conflict-affected area in Swat District. Each UC has a Basic Health Unit (BHU) staffed by a primary care physician, a Lady Health Visitor, a vaccinator, a midwife and LHWs. LHWs are community health workers attached to each BHU, trained to provide mother and child healthcare and education. Each LHW is responsible for a catchment area of approximately 1,000 people or 150 homes, conducting monthly routine health visits to allocated households ([Hafeez *et al.*, 2011](#_ENREF_17)). LHWs are ideal facilitators for delivery of a psychological intervention targeting women, overcoming a significant access barrier by being community based.

Participants were females 18 years or above, referred for screening based on the judgment of their respective LHW that they were psychologically distressed. Screening and enrollment in the trial was conducted by trained members of the research team applying the eligibility criteria explained below. Women with imminent suicide risk, severe cognitive impairment (e.g., severe intellectual disability or dementia) and with severe mental disorder (psychotic disorders, substance-dependence) were excluded.

As a cluster-randomized control trial, the unit of randomization was the LHWs catchment area of approximately 150 homes or a population of 1,000 persons. Of the total 24 LHWs in Qambar, 20 LHWs were eligible for randomization (Figure 1), which was done by a researcher at an independent trial center, Islamabad. Within the Qambar UC 10 LHWs were randomized to the intervention and 10 to Enhanced Usual Care (EUC) arm, using a 1:1 allocation ratio. On average 6 women were screened and recruited for the trial from each of LHW catchment area. When randomized into the intervention arm, the LHW along with the lay-helper informed the participant of the schedule for five consecutive weekly PM+ Group sessions, with the first session scheduled not longer than two weeks after the pre-intervention assessment.

**Intervention**

**Problem Management Plus Group:** PM+ is a WHO psychological intervention developed on evidence of established behavioural and problem solving techniques (stress management, behavioural activation, problem-solving, and strengthening social supports) to provide support to adults exposed to adversity in low and middle income countries ([Dawson *et al.*, 2015](#_ENREF_10)). PM+ Group is an adaptation of the individual intervention. The manual has been translated into Urdu and Pashtu, and culturally adapted.

This study is the first testing of the group version of the PM+ intervention which involves five weekly sessions each lasting three hours, inclusive of breaks. All LHWs in the intervention arm were trained through a half-day session by the lay-helpers regarding their roles and responsibilities in the trial. LHWs initially served to facilitate connection with lay-helpers and participants and provided a space in which to conduct sessions.

The PM+ Group intervention was delivered by local female lay-helpers with 16 years of education and no formal training or prior experience of mental health. The training and supervision of lay-helpers followed an apprenticeship model ([Murray *et al.*, 2011](#_ENREF_28)) which involves moving the primary delivery of healthcare from specialists such as psychiatrists and psychologists to lay-helpers, building skills through on-the-job training. The apprenticeship model involved a 6 day training led by the Master Trainer (KD) to 3 non-specialist supervisors (HN, PA and AM) and 4 female lay-helpers. Training of lay-helpers was followed by four weeks of practice cases with weekly group supervision through Skype (2-3 hours duration) by the 3 supervisors. This supervision model was continued throughout the trial. Before delivering PM+ Group as part of the trial, lay-helpers completed competency assessments. These involved role-plays that were scored on fidelity to the treatment, competency of intervention delivery and counselling skills.

**Enhanced Usual Care (EUC)**

Treatment-as-usual in primary healthcare centers (PHCs) in Swat, Pakistan to individuals with common mental disorders usually consists of (a) no treatment or (b) placebo-based care, as evidence-based mental health care is not currently available in PHCs, or (c) referral to the District Headquarter Hospital for specialized psychiatric care.

For this study, participants in the EUC group received routine visits from their LHW. LHWs in their official duty visit each of their allocated household monthly, providing health education. Care was enhanced in 2 ways: (a) LHWs in the EUC arm received training in primary care referral pathways for treatment of common mental disorders; and (b) primary care physicians received the training in assessment and treatment of common mental disorders routinely taught by our partner, the WHO Collaborating Center in Rawalpindi, Pakistan. Furthermore, during the conduct of the study EUC participants with severe psychiatric disorders (e.g., psychosis) or problems (e.g., suicidality) that required immediate specialist treatment and follow-up were referred to specialist support in tertiary care at the District Headquarter Hospital or to local service provision (BHU), depending upon their needs.

