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Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

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[Intervention Review]

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises

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A B S T R A C T

Background

Because of wars, conflicts, persecutions, human rights violations, and humanitarian crises, about 84 million people are forcibly displaced around the world; the great majority of them live in low- and middle-income countries (LMICs). People living in humanitarian settings are affected by a constellation of stressors that threaten their mental health. Psychosocial interventions for people affected by humanitarian crises may be helpful to promote positive aspects of mental health, such as mental well-being, psychosocial functioning, coping, and quality of life. Previous reviews have focused on treatment and mixed promotion and prevention interventions. In this review, we focused on promotion of positive aspects of mental health.

Objectives

To assess the effects of psychosocial interventions aimed at promoting mental health versus control conditions (no intervention, intervention as usual, or waiting list) in people living in LMICs affected by humanitarian crises.

Search methods

We searched CENTRAL, MEDLINE, Embase, and seven other databases to January 2023. We also searched the World Health Organization's (WHO) International Clinical Trials Registry Platform and ClinicalTrials.gov to identify unpublished or ongoing studies, and checked the reference lists of relevant studies and reviews.

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Selection criteria

Randomised controlled trials (RCTs) comparing psychosocial interventions versus control conditions (no intervention, intervention as usual, or waiting list) to promote positive aspects of mental health in adults and children living in LMICs affected by humanitarian crises. We excluded studies that enrolled participants based on a positive diagnosis of mental disorder (or based on a proxy of scoring above a cut-off score on a screening measure).

Data collection and analysis

We used standard Cochrane methods. Our primary outcomes were mental well-being, functioning, quality of life, resilience, coping, hope, and prosocial behaviour. The secondary outcome was acceptability, defined as the number of participants who dropped out of the trial for any reason. We used GRADE to assess the certainty of evidence for the outcomes of mental well-being, functioning, and prosocial behaviour.

Main results

We included 13 RCTs with 7917 participants. Nine RCTs were conducted on children/adolescents, and four on adults. All included interventions were delivered to groups of participants, mainly by paraprofessionals. Paraprofessional is defined as an individual who is not a mental or behavioural health service professional, but works at the first stage of contact with people who are seeking mental health care. Four RCTs were carried out in Lebanon; two in India; and single RCTs in the Democratic Republic of the Congo, Jordan, Haiti, Bosnia and Herzegovina, the occupied Palestinian Territories (oPT), Nepal, and Tanzania. The mean study duration was 18 weeks (minimum 10, maximum 32 weeks). Trials were generally funded by grants from academic institutions or non-governmental organisations.

For children and adolescents, there was no clear difference between psychosocial interventions and control conditions in improving mental well-being and prosocial behaviour at study endpoint (mental well-being: standardised mean difference (SMD) 0.06, 95% confidence interval (CI) −0.17 to 0.29; 3 RCTs, 3378 participants; very low-certainty evidence; prosocial behaviour: SMD −0.25, 95% CI −0.60 to 0.10; 5 RCTs, 1633 participants; low-certainty evidence), or at medium-term follow-up (mental well-being: mean difference (MD) −0.70, 95% CI −2.39 to 0.99; 1 RCT, 258 participants; prosocial behaviour: SMD −0.48, 95% CI −1.80 to 0.83; 2 RCT, 483 participants; both very low-certainty evidence). Interventions may improve functioning (MD −2.18, 95% CI −3.86 to −0.50; 1 RCT, 183 participants), with sustained effects at follow-up (MD −3.33, 95% CI −5.03 to −1.63; 1 RCT, 183 participants), but evidence is very uncertain as the data came from one RCT (both very low-certainty evidence).

Psychosocial interventions may improve mental well-being slightly in adults at study endpoint (SMD −0.29, 95% CI −0.44 to −0.14; 3 RCTs, 674 participants; low-certainty evidence), but they may have little to no effect at follow-up, as the evidence is uncertain and future RCTs might either confirm or disprove this finding. No RCTs measured the outcomes of functioning and prosocial behaviour in adults.

Authors' conclusions

To date, there is scant and inconclusive randomised evidence on the potential benefits of psychological and social interventions to promote mental health in people living in LMICs affected by humanitarian crises. Confidence in the findings is hampered by the scarcity of studies included in the review, the small number of participants analysed, the risk of bias in the studies, and the substantial level of heterogeneity. Evidence on the efficacy of interventions on positive mental health outcomes is too scant to determine firm practice and policy implications. This review has identified a large gap between what is known and what still needs to be addressed in the research area of mental health promotion in humanitarian settings.

PLAIN LANGUAGE SUMMARY

Do psychological and social interventions promote improved mental health in people living in low- and middle-income countries affected by humanitarian crises?

Key message

– We did not find enough evidence in favour of interventions for promoting positive aspects of mental health in humanitarian settings. Larger, well-conducted randomised studies are needed.

Mental health during a humanitarian crisis

A humanitarian crisis is an event, or series of events, that threatens the health, safety, security, and well-being of a community or large group of people, usually over a wide area. Examples include wars and armed conflicts; famine; and disasters triggered by hazards such as earthquakes, hurricanes, and floods. People living through a humanitarian crisis may experience physical and mental distress and experience highly challenging circumstances that make them vulnerable to developing mental disorders, such as post-traumatic stress disorder, depression, and anxiety. The estimated occurrence of mental disorders during humanitarian crises is 17% for depression and anxiety, and 15% for post-traumatic stress disorder.

