

## Global Mental Health 3



# Mental health and psychosocial support in humanitarian settings: linking practice and research

Wietse A Tol, Corrado Barbui, Ananda Galappatti, Derrick Silove, Theresa S Betancourt, Renato Souza, Anne Golaz, Mark van Ommeren

This review links practice, funding, and evidence for interventions for mental health and psychosocial wellbeing in humanitarian settings. We studied practice by reviewing reports of mental health and psychosocial support activities (2007–10); funding by analysis of the financial tracking service and the creditor reporting system (2007–09); and interventions by systematic review and meta-analysis. In 160 reports, the five most commonly reported activities were basic counselling for individuals (39%); facilitation of community support of vulnerable individuals (23%); provision of child-friendly spaces (21%); support of community-initiated social support (21%); and basic counselling for groups and families (20%). Most interventions took place and were funded outside national mental health and protection systems. 32 controlled studies of interventions were identified, 13 of which were randomised controlled trials (RCTs) that met the criteria for meta-analysis. Two studies showed promising effects for strengthening community and family supports. Psychosocial wellbeing was not included as an outcome in the meta-analysis, because its definition varied across studies. In adults with symptoms of post-traumatic stress disorder (PTSD), meta-analysis of seven RCTs showed beneficial effects for several interventions (psychotherapy and psychosocial supports) compared with usual care or waiting list (standardised mean difference [SMD]  $-0.38$ , 95% CI  $-0.55$  to  $-0.20$ ). In children, meta-analysis of four RCTs failed to show an effect for symptoms of PTSD ( $-0.36$ ,  $-0.83$  to  $0.10$ ), but showed a beneficial effect of interventions (group psychotherapy, school-based support, and other psychosocial support) for internalising symptoms (six RCTs; SMD  $-0.24$ ,  $-0.40$  to  $-0.09$ ). Overall, research and evidence focuses on interventions that are infrequently implemented, whereas the most commonly used interventions have had little rigorous scrutiny.

The prevalence of mental health and psychosocial problems in humanitarian settings is high. These settings consist of a broad range of emergency situations, including armed conflicts, as well as natural and industrial disasters. Most frequently, mental health researchers in humanitarian settings have focused on identifying rates of post-traumatic stress disorder (PTSD) and other common mental disorders.<sup>1-4</sup> However, other mental health problems are important in these settings, including severe mental disorders (eg, psychotic disorders),<sup>5</sup> non-specific forms of psychological distress, and psychosocial problems specific to young people.<sup>4</sup> Evidence also exists of the effect of deteriorated environmental conditions on mental health and wellbeing in humanitarian settings, including undermined social support networks, opportunities for generating income, and respect for human rights.<sup>6,7</sup>

Meta-analysis of the most robust epidemiological surveys (those using random samples and diagnostic interviews) in conflict-affected populations showed average prevalences of 15.4% (30 studies) for PTSD and of 17.3% (26 studies) for depression.<sup>1</sup> These prevalences are substantially higher than the average 7.6% (any anxiety disorder, including PTSD) and 5.3% (any mood disorder, including major depressive disorder) reported in 17 general populations participating in the World Mental Health Survey.<sup>8</sup> Prevalences of mental disorders vary widely between surveys of conflict-affected populations and are strongly affected by methodological and contextual factors, including the extent of exposure to

adversity.<sup>1</sup> Compared with PTSD and depression, other issues have received less attention—eg, pre-existing and newly occurring severe disorders, the neuropsychiatric

## Key messages

Recommendations for mental health and psychosocial support (MHPSS) in humanitarian settings

- Strengthen the evidence for MHPSS in humanitarian settings
- Broaden outcomes aside from post-traumatic stress disorder and internalising symptoms
- Stimulate collaboration between researchers and practitioners
- Reduce the gap between science and practice
- Prioritise research in to the most commonly implemented MHPSS, especially those in the bottom half of the intervention pyramid
- Dependent on assessed needs, make empirically supported MHPSS widely available
- Adapt the randomised controlled trial design where necessary, and apply innovative research designs when randomised controlled trials are not feasible
- Ensure and assess interventions for people with severe mental disorders
- Sustain MHPSS through their integration with national and local health, education, and social systems
- Add a code for MHPSS to existing financial tracking databases and increase funding to match needs

*Lancet* 2011; 378: 1581–91

Published Online

October 17, 2011

DOI:10.1016/S0140-6736(11)61094-5

See [Comment](#) page 1534

See [Comment](#) *Lancet* 2011; 378: 1441

See [Online/Comment](#)

DOI:10.1016/S0140-

6736(11)60941-0 and

DOI:10.1016/S0140-

6736(11)61270-1

This is the third in a [Series](#) of six papers about global mental health

Global Health Initiative, MacMillan Center, Yale University, New Haven, CT, USA (W A Tol PhD); HealthNet TPO, Amsterdam, Netherlands (W A Tol); Section of Psychiatry and Clinical Psychology, University of Verona, Verona, Italy (C Barbui MD); University of Colombo, Colombo, Sri Lanka (A Galappatti MSc); School of Psychiatry, University of New South Wales, Sydney, NSW Australia (Prof D Silove MD); FXB Center for Health and Human Rights, Research Program on Children and Global Adversity, Harvard University, Boston, MA, USA (T S Betancourt ScD); International Committee of the Red Cross, Geneva, Switzerland (R Souza MD); UNICEF, Geneva, Switzerland (A Golaz MD); and Department of Mental Health and Substance Abuse, World Health Organization, Geneva, Switzerland (M van Ommeren PhD)

Correspondence to:

Dr Wietse Tol, Global Health Initiative, MacMillan Center, Yale University, New Haven, CT 06520-8206, USA  
wietse.tol@yale.edu

consequences of head injuries, and the role of culture in shaping distress and symptoms.<sup>5,9,10</sup> Despite these important gaps in knowledge, empirical evidence suggests that mental disorders and psychosocial problems are substantial public health concerns in humanitarian settings.

In recognition of the importance of mental health and psychosocial support (MHPSS), such activities are increasingly integrated into humanitarian assistance programmes (webappendix p 2).<sup>11–13</sup> Notwithstanding what seems to be an emerging consensus, there are still major disagreements about research and practice, particularly the dominant focus on PTSD,<sup>14</sup> and the appropriate timing and focus of interventions—eg, whether to prioritise reduction of trauma-related reactions and mental disorders, protection of wellbeing, or structural stressors (such as insecurity, livelihoods, and social exclusion in the recovery environment).<sup>15–17</sup> Differences in opinion are likely to continue because of the scarcity of studies that support particular MHPSS in humanitarian settings.<sup>18</sup>

We aim to provide recommendations for practice and research by linking practices that are commonly implemented with evidence from intervention evaluations.

### MHPSS practices

To assess which MHPSS practices are common, we reviewed documents disseminated on the internet, within organisations, or to donors, to identify reports of implemented programmes (webappendix p 3). We selected countries that had had a humanitarian crisis (including natural or technological disasters, and armed conflicts) between Jan 1, 2007, and Sept 20, 2010, using four databases: the Uppsala Conflict Data Program,<sup>19–21</sup> the annual Conflict Barometer,<sup>22–24</sup> the Central Emergency Relief Fund,<sup>25</sup> and the UN database on the Consolidated Appeals Process.<sup>26</sup> From this list, we selected low-income and middle-income countries, as classified by the World Bank.<sup>27</sup> Deletion of duplicates resulted in 192 unique

humanitarian crises occurring in 81 territories. Using Google, we searched the internet domain of each territory with search terms of the name of the specific crises (eg, earthquake, flood, typhoon, drought, armed conflict) combined with “mental health” or “psychosocial” or “psychological”, and “report” or “program”, and restricted our searches to reports in English. When a territory did not have a separately listed internet domain (eg, Chechnya), we searched the country in which the territory is located (eg, Russia). We supplemented this information by hand-searching the websites of the 27 organisations that formed the Inter-Agency Standing Committee (IASC) Guidelines Taskforce<sup>12</sup> and four resource sites (Health and Human Rights Info, *Intervention*, the Mental Health and Psychosocial Support Network, and the Regional Psychosocial Support Initiative) and by contacting experts about 33 programmes listed in a database held by the IASC Reference Group for MHPSS. All identified documents were divided between three coders (two post-graduate public health students and WAT) and coded. They coded the “what” category of the “who does what where until when” (4Ws), a framework developed for coordination of MHPSS in humanitarian settings by the IASC Reference Group for MHPSS.<sup>28</sup> After 2 weeks of training, the coders achieved 85% agreement for coding three identical documents.