**Measures**

Assessments were conducted at baseline and 7 weeks after baseline assessment. The instruments have been adapted and validated for use in Pakistan. Blinding of research staff was ensured during assessments.

*Anxiety and Depression (primary outcome measure):* Psychological distress in terms of states of anxiety and depression were measured with the Hospital Anxiety and Depression Scale ([Mumford *et al.*, 1991](#_ENREF_27), [Zigmond and Snaith, 1983](#_ENREF_46)), an established scale consisting of 14 items. The HADS contains two sub-scales: HADS-A (anxiety, 7 items and range 0-21) and HADS-D (depression, 7 items and range 0-21). Higher scores indicate more severe symptoms of anxiety and/or depression. The HADS has been translated into Urdu, and showed satisfactory reliability and validity ([Mumford *et al.*, 1991](#_ENREF_27)).

*Psychological distress (screening instrument):* This was measured by the General Health Questionnaire (GHQ-12) ([Goldberg and Williams, 1988](#_ENREF_15), [Minhas and Mubbashar, 1996](#_ENREF_24)) which consists of 12 questions. When used as a screening tool, the GHQ-12 is usually scored bi-modally (i.e., 0-0-1-1), with scores ranging from 0-12. In a previous study in Pakistan, a cut-off of 3 or higher has been reported to indicate clinically significant psychological distress ([Minhas and Mubbashar, 1996](#_ENREF_24)). The GHQ-12 was only used as a screening tool at the baseline assessment.

*Functioning (screening instrument):* Disability was assessed using the 12-item interviewer-administered screener version of the WHO Disability Assessment Schedule (WHODAS 2.0) ([Üstün, 2010](#_ENREF_41)). WHODAS 2.0 covers six domains (cognition, mobility, self-care, getting along, life activities and participation), and assesses difficulties people have due to their illness across these domains during the last 30 days. Difficulties are scored on a 5-point Likert scale as none, mild, moderate, severe, or extreme. WHODAS 2.0 has been validated cross-culturally and is valid as a screening and outcome measure, displaying good sensitivity to change ([Andrews *et al.*, 2009](#_ENREF_3), [Sousa *et al.*, 2010](#_ENREF_37)). To screen participants for inclusion in the study we used a cut-off of 17 or above.

*Depressive disorder:* The Patient Health Questionnaire (PHQ-9) is a 9-item instrument measuring presence and severity of depressive disorder ([Kroenke *et al.*, 2001](#_ENREF_22)). As a severity measure, the PHQ-9 score ranges from 0 to 27, with each of the 9 items scored from 0 (not at all) to 3 (nearly every day). The PHQ has been validated in Urdu ([Ahmer *et al.*, 2007](#_ENREF_1)).

*Post-traumatic stress symptoms:* Post-Traumatic Stress Disorder (PTSD) symptoms were measured using the PTSD Checklist for DSM-5 ([Weathers *et al.*, 2013](#_ENREF_43)). This 20-item checklist corresponds with the 20 symptoms of the DSM-5 PTSD diagnosis. Items were rated on a 0-4 scale, with a total severity score of 80. The previous version of the PCL based on DSM IV PTSD symptoms, the PCL-C, has been used previously in Pakistan ([Khalily *et al.*, 2012](#_ENREF_20)). The PCL-5 was adapted to ask for symptoms in the last week (rather than month) to enhance sensitivity to change.

*Psychological Outcome Profiles (PSYCHLOPS):* PSYCHLOPS consists of four questions ([Ashworth *et al.*, 2004](#_ENREF_4)), covering three domains: problems (2 questions), function (1 question) and wellbeing (1 question). Responses are scored on an ordinal six-point scale producing a maximum score of 18 (6 points per domain). Lower scores indicate better psychological profile.

Adverse life events: Potentially traumatic events ([Mollica *et al.*, 1992](#_ENREF_26)),day to day life events ([Rahman *et al.*, 2003](#_ENREF_31)), and demographic information was also collected to compare the two arms for major baseline differences.