What are psychological and social interventions?

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Psychological and social interventions (also called psychosocial) recognise the importance of the social environment for shaping mental well-being. They usually have both psychological components (related to the mental and emotional state of the person; e.g. relaxation) and social components (e.g. efforts to improve social support). They can be aimed at promoting positive aspects of mental health (e.g. strengthening hope and social support, parenting skills), or prevent and reduce psychological distress and mental disorders.

What did we want to find out?

We wanted to know if psychosocial interventions could promote positive mental health outcomes in people living through humanitarian crises in low- and middle-income countries, compared with inactive comparators such as no intervention, intervention as usual (participants are allowed to seek treatments that are available in the community), or waiting list (participants receive the psychosocial intervention after a waiting phase).

What did we do?

We searched for studies that looked at the effects of psychosocial interventions on positive aspects of people's mental health in low- and middle-income countries affected by humanitarian crises. In these studies, we selected those outcome measures representative of positive emotions, positive social engagement, good relationships, meaning, and accomplishment. This is in line with the definition of mental health given by the World Health Organization, according to which mental health is "a state of mental wellbeing that enables people to cope with the stresses of life, realise their abilities, learn well and work well, and contribute to their community." We looked for randomised controlled studies in which the interventions people received were decided at random. This type of study usually gives the most reliable evidence about the effects of an intervention.

What did we find?

We found 13 studies on mental health promotion with a total of 7917 participants. Nine studies were with children and adolescents (aged seven to 18 years), and four were with adults (aged over 18 years). Four studies were carried out in Lebanon; two in India; and one study each in the Democratic Republic of the Congo, Jordan, Haiti, Bosnia and Herzegovina, the occupied Palestinian Territories (oPT), Nepal, and Tanzania. The average study duration was 18 weeks (minimum 10 weeks, maximum 32 weeks). Trials were generally funded by grants from academic institutions or non-governmental organisations. The studies measured mental well-being, functioning, and prosocial behaviour (a behaviour that benefits other people or society as a whole), at the beginning of the study, at the end of the intervention, and three or four months later. They compared the results in people who did and did not receive the intervention.

What are the results of our review?

There is not enough evidence to make firm conclusions. In children and adolescents, psychosocial interventions may have little to no effect in improving mental well-being, functioning, and prosocial behaviour, but the evidence is very uncertain. For the adult population, we found encouraging evidence that psychosocial interventions may improve mental well-being slightly, but there were no data on any other positive dimensions of mental health. Overall, for both children and adults, we are not confident that these results are reliable: the results are likely to change when further evidence is available.

What are the limitations of the evidence?

The main limitation of this review is that we cannot guarantee that the evidence we have generated is trustworthy. This is a direct consequence of the small amount of data that addressed our research question. By conducting analyses from such a small pool of data, we cannot be sure that the changes in outcomes are related to the interventions provided, rather than due to the play of chance. Furthermore, people in the studies were aware of which treatment they were getting, and not all the studies provided data about everything that we were interested in.

How up to date is this evidence?

We included evidence published up to January 2023.

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Summary of findings 1.   Summary of findings table - Psychosocial intervention compared to control for promoting the mental health of people living in LMICs affected by humanitarian crises (children)

Psychosocial intervention compared to control for promoting the mental health of people living in LMICs affected by humanitarian crises (children)

Patient or population: promoting the mental health of people living in LMICs affected by humanitarian crises (children)
Setting: low- and middle-income countries affected by humanitarian crises
Intervention: psychosocial intervention
Comparison: control

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with control	**Risk with psychosocial intervention**				
Mental well-being at study endpoint	-	SMD **0.06 SD higher** (0.17 lower to 0.29 higher)	-	3378 (3 RCTs)	⊕⊖⊖⊖ Very low[a,b,c]	Investigators measured mental well-being using different instruments. In 1 case, lower/higher scores mean better/worse mental well-being, while in the other 2 cases, high numbers suggest greater mental well-being. The evidence is very uncertain about the effect of psychosocial intervention on mental well-being at study endpoint. This is a small effect according to Cohen. As a rule of thumb, 0.2 standard deviations (SD) represents a small difference, 0.5 a moderate, and 0.8 a large.
Mental well-being at follow-up assessed with: Arab Youth Mental Health scale Scale from: 21 to 63 follow-up: mean 26 weeks	The mean mental well-being at follow-up was **30.99**	MD **0.7 lower** (2.39 lower to 0.99 higher)	-	258 (1 RCT)	⊕⊖⊖⊖ Very low[a,c,d]	Investigators measured mental well-being using the Arab Youth Mental Health Scale, where higher score is suggestive of poorer mental health.
Functioning at study endpoint assessed with: "Functioning impairment"	The mean functioning at study endpoint was **14.98**	MD **2.18 lower** (3.86 lower to 0.5 lower)	-	183 (1 RCT)	⊕⊖⊖⊖ Very low[a,d]	Investigators measured functional impairment with a self-report scale that included 8 items derived from the Child Diagnostic Interview Schedule. Higher score suggestive of poorer functioning.