The 4Ws framework does not follow a structure specific to the IASC MHPSS guideline’s recommended activities. The 4Ws categorises MHPSS according to self-described labels (ie, if a programme stated that it practises counselling or psychotherapy, it is categorised as such).

Webappendix pp 4–5 shows how frequently specific MHPSS were mentioned in activity reports between 2007, and 2009, in 81 territories according to the categories in the 4Ws.<sup>28</sup> The most often implemented activities were basic counselling for individuals; facilitation of community support for vulnerable individuals; child-friendly spaces; support of community-initiated social support; basic counselling for groups and families; increase of psychoeducation and awareness; structured recreational and creative activities; training of aid workers from diverse humanitarian sectors; psychosocial support for schoolchildren; and non-pharmacological management of mental disorders by general health-care providers. Additionally, general activities to aid MHPSS in humanitarian settings were often mentioned, including training; needs assessment and situation analysis; research, monitoring, and assessment; and technical or clinical supervision. Webappendix p 6 shows the percentage of reports that included any of the specific activities in the ten main categories of the 4Ws.

Additionally, as examples of MHPSS practices in humanitarian settings, we included data from pilot studies of the 4Ws in Haiti, Jordan, and Nepal. The pilot version of the 4Ws consisted of fewer categories than the version used to code activity reports from our review of the grey literature. In these countries, humanitarian

See Online for webappendix

For the Health and Human Rights Info see <http://www.hhri.org>

For *Intervention: International Journal of Mental Health, Psychosocial work and Counselling in Areas of Armed Conflict* see <http://www.interventionjournal.com>

For the Mental Health and Psychosocial Support Network see <http://www.mhpss.net>

For the Regional Psychosocial Support Initiative see <http://www.repsi.net>

	% of total funding
Sexually transmitted infection control (mainly HIV/AIDS)	36.9%
Emergency and distress relief	13.3%
Social or welfare services	5.4%
Medical services	5.2%
Other or not reported	3.8%
Human rights	3.5%
Primary education	2.9%
Civilian peace-building, conflict prevention, and resolution	2.6%
Landmine clearance	2.6%
Population policy and administration management	2.4%
Total	78.6%

**Table:** Sectors that received the most mental health and psychosocial support funding between 2007 and 2009 in countries affected by humanitarian crises

workers (see acknowledgments) asked representatives of organisations providing MHPSS and attending humanitarian cluster meetings to provide details of the activities they implemented for coordination purposes. These organisations were subsequently approached at meetings, by telephone, or through follow-up visits to ensure complete registration of activities. The data were obtained in April, 2010 (Haiti), October–November, 2009 (Jordan), and December, 2009 (Nepal).

Webappendix p 7 shows a summary of the activities reported by organisations in Haiti, Jordan, and Nepal. In all three crises, counselling and case-management (27·7%, 24·5%, and 32·0%, respectively), as well as the integration of psychological and social considerations in other humanitarian sectors (eg, human rights advocacy and legal services, vocational training, and nutrition, and water and sanitation services) (27·6%, 25·1%, and 26·3%, respectively) made up more than 50% of the total reported activities. The provision of psychotropic drugs and psychotherapy made up a small portion (<5%) of services in all three settings. Additionally, structured social activities (eg, child-friendly spaces, recreational activities) were common activities in Haiti (32·2%) and Jordan (28·8%), whereas provision of information and raising awareness of mental health and psychosocial issues was commonly reported in Nepal (22·6%).

### Financial tracking

We searched the Financial Tracking Service and Creditor Reporting System databases, in accordance with the approach used in other financial tracking efforts (for global health,<sup>29</sup> reproductive health in conflict-affected settings,<sup>30</sup> and maternal, newborn, and child health<sup>31</sup>). The databases provide specific codes for some health specialties (eg, reproductive health) but not for mental health. Using the list of countries affected by humanitarian crises identified in the grey literature review, we commissioned Brainmaven Inc (Vancouver, BC, Canada) to search with the words “mental health”, “psychosocial”, and “psychological” for funding recorded in these databases. For all identified programmes, total humanitarian and development funding per country for that year and specific project details (type of donor, project name or description, funding amount, and channel of delivery) were recorded. To avoid double counts, all entries were hand-checked and funding from only the most proximate channel—the channel closest to implementation of services—was included. For example, if a national government provided funding to a donor agency, and the agency then funded a community-based organisation, we only included the latter amount.

In total, countries affected by humanitarian crises between 2007, and 2009, received US\$224·3 billion in funding (at 2008 values). At least \$226·1 million was provided for programmes that included MHPSS activities. The ten areas that received the most funding for programmes that included MHPSS activities

### Panel: Systematic review and meta-analysis methodology

We searched the Cochrane Database of Systematic Reviews, Cochrane Controlled Trials Register, PubMed/Medline, PsycInfo, and PILOTS, using the keywords (“mental health” or psychosocial or psychological) and (humanitarian or disaster or “armed conflict” or “political violence”) and (evaluation or effectiveness or efficacy). Language or publication year limits were not applied to any search. Additionally, we searched the references of relevant systematic reviews<sup>13,18,32–43</sup> and contacted the authors of included studies to identify pertinent research. A tabular approach to data presentation was used, and all studies identified were cross-referenced to identify further studies of relevance.

For the meta-analysis, two reviewers—working independently and in duplicate—read the quantitative studies generated by the searches of the published work. Duplicate publications were excluded. The reviewers independently extracted data for participant characteristics, intervention details, and outcome measures. Most studies used various outcome measures, especially those with children and adolescents, but post-traumatic stress disorder was the most commonly used outcome measure overall. The outcome measure was defined as the group mean score at the end of the trial, or group mean change from baseline to endpoint, on the clinician-administered post-traumatic stress disorder scale or, if this scale was not used, on any other rating scale measuring post-traumatic stress disorder symptoms in adults. For children and adolescents we did a meta-analysis focusing on internalising symptoms, ie, a depression or anxiety measure. A double-entry procedure was used. Data were initially entered and analysed with the Cochrane Collaboration’s Review Manager (version 5), and subsequently entered into a spreadsheet and reanalysed with the metan command of STATA (version 9.0). Outputs were cross-checked for internal consistency. Continuous data were analysed with standard mean differences (because scores from different outcome scales were summarised) with the random effects model (with 95% CIs), which accounts for any differences between studies even if there is no statistically significant heterogeneity.<sup>44</sup> Visual inspection of graphs was used to assess statistical heterogeneity and was supplemented with the  $I^2$  statistic, which provides an estimate of the percentage of variability caused by heterogeneity rather than by chance alone. An  $I^2$  estimate greater than 50% was interpreted as an indication of high heterogeneity.<sup>45</sup> Assessment of risk of bias in studies included in the meta-analysis was done with the Cochrane risk-of-bias programme, and a summary of findings was produced according to the Grading of Recommendations Assessment, Development and Evaluation methodology.<sup>44,45</sup> Because the two meta-analyses of outcome studies with children included cluster randomised trials, we adjusted the analyses for cluster randomisation with an intraclass correlation coefficient of 0·1 (not reported in all studies). The findings of these analyses were consistent with an analytic approach assuming individual randomisation (webappendix p 19).