**Process evaluation**

The process evaluation involved mixed-methods process monitoring and semi-structured process evaluation interviews. Process monitoring involved analysis of supervision records and assessments of lay-helper competency in delivering PM+ Group. The lay-helpers were assessed for their competency by 4 independent assessors using a competency rating tool that evaluated a) counselling skills, and b) use of PM+ strategies with participants through direct observation of specially designed role plays. Competency was rated using a 5-point Likert scale ranging from 0 (not done) to 5 (excellent).

The qualitative evaluation exploring questions relating to intervention acceptability through targeted semi-structured interviews with key informants following an established approach for applied mental health research in humanitarian settings ([DIME, 2013](#_ENREF_11), [Green and Thorogood, 2014](#_ENREF_16)). Interviews followed a semi-structured topic guide developed for each category of key informant including intervention participants, lay-helpers, LHWs, family members of intervention participants and assessment team members. Interviews were documented verbatim in a written transcript for subsequent analysis.

**Data analysis**

Since this was a small feasibility cluster, no power calculations were carried out ([Leon *et al.*, 2011](#_ENREF_23)). Feasibility testing of all the components of training, delivery and supervision requires the LHWs have a sufficient case-load. The sample size allowed each LHW to have 6 cases (one group) which is sufficient for a feasibility study.

We carried out intention-to-treat analysis to assess the intervention effect. A linear mixed model was used for the analysis of continuous outcomes, which had intervention as fixed effect, baseline measurement of the outcome as a covariate, and cluster of the LHWs as random effect. The treatment difference in least squares mean between the two arms together with its 95% confidence interval was derived from the model.

All qualitative data was analysed thematically following the Framework approach ([DIME, 2013](#_ENREF_11), [Green and Thorogood, 2014](#_ENREF_16), [Ritchie *et al.*, 1994](#_ENREF_34)) relevant to applied research. This involved researchers familiarizing themselves with interview transcripts, coding transcripts by themes and sub-themes, and finalizing coding through consensus. A document containing these thematic categories was then reviewed alongside interview transcripts to identify quotes to illustrate key themes. Finally, the transcripts were re-visited to ensure that coding had reached saturation. All analysis was conducted in the original language, with only the quotes presented here translated into English.

Ethical approval was obtained from the local Ethics Review Board at the Lady Reading Hospital and the WHO Ethical Review Committee. Approval for study conduct was also obtained from primary care administration prior to study commencement. Participants were only enrolled in the trial and qualitative evaluation after providing voluntary written consent.

**Results**

A total of 134 participants referred by their respective LHWs were approached for screening. 14 participants declined participation before screening (6 in the intervention and 8 in the control arm). The 120 participants who agreed to participate were screened on the two screening instruments after informed consent. After screening positive on the screening measures 119 participants were invited for the trial. Of the 119, 59 participants in 10 LHW catchment areas were in the intervention arm, and 60 participants in 10 LHW catchment areas were in the control arm. Seven participants of the 119 randomized (6%) were lost to follow-up (5 from the intervention and 2 from the control arm). See figure 1 for a detailed consort flow diagram. Table 1 shows the sample characteristics, and demonstrates the treatment arms were well balanced at baseline for demographic variables.

Table 2 summarizes results for the primary and secondary outcomes in the intervention and control arms on intention to treat analysis. On the HADS score (primary outcome measure), there was a significant positive treatment effect in favor of the PM+ intervention; with the intervention arm mean HADS score 4.73 less than the control group (95% CI: (-7.41,-2.06, p=0.001). This significant treatment effect was seen for the separate anxiety and depression score as well at -2.62 (95% CI: (-4.46,-0.77, p=0.008) and -2.48 (95% CI: (-4.00,-0.97, p=0.002) respectively. Similarly on the WHODAS (functionality) and PSYCHLOPS instruments there was a significant positive treatment effect in favor of the PM+ Group intervention, the intervention group WHODAS score -5.37 less than the control group (95% CI: (-9.18,-1.55, p=0.008) and the intervention PSYCHLOPS score -4.49 less than the control group (95% CI: (-6.41,-2.58, p= <0.0001). The PTSD symptoms (PCL) and depressive disorder (PHQ) scores showed trend in favor of intervention arm.