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Scale from: 8 to 40						
Functioning at follow-up assessed with: "Functioning impairment" Scale from: 8 to 40 follow-up: mean 34 weeks	The mean functioning at follow-up was **14.64**	MD **3.33 lower** (5.03 lower to 1.63 lower)	-	183 (1 RCT)	⊕⊝⊝⊝ Very low[a,d]	Investigators measured functional impairment with a self-report scale that included 8 items derived from the Child Diagnostic Interview Schedule. Higher score suggestive of poorer functioning.
Prosocial behaviour at study endpoint	-	SMD **0.25 SD lower** (0.6 lower to 0.1 higher)	-	1633 (5 RCTs)	⊕⊕⊝⊝ Low[a,c]	Investigators measured prosocial behaviour using different instruments. In 1 case, lower/higher scores mean better/worse prosocial behaviour, while in all the other cases, high numbers suggest greater prosocial behaviour. The evidence is very uncertain about the effect of psychosocial intervention on prosocial behaviour at study endpoint. This is a small-to-moderate effect according to Cohen. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate, and 0.8 a large.
Prosocial behaviour at follow-up follow-up: mean 10 months	-	SMD **0.48 SD lower** (1.8 lower to 0.83 higher)	-	483 (2 RCTs)	⊕⊝⊝⊝ Very low[a,c,e]	Investigators measured prosocial behaviour using different instruments. Higher/lower scores indicate worse/better mental prosocial behaviour. The evidence is very uncertain about the effect of psychosocial intervention on prosocial behaviour at follow-up. This is a medium effect according to Cohen. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate, and 0.8 a large.

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: confidence interval; **MD:** mean difference; **SMD:** standardised mean difference

GRADE Working Group grades of evidence
High certainty: we are very confident that the true effect lies close to that of the estimate of the effect.
Moderate certainty: we are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low certainty: our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
Very low certainty: we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

See interactive version of this table: https://gdt.gradepro.org/presentations/#/isof/isof_question_revman_web_438685613947752018.

[a] Downgraded one level owing to study limitations (concrete risk of performance and detection bias at least in some trials).
[b] Downgraded one level owing to inconsistency (I2 was higher than 50%).
[c] Downgraded one level owing to imprecision (the confidence intervals included appreciable benefit and harm).
[d] Downgraded two levels owing to imprecision (number of randomised participants well below the optimal information size of 350 participants per arm).
[e] Downgraded one level owing to imprecision (optimal information size of 350 participants per arm not achieved).

Summary of findings 2. Summary of findings table - Psychosocial intervention compared to control for promoting the mental health of people living in LMICs affected by humanitarian crises (adults)

Psychosocial intervention compared to control for promoting the mental health of people living in LMICs affected by humanitarian crises (adults)

Patient or population: promoting the mental health of people living in LMICs affected by humanitarian crises (adults)
Setting: low- and middle-income countries affected by humanitarian crises
Intervention: psychosocial intervention
Comparison: control

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with control	Risk with psychosocial intervention				
Mental well-being at study endpoint	-	SMD **0.29 SD lower** (0.44 lower to 0.14 lower)	-	674 (3 RCTs)	⊕⊕⊝⊝ Low[a,b]	Investigators measured mental well-being using different instruments. In both cases, high numbers suggest greater mental well-being. Psychosocial intervention may result in a reduction in mental well-being at study endpoint. This is a small-to-moderate effect according to Cohen. As a rule of thumb, 0.2 standard deviations (SD) represents a small difference, 0.5 a moderate, and 0.8 a large.
Mental well-being at follow-up assessed with: Warwick-Edinburgh Mental Wellbeing Scale Scale from: 14 to 70 follow-up: mean 12 weeks	The mean mental well-being at follow-up was **45.68**	MD **0.44 lower** (2.07 lower to 1.19 higher)	-	441 (1 RCT)	⊕⊝⊝⊝ Very low[a,b,c]	The score range for the Warwick-Edinburgh Mental Wellbeing Scale is from 14 to 70, with higher scores indicating higher levels of mental well-being.

Functioning at study end-point - not measured	-	-	-	-	-	Not measured.
Functioning at follow-up - not measured	-	-	-	-	-	Not measured.
Prosocial behaviour at study endpoint - not measured	-	-	-	-	-	Not measured.
Prosocial behaviour at follow-up - not measured	-	-	-	-	-	Not measured.

*__The risk in the intervention group__ (and its 95% confidence interval) is based on the assumed risk in the comparison group and the __relative effect__ of the intervention (and its 95% CI).

__CI:__ confidence interval; __MD:__ mean difference; __SMD:__ standardised mean difference

__GRADE Working Group grades of evidence__
__High certainty:__ we are very confident that the true effect lies close to that of the estimate of the effect.
__Moderate certainty:__ we are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
__Low certainty:__ our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
__Very low certainty:__ we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

See interactive version of this table: https://gdt.gradepro.org/presentations/#/isof/isof_question_revman_web_438972912524011941.

[a] Downgraded one level owing to study limitations (concrete risk of performance and detection bias at least in some trials).
[b] Downgraded one level owing to imprecision (optimal information size of 350 participants per arm not achieved).
[c] Downgraded one level owing to imprecision (the confidence intervals included appreciable benefit and harm).