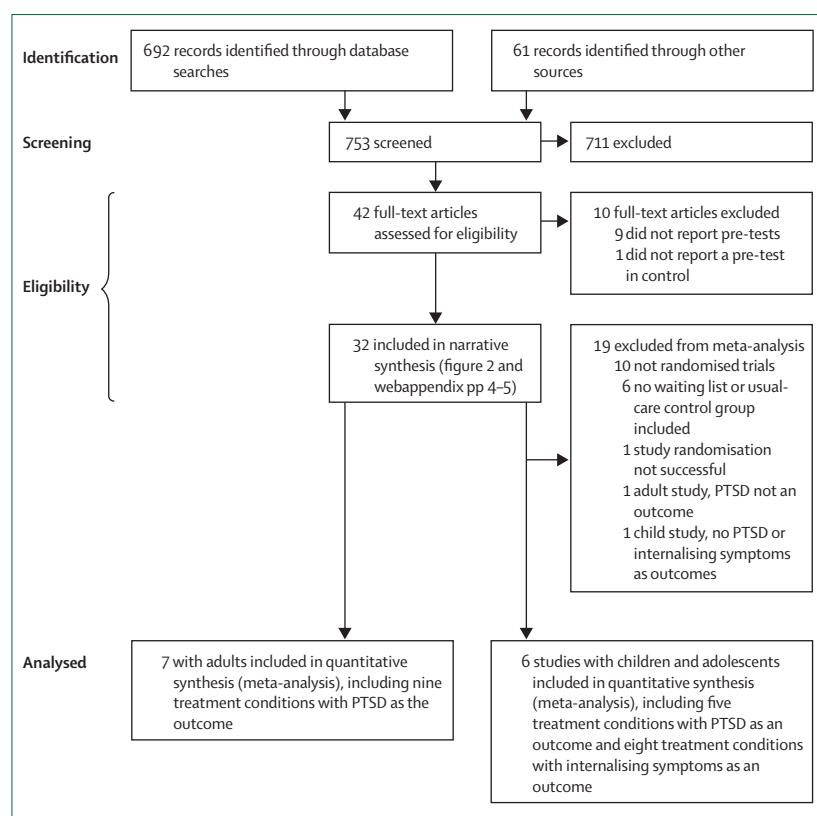
accounted for 78·6% of the total funding (table). About half the funding was spent on programmes for sexually transmitted infection control (mainly HIV/AIDS; 36%) and emergency and distress relief (13%).

### The evidence for MHPSS

To identify studies assessing MHPSS in humanitarian settings, we did a systematic review and meta-analysis separate from our review of the grey literature (panel). Studies were identified in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines.<sup>46</sup> For the systematic review, randomised controlled trials (RCTs) or controlled clinical trials were included (ie, studies that compared any mental health or psychosocial support practice with either other active interventions or with standard

For more on the **Financial Tracking Service** see <http://fts.unocha.org>

For more on **Creditor Reporting System** databases see <http://stats.oecd.org/Index.aspx>



**Figure 1: Studies included in systematic review and meta-analysis**

We included studies according to the Preferred Reporting Items for Systematic reviews and Meta-Analyses guidelines.<sup>46</sup> PTSD=post-traumatic stress disorder.

treatment, waiting list, or no treatment). Participants were children, adolescents, and adults of both sexes who were survivors of humanitarian emergencies—including political violence (armed conflicts and wars) and disasters—in low-income and middle-income countries.

A subgroup of identified studies was included in a meta-analysis to assess whether interventions were effective compared with the natural course of illness, and included only RCTs comparing active interventions to waiting list or no treatment. We examined heterogeneity, risk of bias, and overall methodological quality of trials in our analysis.

## Systematic review

### Study selection

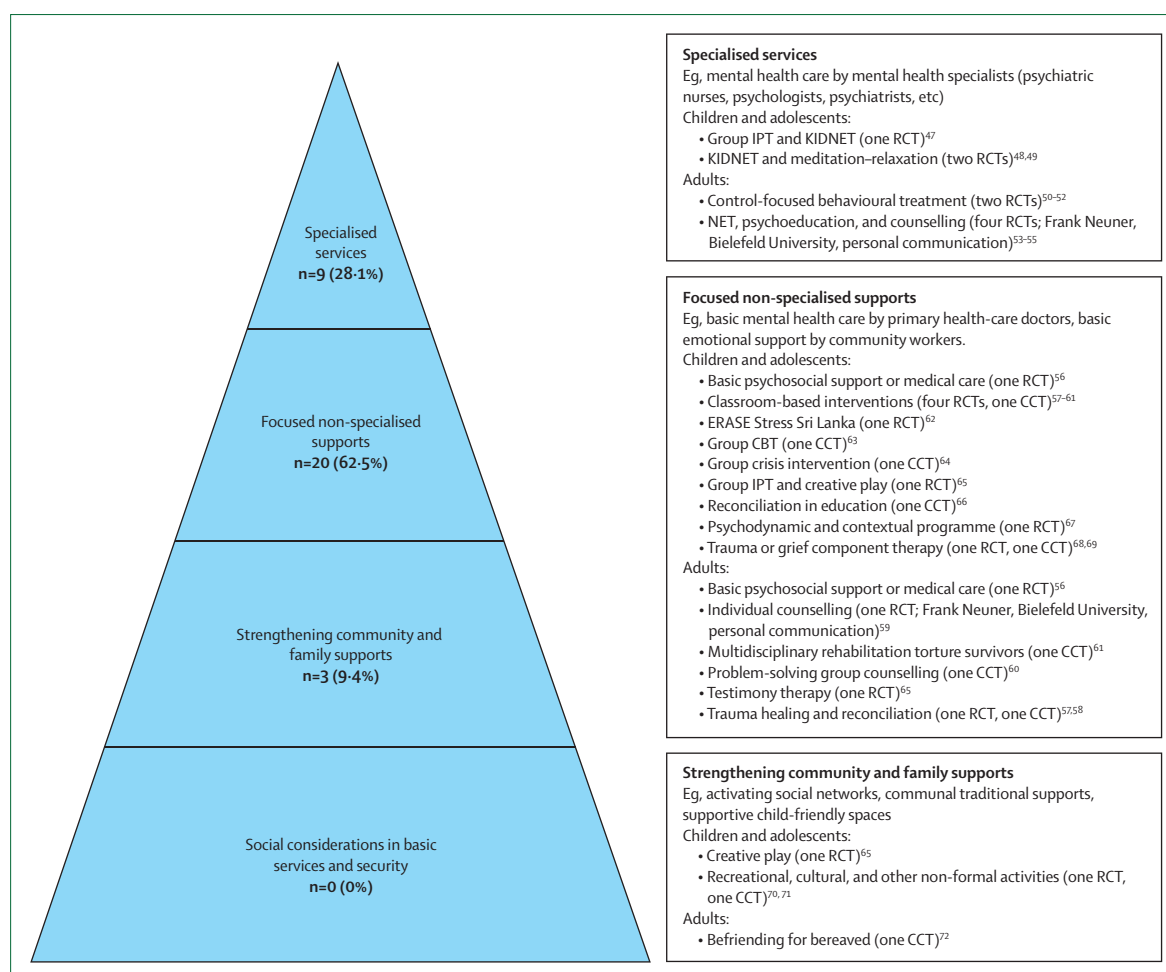
Figure 1 shows the selection criteria for the systematic review and meta-analysis (for selected characteristics of included studies see webappendix pp 8–15). All identified studies were categorised according to intervention goals (figure 2) as described in the intervention pyramid of the IASC MHPSS and Sphere guidelines.<sup>73</sup> We did not identify studies that assessed MHPSS at the lowest level of the IASC pyramid—social considerations in basic services and security (eg, promotion of participation by affected communities in the humanitarian response).