**Process evaluation**

Process monitoring demonstrated that participants showed good levels of intervention adherence with 36/59 (61%) completing the 5-session intervention; and 14/59 (24%), 4/59 (6.8%), 3/59 (5%) and 1/59 completing 4, 3, 2, and 1 session respectively. At the first competency assessments both lay-helpers achieved unsatisfactory levels of competency. Additional targeted training and supervision was then provided to support in areas where their scores were low, alongside additional practice sessions in the field under intensive supervision. Following this the lay-counsellors were re-assessed and deemed competent to deliver PM+ Group with study participants.

*Semi-structured interviews*

Key objectives of the qualitative interviews were to explore: the acceptability of the intervention to key stakeholders, the feasibility of integrating the intervention into LHWs routine scope of work, and identifying barriers and challenges to further scale-up. Interviews were conducted with 2 lay-helpers, 5 participants who completed the sessions, 4 family members of these participants, 3 LHWs and 2 assessment team members.

Interviewees across a range of stakeholders raised common themes which are summarised with quotes in Table 3. Overall lay-helpers, participants, and their families expressed satisfaction with the PM+ Group intervention, identifying its ability to address problems relating to participants perceived psychological well-being and daily functioning. Furthermore, respondent felt the lay-helpers developed good rapport with the participants.

A barrier identified by all stakeholder groups was the 3 hour session duration. Another barrier was participant’ expectation on of monetary incentives to attend sessions (in line with routine practice of many International Organization run programmes in Swat district) which led to difficulties motivating participant attendance and may have influenced lower levels of intervention attendance. Finally, confidentiality issues arose in sessions containing multiple participants from the same household which meant the participants were not comfortable discussing their problem in the group setting, instead seeking to discuss these with the lay-helper separately during breaks.

**Discussion**

This mixed-method study assessed the acceptability and feasibility of the PM+ Group intervention through a feasibility cluster randomized controlled trial in a low-income humanitarian post-conflict setting in villages in Swat district, Pakistan. The results show that lay-helpers with no prior mental health experience can be trained to achieve the desired competency to successfully deliver intervention sessions in the community settings under supervision. Overall intervention uptake was good, with PM+ Group considered useful by participants, their families, and lay-helpers. The outcome evaluation, which was not powered to identify statistical significance, indicated nonetheless statistically significant improvements in symptoms of depression, anxiety; general psychological profile and functioning; and smaller levels of positive improvement in levels of PTSD symptoms and generalized psychological distress. Barriers identified included confidentiality issues which suggest that at the very least sessions need to be comprised of women not from the same household. Recommendation that the length of the session be reduced through shortening session breaks was made to minimise the time that females were away from household duties.

A major strength of this study is that the research procedures, including recruitment and training of research assistants, selection, screening, and follow-up of research participants, randomization, delivery of the community-based intervention, were successfully conducted in the challenging context of Swat, Pakistan. The intervention was found to be acceptable to the local community and LHWs. Furthermore, there was a high retention rate (94%) in the trial, which further reinforces intervention acceptability in the community, as higher retention rates are positively correlated with acceptability ([Ehlers *et al.*, 2005](#_ENREF_12), [Rachman *et al.*, 2008](#_ENREF_29)). This high retention rate and intervention adherence could be due to accessible location of the intervention in the community which reduced the potential stigma associated with seeking mental health support ([Rahman *et al.*, 2013](#_ENREF_30)). Indeed, good retention was also found in a trial of group interpersonal psychotherapy in Uganda ([Bolton *et al.*, 2003](#_ENREF_7)). The feasibility of procedures and acceptability of the intervention to the community, LHWs and health system show that larger scale trials are feasible in the current setting.

LHWs facilitated the sessions along with their routine activities in the community. They were ideal hosts for the PM+ Group as they are trusted and respected in the communities, overcoming a barrier to accessing women in need. Rural Swat may be considered a highly conservative society ([Mohmand and Gazdar, 2007](#_ENREF_25)) and without the LHWs as gatekeepers, community members are unlikely to trust and accept the research procedures.