BACKGROUND

Description of the condition

Humanitarian emergencies such as armed conflicts, disasters (e.g. triggered by natural hazards such as earthquakes and cyclones), or pandemics profoundly disrupt the daily lives of those impacted and result in psychological distress for many people. This is particularly the case for people living in low- and middle-income countries (LMICs), where the increasing frequency of public health crises since the 2010s, including the most recent Coronavirus Disease 2019 (COVID-19) pandemic and the resurgence of the Palestinian-Israeli conflict, has sorely increased the number of people exposed to mental health stressors. Social and environmental factors such as poverty, discrimination, war, and violence all play a key role in all aspects of public health and are risk factors for mental health problems (Lund 2018; Ridley 2020). For example, people living in humanitarian settings (i.e. contexts affected by armed conflicts or by disasters triggered by natural, industrial, or technological hazards) in LMICs may not have adequate access to health care, education, or basic resources such as food or shelter. In addition, humanitarian crises often do not provide the conditions that are necessary to promote positive aspects of mental health, such as suitable housing, adequate income, and opportunities for a strong social network.

By the end of 2020, the number of people forcibly displaced due to war, conflict, persecution, human rights violations, and humanitarian crises had grown to 82.4 million (UNHCR 2020). Syria, Venezuela, Afghanistan, South Sudan, The Democratic Republic of the Congo, Burkina Faso, and Yemen represent just a few of the many hotspots in 2019 that drove people to seek refuge and safety within their country or flee abroad to seek protection (UNHCR 2020). Most displaced populations remain in their region of origin or flee to neighbouring countries (i.e. an LMIC). In fact, LMICs host 82% of the world's refugee population (UNHCR 2015). Humanitarian crises impact a large part of the world's population, often affecting populations already beset by adversity (e.g. discrimination, gender-based violence, social marginalisation), with 356 million children younger than five years living in extreme poverty, defined as existing on less than US dollars (USD) 1.90 a day (UNICEF 2021).

Two Cochrane reviews have evaluated the effectiveness of approaches to treat (Purgato 2018) and prevent (Papola 2020) mental disorders in people living in LMICs affected by humanitarian crises. These reviews followed the classification of interventions described by the Institute of Medicine (IOM) (Institute of Medicine 1994; Institute of Medicine 2009; Purgato 2020a; Tol 2015). The IOM's classification distinguishes treatment from prevention and promotion. Treatment is aimed at reducing symptoms in people with identified mental disorders and prevention is a complementary approach aimed at reducing the likelihood of future disorders within the general population. Prevention is further subdivided on the basis of the population targeted into universal prevention (interventions in the general population), selective prevention (interventions in subpopulations identified as being at risk for a disorder), and indicated prevention (with individuals having an increased vulnerability for a disorder based on individual assessment) (Institute of Medicine 1994; Papola 2024). Although there may be areas of overlap with prevention, mental health promotion does not directly focus on preventing

mental disorders, but on improving positive outcomes or mental well-being (Institute of Medicine 2009).

Given the broad impact of humanitarian settings on mental health, this review aimed to provide a comprehensive evaluation of the effectiveness of promotion interventions to foster positive aspects of mental health in children, adolescents, and adults living in LMICs affected by humanitarian crises.

Description of the intervention

Mental health and psychosocial support interventions are becoming a standard part of humanitarian programmes. These interventions cover a wide range of objectives, from addressing the environmental conditions that shape well-being to the management of severe (neuro)psychiatric disorders. Accordingly, they are implemented in diverse humanitarian sectors including health, protection, nutrition, shelter, and education (Miller 2021). Although this was previously an ideologically divided field, there appears to be growing agreement on best practices, as suggested by international consensus-based documents (IASC 2007; The Sphere Project 2011). These documents advocate multilayered systems of care, to address the diversity of mental health and psychosocial needs in humanitarian settings. Such recommended multilayered systems of care are envisioned to include interventions to address the broad range of mental health needs in populations affected by humanitarian crises.

A Lancet Commission set up in 2018 to align global mental health efforts with sustainable development goals has emphasised the importance of action to promote mental health (Patel 2018). Promotion is an approach that aims to strengthen positive aspects of mental well-being; it includes, for example, intervention components that foster prosocial behaviour, self-esteem, positive coping with stress, and decision-making capacity (WHO 2018a). Mental health promotion usually targets the entire population (universal), but may target high-risk populations such as refugees, asylum seekers, and internally displaced people (selective health promotion). It considers outcomes related to positive aspects of psychological functioning and mental well-being rather than ill health (Purgato 2021a; Tol 2015). Psychosocial interventions aimed to promote mental health delivered in LMICs affected by humanitarian crises may include individual-level, group-based, or community-based interventions. For example, activities to encourage good mental health and development for children may take place in classrooms or in refugee camps. One definition of promotion includes a wider set of interventions provided at societal, community, individual, and family levels. These updates reflect important trends in research in the field of public mental health, and reveal the enduring importance of a spectrum of key tools for fostering mental health and reducing the treatment gap between high-income countries (HIC) and LMICs (National Academies of Sciences 2019).

Since 2010, 'task sharing' strategies have been increasingly advocated as a pivotal tool to deliver psychosocial interventions to treat, prevent, or promote mental health in low-resource settings (Patel 2010; van Ginneken 2021), and in humanitarian settings (Barbui 2020; Papola 2020; Purgato 2018). The World Health Organization (WHO) defines task shifting as "the rational redistribution of tasks among health workforce teams" (WHO 2018b). In other words, specific functions are shifted, where appropriate, from highly qualified health workers to health workers

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with shorter training and fewer qualifications, to make more efficient use of the available human resources for health. The specialist role shifts from direct service provider towards supervisor and consultant to train 'primary-level health workers'. Systematic reviews and conventional meta-analyses of randomised controlled trials (RCTs) show that psychosocial interventions delivered by locally available primary-level health workers in community and primary care settings are promising to treat common mental disorders in LMICs (Bangpan 2019; Kamali 2020; Purgato 2021b; Purgato 2023). Mental health promotion interventions are very often implemented outside of healthcare settings in community settings.