### Strengthening community and family supports

A controlled clinical trial in the occupied Palestinian territory of structured social activities (recreational and cultural) showed improvements in 6–16-year-olds in internalising and externalising problem scores, and the quality of parental support (in the West Bank only), but not in feelings of hope.<sup>70</sup> An RCT in northern Uganda of a school-based intervention (structured activities including drama, movement, music, and art), which aimed to increase resilience in 7–12-year-olds, showed improvements in those who received the intervention, as measured by a locally defined wellbeing questionnaire (self-rated and parent-rated, but not teacher-reported).<sup>71</sup> Another RCT of adolescents in northern Uganda noted no effects of creative play on psychological symptoms and functional impairment.<sup>65</sup> For adults bereaved by the 2004 tsunami, a home-visit befriending intervention delivered by trained volunteers in India recorded reduced PTSD and depressive symptoms, as well as reduced scores in a psychiatric screening measure, but did not cause improvements in a wellbeing index. However, the findings of this study should be interpreted with caution because intervention groups' baseline demographic characteristics differed.<sup>72</sup>

### Focused, non-specialised supports

About two-thirds (20) of identified studies assessed focused MHPSSs targeting diverse forms of psychological distress and bereavement or enhancing specific coping mechanisms, and implemented by trained non-specialised personnel such as community workers, teachers, and school counsellors. Many of these studies examined school-based interventions and met the inclusion criteria for our meta-analysis.<sup>57–60,62</sup> Additionally, school-based interventions were assessed through clinical controlled trials in Armenia,<sup>69</sup> Bosnia and Herzegovina,<sup>66</sup> and Lebanon,<sup>61</sup> and an RCT comparing two active treatments in Bosnia and Herzegovina.<sup>68</sup> Goenjian and colleagues<sup>69</sup> assessed a classroom-based trauma and grief component therapy in adolescents 1.5 years after the 1988 earthquake in Armenia and reported that the intervention improved PTSD and maintained depression symptoms (both increased in the control group). In war-affected 13–18-year-olds in Bosnia and Herzegovina, a classroom-based skills and psychoeducation intervention (focused on trauma and loss and the traumatic stress and grief reactions they can cause) were compared with a combination of this intervention and a group-based trauma-focused and grief-focused treatment.<sup>68</sup> In both cohorts, PTSD and depression symptoms improved, with the largest effect in the group treatment cohort. Improvements in maladaptive grief were seen only in those receiving the additional group treatment. In another study of 12–15-year-olds in Bosnia and Herzegovina, improvements were recorded in PTSD symptoms in ethnically diverse schools taking part in a reconciliation and trauma healing project, but the



**Figure 2: Studies included in the systematic review**

The studies are classed according to the Inter-Agency Standing Committee mental health and psychosocial support pyramid.<sup>73</sup> RCT=randomised controlled trial. CCT=controlled clinical trial. IPT=interpersonal psychotherapy. CBT=cognitive behavioural therapy. ERASE=enhancing resiliency among students experiencing. NET=narrative exposure therapy. KIDNET=narrative exposure therapy for children.

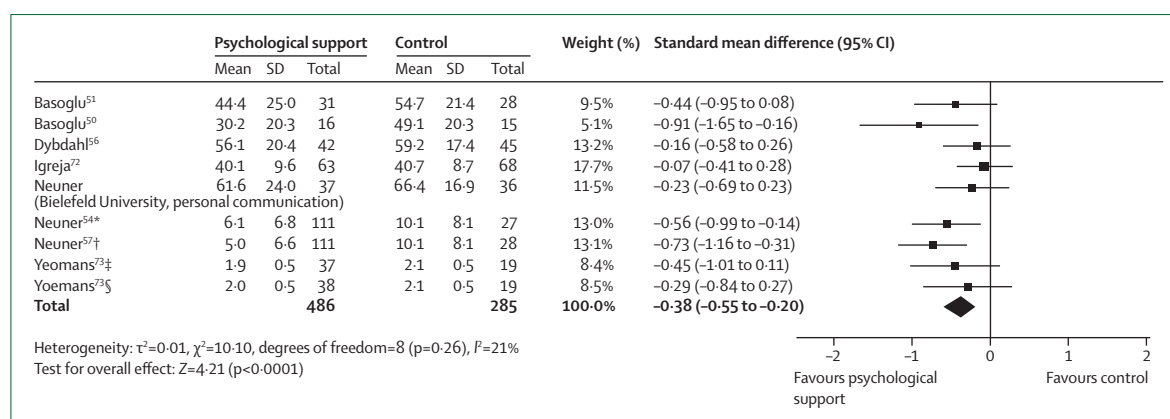
findings were weakened by pre-treatment group differences in PTSD symptoms.<sup>66</sup> In another trial of a classroom-based intervention (consisting of 12 daily sessions implemented by teachers) with 6–18-year-olds residing in armed conflict-affected areas in Lebanon, no differences in depression, separation anxiety, and PTSD between study conditions were recorded.<sup>61</sup>

Additionally, of two clinical trials<sup>63,64</sup> and three RCTs<sup>56,65,67</sup> of interventions delivered in locations of displacement, two RCTs met our inclusion criteria.<sup>57,65</sup> Shooshtary and co-workers<sup>63</sup> assessed a group cognitive behavioural therapy 4 months after the 2003 Bam earthquake and reported improvements in PTSD symptoms in 11–12-year-olds but not in a non-randomised waiting list control group. A clinical controlled trial<sup>64</sup> with 9–15-year-olds done in the occupied Palestinian territory showed no effects for a debriefing intervention. A controlled study<sup>67</sup> with Sudanese refugee children in Ethiopia, in which randomisation was attempted but not achieved, compared

a contextual programme (addressing daily stressors and helplessness) with a psychodynamic programme (addressing traumatic memories), and reported improved outcomes for the contextual programme.

For adults, studies at the third level of the IASC pyramid included interventions such as testimony therapy (one RCT<sup>74</sup> included in our meta-analysis), trauma healing and reconciliation (one RCT<sup>75</sup> [included in the meta-analysis] and one clinical controlled trial<sup>76</sup>), and counselling (one RCT [Frank Neuner, Bielefeld University, personal communication] and two clinical controlled trials<sup>77,78</sup>). In a group approach<sup>76</sup> to trauma healing and reconciliation in post-genocide Rwanda, workshops led by trained workers improved PTSD symptoms and positive orientation to others compared with both workshops led by untrained workers and no treatment. Two clinical controlled trials assessed counselling; in villages in post-conflict areas in Aceh, Indonesia, and for torture survivors in Nepal. In Nepal, measures of general functioning and somatic





**Figure 3: Random-effects meta-analysis of psychological support for adults with post-traumatic stress disorder symptoms in humanitarian settings**  
 \*Narrative exposure therapy. †Trauma counselling. ‡Trauma healing and reconciliation without post-traumatic stress disorder psychoeducation. §Trauma healing and reconciliation with post-traumatic stress disorder psychoeducation.

symptoms improved more in torture survivors receiving a multidisciplinary programme (medical care, counselling, and legal services) than in a group offered psychoeducation sessions, but no improvement of PTSD, anxiety, and depressive symptoms was reported.<sup>77</sup> Similarly, in Indonesia, men receiving problem-solving counselling showed improved functioning, but anxiety, depressive, and somatic symptoms did not differ from a no-treatment group. Additionally, slightly improved coping behaviour was noted in both men and women receiving the intervention.<sup>78</sup> However, in an RCT in women in Afghanistan that applied a more structured approach to counselling, reduction in anxiety, depression, psychosocial stressors, and improved coping was seen (Frank Neuner, Bielefeld University, personal communication).

### Specialised services

Our search identified two groups of studies; two RCTs<sup>50,51</sup> focusing on behavioural treatment for disaster-related PTSD; and seven of narrative exposure therapy (a combination of testimony and exposure psychotherapy) in war-affected populations (Frank Neuner, Bielefeld University, personal communication),<sup>47–49,53–55</sup> two of which were included in the meta-analysis. In a small study with torture survivors in Romania, PTSD and depression improved in those who had five sessions of narrative exposure therapy, but not in those who had one psychoeducation session.<sup>53</sup> For PTSD in Sudanese refugees in Uganda, narrative exposure therapy, delivered by German clinicians, was more effective than supportive counselling and psychoeducation, but no treatment effects were reported for anxiety, depression, or general psychological functioning.<sup>55</sup>

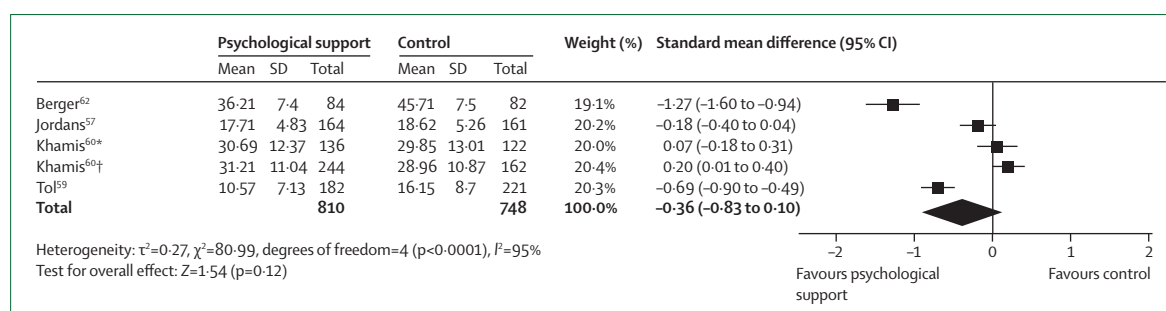
In Sri Lanka, children aged 8–14 years who were randomly assigned to receive either narrative exposure therapy or a meditation-relaxation treatment showed similar improvements of mental health indicators in an RCT (PTSD, functioning)<sup>48</sup> and in a cluster randomised trial (PTSD, depression, suicidality, functioning, and

school grades).<sup>49</sup> In Rwanda, children receiving this treatment showed more improvement in PTSD and depressive symptoms than did children receiving interpersonal psychotherapy.<sup>47</sup>