The group format of the intervention had some inherent challenges; notably that women were reluctant to discuss problems they were facing in the presence of other family members. For the definitive trial this challenge will be addressed by separating relatives and family members into different PM+ groups. In addition, as women are responsible for household chores the long duration of each session was found to be another barrier. For the definitive trial this will be managed by either reducing the duration of breaks or taking them at the end of the session, according to the preference of each group.

The lay-helpers were recruited from the local area with the aim of ensuring acceptability and an ability to relate well to their participants. There is data showing that participants can have preference for delivery agents from within the communities over outside specialists, as they are easily accessible and reduce the stigma attached to help-seeking ([Singla *et al.*, 2014](#_ENREF_36)). Furthermore, local selection and recruitment of the lay-helpers is considered to enhance the potential for future intervention scale-up. The lay-helper eligibility criteria was intentionally broad, enabling access to a large pool of potential persons to take on this role, with this study testing the feasibility of successfully training such persons to deliver the intervention under supervision. Lay-helpers and participants were gender matched (i.e., in this case all female) to enhance acceptability and ensure researcher safety ([Craig *et al.*, 2000](#_ENREF_8)). In addition, locally embedded lay-helpers could be considered more conscious of the local context, including awareness of cultural norms and sensitivity to potential security concerns.

Supervision was important in the study for maintaining quality and fidelity. The supervision structures applied in this feasibility trial are potentially scalable, with a small number of trained specialists in another centre/city providing group-supervision to many lay-helpers through video calls. Additionally, the group format of supervision enabled lay-helper peer support and supervision which was found to be important for managing difficult situations arising during field activities, including lay-helpers emotional wellbeing. In addition, training of lay-helpers was followed by four weeks of practice cases with weekly group supervision, therefore to enhance transfer of skills, more emphasis on experiential components and role-plays should be considered.

In conclusion, the current study shows encouraging results regarding the feasibility and acceptability of the Group PM+ intervention delivered by lay-helpers with no prior mental health experience in humanitarian post-conflict settings. The intervention showed improvement in depression, anxiety and functioning, although the small sample size means the results need to be interpreted with caution, with a larger scale definitive trial required to demonstrate intervention effectiveness.

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**Conflicts of Interest**

The authors declare that they have no competing interests.

**Ethical Standards**

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

**Authorship**

Research was conceptualized by AR & MvO. Manuscript drafting was led by MNK. DW and EW conducted statistical analysis. The manuscript has been reviewed and commented on by MvO, AR, RB, DW, KD, MS, PA, HN, ID and AM; with MNK and SUH taking responsibility for incorporating manuscript edits. All authors have reviewed and approved the final manuscript for submission.

**Availability of Data and Materials**

Data supporting the findings of the study is submitted with the manuscript.

**References**

**Ahmer, S., Faruqui, R. A. & Aijaz, A.** (2007). Psychiatric rating scales in Urdu: a systematic review. *BMC psychiatry* **7**, 1.

**Allden, K., Poole, C., Chantavanich, S., Ohmar, K., Aung, N. N. & Mollica, R. F.** (1996). Burmese political dissidents in Thailand: trauma and survival among young adults in exile. *Am J Public Health* **86**, 1561-9.

**Andrews, G., Kemp, A., Sunderland, M., Von Korff, M. & Ustun, T. B.** (2009). Normative data for the 12 item WHO Disability Assessment Schedule 2.0. *PloS one* **4**, e8343.

**Ashworth, M., Shepherd, M., Christey, J., Matthews, V., Wright, K., Parmentier, H., Robinson, S. & Godfrey, E.** (2004). A client-generated psychometric instrument: The development of ‘PSYCHLOPS’. *Counselling and Psychotheraphy Research* **4**, 27-31.

**Bhui, K., Abdi, A., Abdi, M., Pereira, S., Dualeh, M., Robertson, D., Sathyamoorthy, G. & Ismail, H.** (2003). Traumatic events, migration characteristics and psychiatric symptoms among Somali refugees--preliminary communication. *Soc Psychiatry Psychiatr Epidemiol* **38**, 35-43.

**Bile, K. M. & Hafeez, A.** (2009). Crisis in the Swat Valley of Pakistan: need for international action. *Lancet* **374**, 23.