How the intervention might work

Mental health promotion aims at strengthening positive aspects of mental health and psychosocial well-being (Institute of Medicine 2009). Mental health promotion activities are contingent on the definition of mental health as being more than the absence of disease (i.e. as "a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community") (WHO 2018c). Psychosocial promotion interventions may achieve their aim by strengthening psychological skills (e.g. training positive coping strategies), or by improving the social, physical, and economic environments that influence mental health (e.g. providing communities with the resources to strengthen social connectedness).

Psychosocial interventions may build on knowledge with regard to resilience and strength-focused processes. Interventions may focus, for example, on introducing creative expressive elements (co-operative activities, structured movement, relaxation), reinforcing self-esteem, social support (even group cohesion within the intervention group), empowerment, and emotion regulation (Wessells 2015; Wessells 2018). Psychosocial interventions to promote mental health are often delivered in an empowering, collaborative, and participatory manner to foster positive aspects of mental health in individuals, such as coping capacity and resilience. They increase connections between individuals and communities, create opportunities for income generation and employment, and strengthen positive family and peer relations and other social support mechanisms (Hobfoll 2007; WHO 2004). Mental health promotion is commonly attempted through multisectoral interventions (i.e. with activities across a wide number of sectors, policies, programmes, settings, and environments). Mental health promotion requires action to influence the full range of potentially modifiable determinants of mental health (Hobfoll 2007; Marmot 2014). These include not only those related to the actions of individuals, such as behaviours and ways of life, but also factors such as income and social status, education, employment and working conditions, access to appropriate health services, and the physical environment (Walker 2005).

A popular conceptual framework for psychosocial interventions in humanitarian settings is that of 'ecological resilience' (Tol 2013; Ungar 2013), which has been defined as "those assets and processes on all socioecological levels that have been shown to be associated with good developmental outcomes after exposure to situations of conflict" (Bronfenbrenner 1979; Tol 2008). Ecological resilience refers to a process whereby people attain desirable outcomes despite significant risks to their adaptation and development (Theron 2016; Ungar 2020). These processes are

thought to involve dynamic relationships between risk, protective factors, and promotive factors at different levels of the person's social ecology (e.g. individual, family, neighbourhood levels) (Betancourt 2008; Betancourt 2013).

Mental health promotion aims to raise the position of mental health in the scale of values of individuals, families, and societies, so that decisions taken by government and business can ensure social conditions and factors that create positive environments for good mental health and well-being of populations, communities, and individuals (Frankish 2018).

Why it is important to do this review

The present review is necessary, and considered particularly timely, for at least three reasons.

- The largest populations affected by humanitarian crises live in LMICs. For example, four out of the five countries most often hit by disasters associated with natural hazards since the mid-2010 are LMICs (China, the Philippines, India, and Indonesia) (Centre for research on epidemiology of disasters – CRED). Similarly, 30 of the 32 armed conflicts and wars recorded by the Uppsala Conflict Data Program in 2012 took place in LMICs (93.8%) (Themnér 2013). A considerable number of studies have examined mental health in populations affected by humanitarian crises (Attanayake 2009; Augustinavicius 2018; Greene 2017; Jordans 2016; Morina 2017; Papola 2020; Purgato 2018; Siriwardhana 2014; Steel 2009; Tol 2015).

- In general, LMICs differ from HICs with regard to numerous characteristics; thus, LMICs and HICs are to be reviewed separately. Among the most striking differences between LMICs and HICs are: health system indicators (e.g. the number of mental health professionals available); humanitarian response capacity; and distribution of the determinants of mental health before the onset of humanitarian crises. In addition, there is a large variety of ways in which populations conceptualise and seek assistance for mental health problems in LMICs that may differ from conceptualisations and help-seeking patterns in high-income industrialised countries (Kohrt 2013). Therefore, evidence regarding the effectiveness of interventions implemented in HICs may not generalise or be relevant to LMICs. Given the large impact of humanitarian crises in LMICs and unknown generalisability of findings from HICs, this review focused on psychosocial interventions aimed at promoting mental health implemented with populations living in LMICs.

- There is currently no systematic review of psychosocial interventions specifically aimed at promoting the mental health of people living in LMICs affected by humanitarian crises (Uphoff 2020). Although psychosocial promotion interventions have been popular in practice, an earlier systematic review did not identify a large number of rigorous studies evaluating the benefits of such interventions for mental health (Tol 2011). A Cochrane overview of reviews found similar results (Uphoff 2020). One review focused on the efficacy of process-based forgiveness interventions among samples of adolescents and adults who had experienced a range of hurt or violence provided evidence suggesting that forgiving a variety of real-life interpersonal offences can be effective in promoting different dimensions of mental well-being (Akhtar 2018). Regardless of such conflicting results, it should be noted that none of these reviews focused specifically on LMICs.

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OBJECTIVES

To assess the effects of psychosocial interventions aimed at promoting mental health versus control conditions (no intervention, intervention as usual, or waiting list) in people living in LMICs affected by humanitarian crises.