### Meta-analysis of RCTs

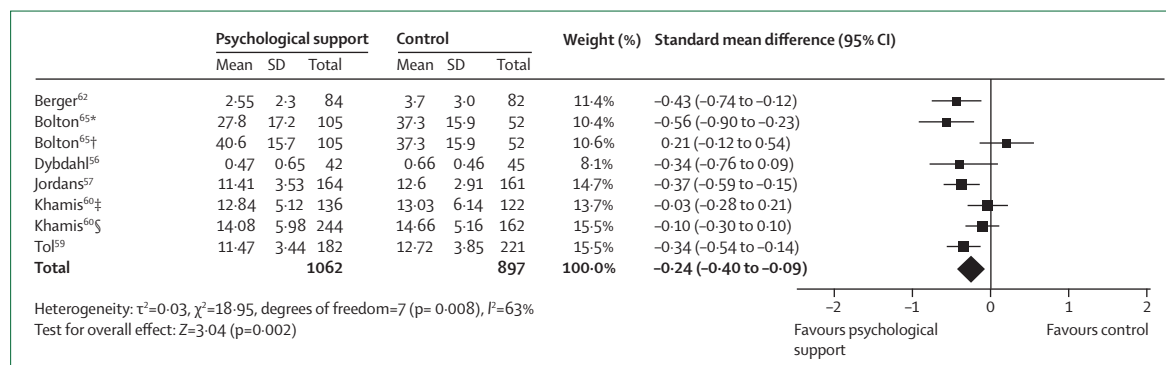
In total, 13 studies met the inclusion criteria: six in children and adolescents, and seven in adults (figure 1). The studies in children and adolescents focused mainly on two school-based interventions (ERASE Stress<sup>62</sup> and the classroom-based intervention<sup>57–60</sup>) that had PTSD as one of the primary outcomes. Other studies were of a parenting intervention and basic medical support for young children in Bosnia and Herzegovina (including both outcomes for parents and children)<sup>56</sup> and creative play and group interpersonal psychotherapy for adolescents in Uganda.<sup>65</sup> We did two meta-analyses of studies focusing on young people—one of PTSD symptoms and the other of internalising symptoms (anxiety or depression). The seven studies in adults consisted of a control-focused behavioural treatment of earthquake survivors in Turkey (self-exposure to earthquake-related fears and cessation of avoidance to increase their sense of control),<sup>50–52</sup> the aforementioned parenting intervention (weekly group meetings to discuss parent–child interactions and coping strategies),<sup>56</sup> testimony therapy for war-affected people in Mozambique (one session on average, detailing the trauma story via narrative),<sup>74</sup> trauma healing and reconciliation workshops in civil war-affected Burundi,<sup>75</sup> and narrative exposure therapy for refugees in Uganda and orphans and widows in Rwanda (which also included adolescents older than 14 years) (Frank Neuner, Bielefeld University, personal communication).<sup>54</sup>

The meta-analysis of RCTs with adults (nine comparisons, 486 individuals assigned to interventions, and 285 assigned to waiting list or usual care) showed a beneficial effect on PTSD symptoms (standardised mean difference [SMD]  $-0.38$ , 95% CI  $-0.55$  to  $-0.20$ ;



**Figure 4: Random-effects meta-analysis of school-based interventions for children and adolescents with post-traumatic stress disorder symptoms in humanitarian settings**

\*A classroom-based intervention for 12–16 year olds. †A classroom-based intervention for 6–11 year olds.



**Figure 5: Random-effects meta-analysis of school-based and other psychosocial and psychological supports for children and adolescents with internalising symptoms in humanitarian settings**

\*Group interpersonal psychotherapy. †Creative play. ‡A classroom-based intervention for 6–11 year olds. §A classroom-based intervention for 12–16 year olds.

figure 3). There was no statistically significant between-study heterogeneity.

A meta-analysis of four RCTs in children exposed to mass trauma events (five comparisons, 810 children assigned to school-based interventions, and 748 assigned to waiting list or usual care) failed to show improvement in PTSD symptoms (SMD  $-0.36$ , 95% CI  $-0.83$  to  $0.10$ ; figure 4), but showed a beneficial effect of psychological interventions (group interpersonal psychotherapy, group meetings with parents, and school-based interventions), for depressive or anxiety symptoms (six studies, eight comparisons, 1062 children assigned to psychological interventions, and 897 assigned to waiting list or usual care;  $-0.24$ ,  $-0.40$  to  $-0.09$ ; figure 5). The meta-analyses with children showed very high heterogeneity, especially for the outcome of PTSD.

To aid in the interpretation of the SMDs reported in these meta-analyses, we standardised the analyses by multiplying the between-person SD of a scale used in one of the included studies.<sup>44</sup> Although imprecise, this extrapolation shows a difference of 2.32 points between experimental and control groups in PTSD outcomes for the meta-analysis of studies with adults (with the SD from the study by Igreja and colleagues<sup>74</sup>—ie, ranging from 19 to 76). For the meta-analysis of studies with children with internalising symptoms the difference is

0.82 points (with the SD from the study by Tol and colleagues<sup>59</sup>—ie, ranging from 0 to 36). Another approach that gives clinical meaning to the SMD is that one SMD corresponds to a three-point difference between intervention and control groups for the meta-analysis of studies with adults if PTSD symptoms are measured on a 100-point scale, and a 2.5-point difference for the meta-analysis of studies with children and adolescents if internalising symptoms are measured on a 100-point scale (data not shown).

The included studies had methodological shortcomings that might be a source of bias (webappendix p 18). Some did not provide full details of randomisation procedures, allocation concealment, masking, or other possible biases, including the choice of the control group (eg, waitlist design versus no-treatment). An overview of findings according to the grading of recommendations assessment, development and evaluation (GRADE) approach<sup>44</sup> is provided in webappendix pp 16–17. Overall, the quality of the evidence for psychological interventions for adults was judged moderate, with serious limitations in study design. The overall quality of evidence for the effectiveness of psychological interventions in children and adolescents was either low (for internalising symptoms) or very low (for PTSD symptoms) and also had serious limitations in study design.

## Conclusion

The main strength of this review is that it provides a comprehensive overview of implemented practice, funding, and synthesis of evidence for psychological interventions with rigorous standards of systematic review and meta-analysis. Our findings had the following limitations. First, our grey literature search included only reports in English. Second, the financial tracking might provide an incomplete account of funding for MHPSS. No dedicated code for MHPSS funding exists in the relevant databases, and despite our efforts to search the narrative text of projects, some MHPSS projects might have been missed. Therefore, underestimation of the total amount of funding for MHPSS is a risk. Hence, our efforts at financial tracking should be treated as a first attempt that needs thorough investigation. We recommend that the two databases we tracked provide a dedicated code (as for reproductive health) to allow more thorough future financial tracking of funding for MHPSS. Third, the GRADE analyses of the meta-analyses showed methodological shortcomings that might have biased the findings (webappendix pp 16–17). Additionally, although not included as a GRADE criterion, few studies undertook procedures to validate outcome measures according to local culture, a direction for future study of importance for improvement of research in this specialty.<sup>79</sup> We grouped together diverse interventions in the meta-analyses for adults (eg, group and individual approaches, different lengths of interventions). Although most interventions are similar because they all address PTSD symptoms through a discussion of traumatic experiences and their consequences, the diversity of approaches and the different sociocultural and health system environments in which these interventions were implemented might have contributed to heterogeneity in results. Likewise, baseline severity of symptoms, symptom duration, and the length of time since trauma exposure might all affect outcomes. Because information about these variables was irregularly reported, we were not able to include them in our analyses.