**Bolton, P., Bass, J., Neugebauer, R., Verdeli, H., Clougherty, K. F., Wickramaratne, P., Speelman, L., Ndogoni, L. & Weissman, M.** (2003). Group interpersonal psychotherapy for depression in rural Uganda: a randomized controlled trial. *Jama* **289**, 3117-3124.

**Craig, G., Corden, A. & Thornton, P.** (2000). Safety in social research. *Social Research Update* **29**, 68-72.

**Cuijpers, P., Van Straten, A., Warmerdam, L. & Smits, N.** (2008). Characteristics of effective psychological treatments of depression: a metaregression analysis. *Psychother Res* **18**, 225-36.

**Dawson, K. S., Bryant, R. A., Harper, M., Kuowei Tay, A., Rahman, A., Schafer, A. & van Ommeren, M.** (2015). Problem Management Plus (PM+): a WHO transdiagnostic psychological intervention for common mental health problems. *World Psychiatry* **14**, 354-7.

**DIME, A. M. H. R. G.** (2013). Design, implementation monitoring, and evaluation of mental health and psychosocial assistance programs for trauma survivors in Low resource countries: a user’s manual for researchers and program implementers (adult version), Module 1: qualitative assessment. *United States: Johns Hopkins University Bloomberg School of Public Health*.

**Ehlers, A., Clark, D. M., Hackmann, A., McManus, F. & Fennell, M.** (2005). Cognitive therapy for post-traumatic stress disorder: development and evaluation. *Behaviour research and therapy* **43**, 413-431.

**Ellsberg, M., Jansen, H. A., Heise, L., Watts, C. H. & Garcia-Moreno, C.** (2008). Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: an observational study. *The Lancet* **371**, 1165-1172.

**George, C., Kanakamma, L. G., John, J., Sunny, G., Cohen, A. & De Silva, M. J.** (2012). Post-tsunami mental health: A cross-sectional survey of the predictors of common mental disorders in South India 9-11 months after the 2004 Tsunami. *Asia Pac Psychiatry* **4**, 104-12.

**Goldberg, D. & Williams, P.** (1988). Windsor: NFER-Nelson. *A user's guide to the General Health Questionnaire*.

**Green, J. & Thorogood, N.** (2014). *Qualitative methods for health research*. Sage.

**Hafeez, A., Mohamud, B. K., Shiekh, M. R., Shah, S. A. I. & Jooma, R.** (2011). Lady health workers programme in Pakistan: challenges, achievements and the way forward. *JPMA-Journal of the Pakistan Medical Association* **61**, 210.

**IASC** (2007). IASC guidelines on mental health and psychosocial support in emergency settings. Inter-Agency Standing Committee: Geneva.

**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**, 1654-63.

**Khalily, M. T., Gul, S., Mushtaq, R. & Jahangir, S. F.** (2012). To examine delayed PTSD symptomatology over time among trauma survivors in Pakistan. *The Online Journal of Counselling and Education* **1**, 1-11.

**Khan, M. N., Chiumento, A., Dherani, M., Bristow, K., Sikander, S. & Rahman, A.** (2015). Psychological distress and its associations with past events in pregnant women affected by armed conflict in Swat, Pakistan: a cross sectional study. *Confl Health* **9**, 37.

**Kroenke, K., Spitzer, R. L. & Williams, J. B.** (2001). The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* **16**, 606-13.

**Leon, A. C., Davis, L. L. & Kraemer, H. C.** (2011). The role and interpretation of pilot studies in clinical research. *Journal of psychiatric research* **45**, 626-629.

**Minhas, F. & Mubbashar, M.** (1996). Validation of General Health Questionnaire (GHQ-12) in primary care settings of Pakistan. *Journal of the College of Physicians and Surgeons Pakistan* **6**, 133-136.

**Mohmand, S. & Gazdar, H.** (2007). Social structures in rural Pakistan. *Thematic paper prepared under TA4319, Determinants and Drivers of Poverty Reduction and ADB’s Contribution in Rural Pakistan. ADB, Islamabad*.

**Mollica, R. F., Caspi-Yavin, Y., Bollini, P., Truong, T., Tor, S. & Lavelle, J.** (1992). The Harvard Trauma Questionnaire: validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *The Journal of nervous and mental disease* **180**, 111-116.