METHODS

Criteria for considering studies for this review

Types of studies

We included RCTs. Trials that employ a cross-over design were also eligible. We excluded quasi-RCTs, in which participants were allocated to different arms of the trial using a method of allocation that was not truly random (e.g. allocation based on date of birth, or the order in which people were recruited). We considered both individual and cluster-randomised trials as eligible for inclusion.

Types of participants

Participant characteristics

We considered participants of any age, gender, ethnicity, and religion. Consistent with the two parallel Cochrane reviews mentioned in the Description of the condition (Papola 2020; Purgato 2018), we planned two separate meta-analyses on the different outcomes, one for children and adolescents (aged less than 18 years), and one for adults (aged 18 years and older). Studies with mixed population groups (children and adolescents; adults) were allocated according to the proportion of participants belonging to the child and adolescent age range, or to the adult age range.

Setting

We considered studies conducted in humanitarian settings in LMICs (i.e. contexts affected by armed conflicts or by disasters triggered by natural, industrial, or technological hazards). We applied the World Bank criteria for categorising a country as low or middle income (World Bank 2021). More specifically, we focused on people who had experienced a humanitarian crisis in an LMIC and who were living in a humanitarian setting in an LMIC at the time of the study. We excluded studies undertaken in HICs. According to the World Bank (World Bank 2021), for the 2021 fiscal year, low-income economies were defined as those with a gross national income (GNI) per capita of USD 1035 or less in 2019; middle-income economies were those with a GNI per capita between USD 1036 and USD 4045; upper middle-income economies were those with a GNI per capita between USD 4046 and USD 12,535; and high-income economies were those with a GNI per capita of USD 12,536 or more. Psychosocial interventions aimed at promoting mental health may have been delivered in healthcare settings, refugee camps, schools, communities, survivors' homes, and detention facilities. We included studies with populations experiencing the humanitarian crisis at the time the study was conducted, as well as studies conducted after the acute phase of humanitarian crises.

Diagnosis

Given the focus on mental health promotion, we excluded studies that selected participants meeting criteria for a formal psychiatric diagnosis at the time of enrolment in the study. We also excluded studies that included participants scoring above a disclosed validated cut-off score on a scale measuring psychological symptoms associated with a particular mental disorder at baseline, as this may be considered a proxy of a psychiatric diagnosis. However, because many studies screen on the basis of a risk factor or heightened symptoms, we could not exclude the possibility that trial participants might have fulfilled criteria for an actual psychiatric diagnosis that remained unobserved because it was not investigated when the trial was undertaken. For example, we included populations who left their homes due to a sudden impact, threat, or conflict; populations exposed to political violence/armed conflicts/natural and industrial disasters; those with major losses or in poverty; and those belonging to a group (i.e. people who were discriminated against or marginalised) experiencing political oppression, family separation, disruption of social networks, destruction of community structures and resources and trust, increased gender-based violence, and undermined community structures or traditional support mechanisms (IASC 2007).

We only included studies of mixed populations if most participants did not meet a formal psychiatric diagnosis or a proxy thereof (i.e. scoring above the cut-off of a screening measure). We adopted a common-sense strategy, also relying on authors' specific statements of intent, without specifying any arbitrary threshold with regard to cut-offs on symptom checklists, as suggested in Section 5.2 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2017).

Comorbidities

We included studies with participants reporting physical disorders.

Types of interventions

Included interventions

We included studies assessing any types of intervention with a psychosocial component aimed at promoting mental health (i.e. interventions with a psychological or social component aimed at creating living conditions and environments that support mental health and encourage positive healthy lifestyles, as well as teaching people social and emotional skills).

Included mental health promotion interventions could have been delivered by a range of facilitators, including primary-level health workers, or community workers (in a range of sectors). Primary-level health workers include professionals (doctors, nurses, midwives, and other general health professionals) and paraprofessionals (such as trained lay health providers, e.g. traditional birth attendants) working in non-specialised healthcare settings (e.g. primary care, HIV/AIDS care, maternal care). Community workers are paraprofessionals who work in the community, and represent an important human resource employed in the delivery of promotion and prevention interventions (Patel 2007). Community workers might include teachers, trainers, support workers from schools and colleges, social workers, and other volunteers or workers within community-based networks or non-governmental organisations (NGOs). In this review, we considered both primary-level health workers and community workers under the umbrella term of 'non-specialist workers' (NSWs) (see also Description of the intervention).

Psychosocial interventions could be delivered at individual, group, family, community, or societal levels (National Academies of Sciences 2019). Interventions may be delivered through any

means, including, for example, face-to-face meetings, digital tools, radio, telephone, or self-help booklets, between participants and primary-level health workers. Both individual and group interventions were eligible for inclusion, with no limit placed on the number of sessions.

Excluded interventions

We excluded interventions that aimed to treat people with a diagnosed mental disorder, or explicitly aimed to prevent mental disorders (i.e. specifically aiming to reduce the incidence of mental disorders). We used the following criteria to define a study that aimed to prevent mental disorders.

- The primary outcome of the study aimed to measure the incidence of mental disorders by means of a formal diagnostic assessment.
- The primary outcome of the study utilised a rating scale which was dichotomised to set a cut-off, above which the participant was considered to have a diagnosis of a mental disorder.
- The study measured the frequency of the diagnosis at follow-up.

We also excluded studies that included participants on the basis of scoring above a cut-off on a symptom checklist.