A consistent impression of contemporary MHPSS practices emerged from various sources. The most commonly used interventions were counselling, providing and facilitating community-based social supports, structured social activities (including child-friendly spaces), provision of information, psychoeducation, and raising awareness. The findings suggest that MHPSS practices seem to be mainly implemented and funded outside formal national mental health, protection, and education systems, and with little emphasis on evidence-based practices.

A major finding of our review is the disconnection between research and practice. The focus of research and evidence relates to interventions that are infrequently implemented in MHPSS programmes. Outcome assessments have focused predominantly on PTSD, whereas humanitarian workers still disagree about the

public health value of this disorder.<sup>80,81</sup> Despite limitations in study designs, evidence exists for the effectiveness of psychological interventions for adults to reduce PTSD, and—to a lesser extent—for school-based psychological and psychosocial interventions for children and adolescents with internalising symptoms. Very high statistical heterogeneity was recorded in school-based interventions for children and adolescents with PTSD symptoms in humanitarian settings. This heterogeneity is probably a result of weaknesses in study designs, differences in study setting (natural disaster *vs* armed conflict), and timing (immediate *vs* a long time after events). Also, heterogeneity might be related to the different forms of psychological distress targeted by the various interventions offered.

Psychoeducation, structured social activities, and counselling are frequently used in practice and were included in few evaluation studies, often with mixed results. Specifically, psychoeducation was not associated with improved mental health in two of three RCTs, structured social activities were associated with improved mental health in two of three RCTs, and counselling was associated with improved mental health in two of three studies. Absence of evidence does not necessarily indicate that these approaches are not effective; however, the limited and mixed results from research does argue for the importance of subjection of the most commonly used interventions to scientific scrutiny.

We have several recommendations. First, clearly, the evidence for MHPSS in humanitarian settings needs to be strengthened, which will require a concerted effort by researchers to increase the rigour of studies and broaden outcomes beyond PTSD and internalising symptoms. Although some studies have begun using locally constructed outcome measures to achieve this aim, reliance solely on local indicators limits possibilities for aggregation in a meta-analysis. This drawback might be partly overcome by application of the same instrument development process in different sociocultural contexts, as has been done to develop measures for function impairment—an important but often overlooked outcome measure.<sup>82,83</sup> Because of the gap between what types of MHPSS practices are implemented and what types of these practices have been assessed, an improved consensus between the interests of researchers and practitioners is needed. This approach might be encouraged by inclusion of practitioners in the development, design, and implementation of research projects and, likewise, by involvement of researchers in the development, design, and implementation of interventions.

An important strategy to strengthen the evidence for the effectiveness of MHPSS in humanitarian settings would be the systematic integration of rigorous monitoring and assessment procedures in humanitarian programmes. This integration will require humanitarian donors to fund monitoring and assessment of the long-term outcomes of their programmes (eg, improved



mental health and wellbeing), in addition to measuring immediate output and process indicators (eg, the number of training programmes). Geographically, few findings from humanitarian settings in Latin America exist, as well as from western and central Africa. Additionally, few studies assessed interventions for infants and young children.

Second, to reduce the gap between research and practice, more research is needed into the most frequently implemented psychosocial interventions, such as child-friendly spaces, counselling, and promotion of community supports. A particularly large gap in knowledge exists about MHPSS interventions at the bottom half of the intervention pyramid—ie, interventions aimed at preventing mental disorders, and promoting and protecting psychosocial wellbeing. Conversely, the interventions that have proven effective (eg, psychological interventions for adults with PTSD and children with internalising problems) should be made available to populations with these mental health problems.

Third, improvements of research methods are necessary. For example, further development of ways to capture mental disorders, wellbeing, and its determinants in culturally sensitive ways; increased validation of measures in different sociocultural contexts; and long-term follow-up measurements to establish whether early psychosocial interventions are able to prevent mental disorders in the long term, and have lasting effects on symptoms and functioning. Furthermore, although RCTs are the gold standard for assessments, a number of innovations and improvements in the application of this design might be necessary to strengthen evidence for MHPSS. These improvements would be: the use of multilevel statistics to disentangle contextual effects on individual wellbeing, especially for assessment of commonly implemented psychosocial interventions at the base of the intervention pyramid;<sup>84</sup> integration of the study of moderators and mediators in assessment studies to examine how interventions achieve their effects;<sup>52,58</sup> and time series analyses of the psychosocial effect of social interventions.<sup>85</sup>

Fourth, a greater number of assessments are needed of clinical and protective interventions for people with severe mental disorders, including psychotic disorders and substance dependence. The current pre-eminence of offering basic supports to overcome distress is probably partly caused by the tendency for MHPSS practices to be implemented and funded outside formal mental health systems. However, a study<sup>5</sup> in Timor-Leste showed that psychotic disorders were the most disabling condition. Further, alcohol and drug misuse are neglected issues that need a multisectoral—including health care—response.<sup>86,87</sup>

Fifth, most MHPSS practices are implemented and funded outside of local or national social services, mental health, or education systems (eg, 5·2% of MHPSS practice funding was spent as part of medical services and

2·9% through primary education). This funding mechanism raises questions about the sustainability of interventions, because humanitarian funding is generally time-bound.

A predominant focus on implementation of acute interventions or collaboration between MHPSS and HIV/AIDS care systems might divert attention from strengthening of formal mental health and psychosocial systems—eg, through the development of capacity to provide care for a range of mental health and psychosocial disorders in general health care, and the integration of psychosocial supports with governmental and community protection systems. Such a focus might also contribute to overlooking important sources of support. To improve the sustainability of MHPSS programmes, we recommend that specific funding is allocated to strengthen existing national and local health, education, and social service systems, to address mental health and psychosocial problems. Increased attention should be paid to translation of investments made during the emergency phase to sustainable systems of MHPSS care in the long term.

Finally, funding for MHPSS seems inadequately distributed in view of the increased burden of mental health and psychosocial disorders in humanitarian settings. Funding should be diversified beyond only emergency relief and should also be invested in early recovery—ie, investment in recovery from the first day of the crisis. Likewise, intervention research lacks information on cost-effectiveness, an essential source of information to plan scale-up of MHPSS.

#### Conflicts of interest

MvO helped develop the IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings and the text on MHPSS in the 2011 edition of the Sphere Projects' handbook.

#### Acknowledgments

We thank Claire Greene and Nicholas de Vito for their assistance in data collection. We also thank the following people and agencies for sharing the 4Ws data and reports: Emmanuel Streel, UNICEF; Gina Fleurant, UNICEF; Amanda Melville, UNICEF; Guglielmo Schininà, IOM; Mary Jo Bacca, IMC; Anita Marini, WHO; Bhava Poudyal, consultant; Khawla Fayyad, consultant; Mark Jordans, HealthNet TPO/TPO Nepal; and Bhava Poudyal, consultant. The views expressed in this report are those of the authors solely and do not necessarily represent the views, policies, or decisions of their employers.

#### References

- 1 Steel Z, Chey T, Silove D, Marnane C, Bryant RA, van Ommeren M. Association of torture and other potentially traumatic events with mental health outcomes among populations exposed to mass conflict and displacement. *JAMA* 2009; **302**: 537–49.
- 2 Neria Y, Nandi A, Galea S. Post-traumatic stress disorder following disasters: a systematic review. *Psychol Med* 2008; **38**: 467–80.
- 3 de Jong JTVM, Komproe IH, van Ommeren M. Common mental disorders in postconflict settings. *Lancet* 2003; **361**: 2128–30.
- 4 Norris FH, Friedman MJ, Watson PJ, Byrne CM, Diaz E, Kaniasty K. 60,000 disaster victims speak: part I. An empirical review of the empirical literature, 1981–2001. *Psychiatry* 2002; **65**: 207–39.
- 5 Silove D, Bateman CR, Brooks RT, et al. Estimating clinically relevant mental disorders in a rural and an urban setting in postconflict Timor Leste. *Arch Gen Psychiatry* 2008; **65**: 1205–12.
- 6 Batniji R, van Ommeren M, Saraceno B. Mental and social health in disasters: relating qualitative social science research and the Sphere standard. *Soc Sci Med* 2006; **62**: 1853–64.