**Mumford, D., Tareen, I., Bajwa, M., Bhatti, M. & Karim, R.** (1991). The translation and evaluation of an Urdu version of the Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica* **83**, 81-85.

**Murray, L. K., Dorsey, S., Bolton, P., Jordans, M. J., Rahman, A., Bass, J. & Verdeli, H.** (2011). Building capacity in mental health interventions in low resource countries: an apprenticeship model for training local providers. *International Journal of Mental Health Systems* **5**, 1.

**Rachman, S., Radomsky, A. S. & Shafran, R.** (2008). Safety behaviour: A reconsideration. *Behaviour research and therapy* **46**, 163-173.

**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**, 593-601I.

**Rahman, A., Iqbal, Z. & Harrington, R.** (2003). Life events, social support and depression in childbirth: perspectives from a rural community in the developing world. *Psychological medicine* **33**, 1161-1167.

**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**, 902-9.

**Rahman, A., Riaz, N., Dawson, K. S., Usman Hamdani, S., Chiumento, A., Sijbrandij, M., Minhas, F., Bryant, R. A., Saeed, K. & van Ommeren, M.** (2016). Problem Management Plus (PM+): pilot trial of a WHO transdiagnostic psychological intervention in conflict‐affected Pakistan. *World Psychiatry* **15**, 182-183.

**Ritchie, J., Spencer, L., Bryman, A. & Burgess, R.** (1994). Analysing qualitative data. *London: Routledge* **3**.

**Rome, S.** (2010). Crisis and reconciliation in Swat, Pakistaniaat. *A Journal of Pakistan Studies* **3**, 53-79.

**Singla, D., Lazarus, A., Atif, N., Sikander, S., Bhatia, U., Ahmad, I., Nisar, A., Khan, S., Fuhr, D. & Patel, V.** (2014). “Someone like us”: Delivering maternal mental health through peers in two South Asian contexts. *Journal of affective disorders* **168**, 452-458.

**Sousa, R. M., Dewey, M. E., Acosta, D., Jotheeswaran, A., Castro‐Costa, E., Ferri, C. P., Guerra, M., Huang, Y., Jacob, K. & Pichardo, J. G. R.** (2010). Measuring disability across cultures—The psychometric properties of the WHODAS II in older people from seven low‐and middle‐income countries. The 10/66 Dementia Research Group population‐based survey. *International Journal of Methods in Psychiatric Research* **19**, 1-17.

**Steel, Z., Chey, T., Silove, D., Marnane, C., Bryant, R. A. & van Ommeren, M.** (2009). Association of torture and other potentially traumatic events with mental health outcomes among populations exposed to mass conflict and displacement: a systematic review and meta-analysis. *Jama* **302**, 537-49.

**Tol, W. A., Barbui, C., Galappatti, A., Silove, D., Betancourt, T. S., Souza, R., Golaz, A. & van Ommeren, M.** (2011). Mental health and psychosocial support in humanitarian settings: linking practice and research. *Lancet* **378**, 1581-91.

**Tol, W. A., Barbui, C. & van Ommeren, M.** (2013). Management of acute stress, PTSD, and bereavement: WHO recommendations. *Jama* **310**, 477-8.

**Üstün, T. B.** (2010). *Measuring health and disability: Manual for WHO disability assessment schedule WHODAS 2.0*. World Health Organization.

**Ventevogel, P., van Ommeren, M., Schilperoord, M. & Saxena, S.** (2015). Improving mental health care in humanitarian emergencies. *Bull World Health Organ* **93**, 666-666a.

**Weathers, F., Litz, B., Keane, T., Palmieri, P., Marx, B. & Schnurr, P.** (2013). The ptsd checklist for dsm-5 (pcl-5). *Scale available from the National Center for PTSD at www. ptsd. va. gov*.

**WHO** (2007). Mental health assistance to the populations affected by the Tsunami in Asia.

**Yalom, I. D. & Leszcz, M.** (2005). *Theory and practice of group psychotherapy*. Basic books.

**Zigmond, A. & Snaith, R.** (1983). The hospital anxiety and depression scale Acta Psychiatr Scand 1983; 67 (6): 361-70.