Comparators

As control comparators, we considered the following.

- No intervention.
- Care as usual (CAU) (also called standard/usual care): participants could receive any appropriate general support during the course of the study on a naturalistic basis.
- Waiting list: delaying delivery of the intervention to the control group until all participants in the intervention group had completed the intervention. As in CAU, participants in the waiting-list control could have received any appropriate support during the course of the study on a naturalistic basis.

Participants may have received any appropriate medical care during the course of the study on a naturalistic basis, including pharmacotherapy, as deemed necessary by the healthcare staff.

Types of outcome measures

We included studies that met the above inclusion criteria regardless of whether they reported on the following outcomes.

Primary outcomes

- **Mental well-being:** having good mental health, or being mentally healthy, is more than just the absence of illness, rather it is a state of overall well-being (WHO 2018c). The concept of mental well-being generally relates to enjoyment of life, having the ability to cope with and 'bounce back' (recover) from stress and sadness, being able to set and fulfil goals, and having the capability to build and maintain relationships with others. Mental well-being is commonly measured with the WHO Five Well-Being Index (WHO-5) (Topp 2015), or with other validated rating scales (Clarke 2011).
- **Functioning:** is an objective performance in a given life domain, and is often measured with the WHO Disability Assessment Scheme (WHO 2010), Global Assessment of Functioning (APA 2000), or with other validated rating scales.

- **Quality of life:** is defined by the WHO as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (WHO 2018b). It can be measured with the Quality of Life Scale (CASP-19) (Hyde 2003), the WHO Quality of Life scale (WHO 2012), or with other validated rating scales (Burckhardt 2003).
- **Resilience:** refers to the effective use of resources to maintain good mental health in the face of adversity. Resilience can be measured with the Child and Youth Resilience Measure (CYRM; Ungar 2011), the Connor-Davidson Resilience Scale (CD-RISC; Connor 2003), or with other validated rating scales (Windle 2011).
- **Coping:** is intended as the capacity to use a series of actions, or a thought process used in meeting a stressful or unpleasant situation or in modifying one's reaction to such a situation. Coping may be measured with the Kidcope (Spirito 1988), or with other validated rating scales (Carver 1989).
- **Hope:** is the expectation that one will have positive experiences, or that a potentially threatening or negative situation will not materialise or will ultimately result in a favourable state of affairs. Hope can be measured with the Children's Hope Scale (CHS) (Snyder 1997), or with other validated rating scales (Snyder 1991).
- **Prosocial behaviour:** is a behaviour that could bring benefit to other people or society as a whole. Prosocial behaviour activities are those such as helping, sharing, donating, co-operating, and volunteering. Prosocial behaviour may be measured with the prosocial subscale derived from the Strengths and Difficulties Questionnaire (SDQ) (Goodman 1997), or with other validated rating scales (Carlo 2002).

Secondary outcomes

- **Acceptability:** number of participants who dropout of the trial for any reason.

Timing of outcome assessment

We grouped primary and secondary outcomes into three sets of time points.

- Postintervention (up to one month after the intervention)
- One to six months postintervention (medium-term follow-up)
- Seven to 24 months postintervention (long-term follow-up)

Hierarchy of outcome measures

If more than one relevant outcome measure was available in the domain of interest and both described the domain adequately, we chose the measure with the most detailed sociocultural evaluation or the one that other trials in the analysis used. Secondarily, we chose any measure that the study authors stated was tested for suitability in the population of interest.

Search methods for identification of studies

Electronic searches

We searched the following databases and trial registers using relevant keywords, subject headings (controlled vocabularies), and search syntax appropriate to each resource (Appendix 1).

- Cochrane Central Register of Controlled Trials (CENTRAL; 2023, Issue 1) in the Cochrane Library
- MEDLINE Ovid (1946 to 20 January 2023)
- Embase Ovid (1974 to 20 January 2023)
- PsycINFO Ovid (1806 to 20 January 2023)
- PTSDpubs ProQuest (all available years to 20 January 2023)
- Dissertations & Theses ProQuest (all available years to 20 January 2023)
- ERIC (EBSCO – Education Resources Information Center; 1966 to 20 January 2023)
- EconLit Ovid (1886 to 20 January 2023)
- JSTOR (all available years to 20 January 2023)
- Campbell Collaboration (all available years to 20 January 2023)
- US National Institutes of Health Ongoing Trials Register ClinicalTrials.gov (www.clinicaltrials.gov; all available years to 20 January 2023)
- WHO International Clinical Trials Registry Platform (apps.who.int/trialsearch; all available years to 20 January 2023)

We placed no restrictions on date, language, or publication status for the searches.

Searching other resources

Grey literature

We searched sources of grey literature, including dissertations and theses, humanitarian reports, and evaluations published on websites, clinical guidelines, and reports from regulatory agencies (where appropriate).

Reference lists

We checked the reference lists of all included studies and relevant systematic reviews (both Cochrane and non-Cochrane) to identify additional studies missed from the original electronic searches. We also performed forward-citation searches (of the included study reports) using the Web of Science and Google Scholar.

Correspondence

We contacted trialists and subject experts for information on unpublished or ongoing studies, or to request additional trial data.