- 7 Tol WA, Kohrt BA, Jordans MJ, et al. Political violence and mental health: a multi-disciplinary review of the literature on Nepal. *Soc Sci Med* 2010; **70**: 35–44.
- 8 The WHO World Mental Health Survey Consortium. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *JAMA* 2004; **291**: 2581–90.
- 9 Kessler RC, Wittchen HU. Post-disaster mental health need assessment surveys – the challenge of improved future research. *Int J Methods Psychiatr Res* 2008; **17**: S1–S5.
- 10 Mollica RF, Henderson DC, Tor S. Psychiatric effects of traumatic brain injury events in Cambodian survivors of mass violence. *Br J Psychiatry* 2002; **181**: 339–47.
- 11 The Sphere Project. Humanitarian charter and minimum standards in disaster response—2011 edition. Geneva: The Sphere Project, 2011.
- 12 Inter-Agency Standing Committee. IASC guidelines on mental health and psychosocial support in emergency settings. Geneva: IASC, 2007.
- 13 Mollica RF, Cardozo BL, Osofsky HJ, Raphael B, Ager A, Salama P. Mental health in complex emergencies. *Lancet* 2004; **365**: 842–43.
- 14 Weiss MG, Saraceno B, Saxena S, van Ommeren M. Mental health in the aftermath of disasters: consensus and controversy. *J Nerv Ment Dis* 2003; **191**: 611–15.
- 15 van Ommeren M, Morris J, Saxena S. Social and clinical interventions after conflict or other large disaster. *Am J Prev Med* 2008; **35**: 284–86.
- 16 Miller KE, Rasmussen A. Mental health and armed conflict: the importance of distinguishing between war exposure and other sources of adversity: a response to Neuner. *Soc Sci Med* 2010; **71**: 1385–89.
- 17 Neuner F. Assisting war-torn populations: should we prioritize reducing daily stressors to improve mental health? Comment on Miller and Rasmussen (2010). *Soc Sci Med* 2010; **71**: 1381–84.
- 18 Patel V, Araya R, Chatterjee S, et al. Treatment and prevention of mental disorders in low-income and middle-income countries. *Lancet* 2007; **370**: 991–1005.
- 19 Harbom L, Melander E, Wallensteen P. Dyadic dimensions of armed conflict, 1946–2007. *J Peace Res* 2008; **45**: 697–710.
- 20 Harbom L, Wallensteen P. Armed conflicts, 1946–2008. *J Peace Res* 2009; **46**: 577–86.
- 21 Harbom L, Wallensteen P. Armed conflicts, 1946–2009. *J Peace Res* 2010; **47**: 501–09.
- 22 HIIK. Conflict barometer 2007. Heidelberg: Heidelberg Institute for International Conflict Research, 2007.
- 23 HIIK. Conflict barometer 2008. Heidelberg: Heidelberg Institute for International Conflict Research, 2008.
- 24 HIIK. Conflict barometer 2009. Heidelberg: Heidelberg Institute for International Conflict Research, 2009.
- 25 UN Office for the Coordination of Humanitarian Affairs. Central emergency relief fund. <http://ochaonline.un.org/cerf> (accessed Dec 14, 2010).
- 26 UN Office for the Coordination of Humanitarian Affairs. Consolidated appeals process. <http://ochaonline.un.org/humanitarianappeal> (accessed Dec 14, 2010).
- 27 World Bank. Country and lending groups. <http://data.worldbank.org/about/country-classifications> (accessed Dec 14, 2010).
- 28 Inter-Agency Standing Committee Reference Group for Mental Health and Psychosocial Support in Emergency Settings. Who does What Where and until When (4Ws). Geneva: IASC MHPSS Reference Group, 2010.
- 29 Ravishanker N, Gubbins P, Cooley R, et al. Financing of global health: tracking development assistance for health from 1990 to 2007. *Lancet* 2009; **373**: 2113–24.
- 30 Patel P, Roberts B, Guy S, Lee-Jones L, Conteh L. Tracking official development assistance for reproductive health in conflict-affected countries. *PLoS Med* 2009; **6**: E1000090.
- 31 Pitt C, Greco G, Powell-Jackson T, Mills A. Countdown to 2015: assessment of official development assistance to maternal, newborn, and child health, 2003–08. *Lancet* 2010; **376**: 1485–96.
- 32 Peltonen K, Punamaki RL. Preventive interventions among children exposed to trauma of armed conflict: a literature review. *Aggress Behav* 2010; **36**: 95–116.
- 33 Barenbaum J, Ruchkin V, Schwab-Stone M. The psychosocial aspects of children exposed to war: practice and policy initiatives. *J Child Psychol Psychiatry* 2004; **45**: 41–62.
- 34 Jordans MJD, Tol WA, Komproe IH, de Jong JTVM. Systematic review of evidence and treatment approaches: psychosocial and mental health care for children in war. *Child Adolesc Ment Health*. 2009; **14**: 2–14.
- 35 Robjant K, Fazel M. The emerging evidence for narrative exposure therapy: a review. *Clin Psychol Rev* 2010; **30**: 1030–39.
- 36 Persson TJ, Rousseau C. School-based interventions for minors in war-exposed countries: a review of targeted and general programmes. *Torture* 2009; **19**: 88–101.
- 37 Kar N. Psychological impact of disasters on children: review of assessment and interventions. *World J Pediatr* 2009; **5**: 5–11.
- 38 Lloyd E, Penn H. Working with young children who are victims of armed conflict. *Contemporary Issues in Early Childhood* 2010; **11**: 278–87.
- 39 Kalksma-van Lith B. Psychosocial interventions for children in war-affected areas: the state of the art. *Intervention: International Journal of Mental Health, Psychosocial Work & Counselling in Areas of Armed Conflict*. 2007; **5**: 3–17.
- 40 Betancourt TS, Williams T. Building an evidence-base on mental health interventions for children affected by armed conflict. *Intervention: International Journal of Mental Health, Psychosocial Work & Counselling in Areas of Armed Conflict* 2008; **6**: 39–56.
- 41 Roberts NP, Kitchiner NJ, Kenardy J, Bisson JI. Systematic review and meta-analysis of multiple-session early interventions following traumatic events. *Am J Psychiatry* 2009; **166**: 293–301.
- 42 Hobfoll SE, Watson P, Bell CC, et al. Five elements of immediate and mid-term mass trauma intervention: empirical evidence. *Psychiatry: Interpersonal and Biological Processes* 2007; **70**: 283–315.
- 43 Nickerson A, Bryant RA, Silove D, Steel Z. A critical review of psychological treatments of posttraumatic stress disorder in refugees. *Clin Psychol Rev* 2011; **31**: 399–417.
- 44 Higgins JPT, Green S. Cochrane handbook for systematic reviews of interventions 4.2.6. Chichester: John Wiley & Sons, 2006.
- 45 Higgins JPT, Thompson SG, Deeks JJ, Altman DG. Measuring inconsistency in meta-analyses. *BMJ* 2003; **327**: 557–60.
- 46 Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses. *PLoS Med* 2009; **6**: E1000097.
- 47 Schaal S, Elbert T, Neuner F. Narrative exposure therapy versus interpersonal psychotherapy. *Psychother Psychosom* 2009; **78**: 298–306.
- 48 Catani C, Kohiladevy M, Ruf M, Schauer E, Elbert T, Neuner F. Treating children traumatized by war and tsunami: a comparison between exposure therapy and meditation-relaxation in north-east Sri Lanka. *BMC Psychiatry* 2009; **9**: 22.
- 49 Schauer E. Trauma treatment for children in war: build-up of an evidence-based large-scale mental health intervention in north-eastern Sri Lanka. PhD thesis, University of Konstanz, 2008; 1–276.
- 50 Başoğlu M, Şalcıoğlu E, Livanou M. A randomized controlled study of single-session behavioural treatment of earthquake-related post-traumatic stress disorder using an earthquake simulator. *Psychol Med* 2007; **37**: 203–13.
- 51 Başoğlu M, Şalcıoğlu E, Livanou M, Kalender D, Acar G. Single-session behavioral treatment of earthquake-related posttraumatic stress disorder: a randomized waiting list controlled trial. *J Traum Stress* 2005; **18**: 1–11.
- 52 Şalcıoğlu E, Başoğlu M, Livanou M. Effects of live exposure on symptoms of posttraumatic stress disorder: the role of reduced behavioral avoidance in improvement. *Behav Res Ther* 2007; **45**: 2268–79.
- 53 Bichescu D, Neuner F, Schauer M, Elbert T. Narrative exposure therapy of political imprisonment-related chronic posttraumatic stress disorder and depression. *Behav Res Ther* 2007; **45**: 2212–20.
- 54 Neuner F, Onyut LP, Ertl V, Odenwald M, Schauer E, Elbert T. Treatment of posttraumatic stress disorder by trained lay counselors in an African refugee settlement: a randomized controlled trial. *J Consult Clin Psychol* 2008; **76**: 686–94.
- 55 Neuner F, Schauer M, Klaschik C, Karunakara U, Elbert T. A comparison of narrative exposure therapy, supportive counseling, and psychoeducation for treating posttraumatic stress disorder in an African refugee settlement. *J Consult Clin Psychol* 2004; **72**: 579–87.
- 56 Dybdahl R. Children and mothers in war: an outcome study of a psychosocial intervention program. *Child Dev* 2001; **72**: 1214–30.

- 57 Jordans MJ, Komproe IH, Tol WA, et al. Evaluation of a classroom-based psychosocial intervention in conflict-affected Nepal: a cluster randomized controlled trial. *J Child Psychol Psychiatry* 2010; **51**: 818–26.
- 58 Tol WA, Komproe IH, Jordans MJ, et al. Mediators and moderators of a psychosocial intervention for children affected by political violence. *J Consult Clin Psychol* 2010; **78**: 818–28.
- 59 Tol WA, Komproe IH, Susanty D, Jordans MJD, Macy RD, De Jong JTV. School-based mental health intervention for children affected by political violence in Indonesia: a cluster randomized trial. *JAMA* 2008; **300**: 655–62.
- 60 Khamis V, Macy R, Coigne V. The impact of the classroom/ community/camp-based Intervention (CBI) program on Palestinian children. New York: Save the Children US, 2004.
- 61 Karam EG, Fayyad J, Karam AN, et al. Effectiveness and specificity of a classroom-based group intervention in children and adolescents exposed to war in Lebanon. *World Psychiatry* 2008; **7**: 103–09.
- 62 Berger R, Gelkopf M. School-based intervention for the treatment of tsunami-related distress in children: a quasi-randomized controlled trial. *Psychother Psychosom* 2009; **78**: 364–71.
- 63 Shooshtary MH, Panaghi L, Moghadam JA. Outcome of cognitive behavioral therapy in adolescents after natural disaster. *J Adolesc Health* 2008; **42**: 466–72.
- 64 Thabet AA, Vostanis P, Karim K. Group crisis intervention for children during ongoing war conflict. *Eur Child Adolesc Psychiatry* 2005; **14**: 262–29.
- 65 Bolton P, Bass J, Betancourt T, et al. Interventions for depression symptoms among adolescent survivors of war and displacement in northern Uganda: a randomized controlled trial. *JAMA* 2007; **298**: 519–27.
- 66 Hasanović M, Srabović S, Rašidović M, Šehović M, Hasanbašić J, Hodžić R. Psychosocial assistance to students with posttraumatic stress disorder in primary and secondary schools in post-war Bosnia Herzegovina. *Psychiatria Danubina* 2009; **21**: 463–73.
- 67 Paardekoper B. Children of the forgotten war: a comparison of two intervention programs for the promotion of well-being of Sudanese refugee children. PhD thesis, Vrije Universiteit Amsterdam, 2002; 1–282.
- 68 Layne CM, Saltzman WR, Poppleton L, et al. Effectiveness of a school-based group psychotherapy program for war-exposed adolescents: a randomized controlled trial. *J Am Acad Child Adolesc Psychiatry* 2008; **47**: 1048–62.
- 69 Goenjian AK, Karayan I, Pynoos RS, et al. Outcome of psychotherapy among early adolescents after trauma. *Am J Psychiatry* 1997; **154**: 536–42.
- 70 Loughry M, Ager A, Flouri E, Khamis V, Afana AH, Qouta S. The impact of structured activities among Palestinian children in a time of conflict. *J Child Psychol Psychiatry* 2006; **47**: 1211–18.
- 71 Ager A, Akeson B, Stark L, et al. The impact of the school-based Psychosocial Structured Activities (PSSA) program on conflict-affected children in northern Uganda. *Child Psychol Psychiatry* 2011; published online May 26. DOI:10.1111/j.1469-7610.2011.02407.x
- 72 Vijayakumar L, Kumar MS. Trained volunteer-delivered mental health support to those bereaved by Asian Tsunami: an evaluation. *Int J Soc Psychiatry* 2008; **54**: 293–302.
- 73 IASC Reference Group for Mental Health and Psychosocial Support in Emergency Settings. Mental health and psychosocial support in humanitarian emergencies: what should humanitarian health actors know? Geneva: IASC, 2010.
- 74 Igreja V, Kleijn WC, Schreuder BJN, Van Dijk JA, Verschuur M. Testimony method to ameliorate post-traumatic stress symptoms: community-based intervention study with Mozambican civil war survivors. *Br J Psychiatry* 2004; **184**: 251.
- 75 Yeomans PD, Forman EM, Herbert JD, Yuen E. A randomized controlled trial of a reconciliation workshop with and without PTSD psychoeducation in Burundian sample. *J Traum Stress* 2010; **23**: 305–12.
- 76 Staub E, Pearlman LA, Gubin A, Hagengimana A. Healing, reconciliation, forgiving and the prevention of violence after genocide or mass killing: an intervention and its experimental evaluation in Rwanda. *J Soc Clin Psychol* 2005; **24**: 297–334.
- 77 Tol WA, Komproe IH, Jordans MJD, Thapa SB, Sharma B, de Jong JTV. Brief multi-disciplinary treatment for torture survivors in Nepal: a naturalistic comparative study. *Int J Soc Psychiatry* 2009; **55**: 39–56.
- 78 Bass J, Poudyal B, Tol WA, Murray L, Nadison M, Bolton P. A controlled trial of problem-solving counseling for war-affected adults in Aceh, Indonesia. *Soc Psychiatry Psychiatr Epidemiol* 2011; published online Jan 19. DOI:10.1007/s00127-011-0339-y.
- 79 Betancourt TS. Attending to the mental health of war-affected children: the need for longitudinal and developmental research perspectives. *J Am Acad Child Adolesc Psychiatry* 2011; **50**: 323–25.
- 80 Miller KE, Kulkarni M, Kushner H. Beyond trauma-focused psychiatric epidemiology: bridging research and practice with war-affected populations. *Am J Orthopsychiatry* 2006; **76**: 409–22.
- 81 van Ommeren M, Saxena S, Saraceno B. Mental and social health during and after acute emergencies: emerging consensus? *Bull World Health Organ* 2005; **83**: 71–75.
- 82 Bolton P, Tang AM. An alternative approach to cross-cultural function assessment. *Soc Psychiatry Psychiatr Epidemiol* 2002; **37**: 537–43.
- 83 Tol WA, Komproe IH, Jordans MJD, Susanty D, de Jong JTV. Developing a function impairment measure for children affected by political violence: a mixed methods approach in Indonesia. *Int J Qual Health Care* 2011; **23**: 375–83.
- 84 Yabiku S, Kulis S, Marsiglia FF, Lewin B, Nieri T, Hussaini S. Neighborhood effects on the efficacy of a program to prevent youth alcohol use. *Subst Use Misuse* 2007; **42**: 65–87.
- 85 Holder HD, Gruenewald PJ, Ponicki WR, et al. Effect of community-based interventions on high-risk drinking and alcohol-related injuries. *JAMA* 2000; **284**: 2341–47.
- 86 North CS, Ringwalt CL, Downs D, Derzon J, Galvin D. Postdisaster course of alcohol use disorders in systematically studied survivors of 10 disasters. *Arch Gen Psychiatry* 2011; **68**: 173–80.
- 87 Ezard N, Oppenheimer E, Burton A, et al. Six rapid assessments of alcohol and other substance use in populations displaced by conflict. *Confl Health* 2011; **5**: 1.