Data collection and analysis

Selection of studies

We downloaded all titles and abstracts retrieved by electronic searching to Covidence (Covidence), a reference management database, and removed duplicates. Review authors (DP, EP, CCec, CCad, MCF, CG) independently screened titles and abstracts for inclusion. Then, the same authors retrieved the full-text study report/publication of eligible titles and abstracts, and independently screened the full text to finally identify studies for inclusion. We resolved any disagreements through discussion or, if required, we consulted a third review author (CB, MP). When screening the articles, we inspected them to identify trials that met the following inclusion criteria.

- RCTs.

- Any psychosocial intervention that aimed to promote mental health compared with no intervention, waiting-list control, or intervention as usual.
- Children, adolescents, and adults living in humanitarian settings in LMICs without a formal diagnosis of post-traumatic stress disorder (PTSD), anxiety, depression according to Diagnostic and Statistical Manual of Mental Disorders 3rd Edition (DSM III) (APA 1980), Diagnostic and Statistical Manual of Mental Disorders 3rd Edition Revised (DSM-III-R) (APA 1987), Diagnostic and Statistical Manual of Mental Disorders 4th Edition Text Revision (DSM-IV-TR) (APA 2000), Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-5) (APA 2103) or International Classification of Diseases 10th Revision (ICD-10) (WHO 1992), or any other standardised criteria.

We identified and excluded duplicate records, and collated multiple reports that related to the same study so that each study rather than each report was the unit of interest in the review. We identified and recorded reasons for exclusion of the ineligible full-text articles. We recorded the selection process in sufficient detail to complete a PRISMA flow diagram (Page 2021).

Data extraction and management

We extracted descriptive and outcome data for each study using an adapted version of the Cochrane Effective Practice and Organisation of Care (EPOC) standard data collection form (EPOC 2017). We piloted the form on two studies in the review. Two pairs of review authors (DP and EP, or CCec and MCF or CCad) independently extracted descriptive data; we resolved disagreements by discussion and arbitration by one of the senior review authors (MP, CB). We extracted the following study characteristics from the included studies and entered the data into Review Manager (Review Manager 2024).

- Methods: study design; number of study centres and locations; study settings; dates of study; follow-up
- Participants: number; mean age; age range; gender; health conditions; inclusion criteria; exclusion criteria; duration of exposure to the crisis; other relevant characteristics such as ethnicity and socioeconomic status
- Interventions: type and length of intervention; full description of cadre(s) of primary-level health or community workers, including details on supervision, training, and length, frequency, and type of experience; comparison; timing of the intervention (during or after the crisis); presence of a fidelity assessment
- Setting: country; type of implementation setting (e.g. workplace, school, community); type of humanitarian crisis; type of traumatic event
- Outcomes: main and other outcomes specified and collected; time points reported
- Notes: funding for the trial; notable conflicts of interest of trial authors; ethical approval

We sought key unpublished information by contacting study authors of included studies via email.

Assessment of risk of bias in included studies

Two review authors (DP, EP, CCad) independently assessed risk of bias for each study using the criteria outlined in the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2017). We resolved any disagreements by discussion or by involving

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another review author (CB or MP). We assessed the risk of bias according to the following domains.

- Random sequence generation
- Allocation concealment
- Blinding of participants and personnel
- Blinding of outcome assessment
- Incomplete outcome data
- Selective outcome reporting
- Other bias
- Therapist qualification
- Therapist/investigator allegiance
- Intervention fidelity

We evaluated cluster-randomised trials according to Section 16.3.2 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2017). In particular, we considered: recruitment bias, baseline imbalance, loss of clusters, and incorrect analysis. For each cluster-RCT we verified, where possible: if all clusters were randomised at the same time, if samples were stratified on variables likely to influence outcomes, if clusters were pair-matched, and if there was baseline comparability between psychosocial interventions and control groups.

We judged each potential source of bias as high, low, or unclear and provided a supporting quotation from the study report or a justification for our judgement in the risk of bias table.

For the domain of 'selective outcome reporting', we considered the study to have an unclear risk of bias if there was no protocol information and no trial registration, even if all measures described in the methods were reported in the results; for the same domain, we considered the study to have a low risk if there was at least a trial registration number and there were no other concerns.

We evaluated the risk of bias in the included studies using the Cochrane RoB 1 tool (Higgins 2017), for consistency with methods in the two previous reviews on psychosocial interventions that aimed to treat (Purgato 2018) and prevent (Papola 2020) mental health disorders in people living in LMICs affected by humanitarian crises.

Measures of treatment effect

We estimated the effect of the psychosocial intervention using the risk ratio (RR) with its 95% confidence interval (CI) for dichotomous data, and the mean difference (MD) or standardised mean difference (SMD) with 95% CIs for continuous data (Higgins 2021). We ensured that an increase in scores for continuous outcomes could be interpreted in the same way for each outcome, explained the direction of the scale to the reader, and reported when the directions were reversed, if this was necessary. For SMDs, we used the *Cochrane Handbook for Systematic Reviews of Interventions* to interpret their clinical relevance: 0.2 represents a small effect, 0.5 a moderate effect, and 0.8 a large effect (Cohen 1988; Higgins 2021).

Unit of analysis issues

Cluster-randomised trials

We included cluster-RCTs when communities, primary healthcare facilities, schools, or classes within schools rather than single individuals were the unit of allocation. Because variation in response to psychosocial interventions between clusters may be influenced by cluster membership, we included, when possible, data adjusted with an intracluster correlation coefficient (ICC). We adjusted the results for clustering by multiplying standard errors (SE) of the estimates by the square root of the design effect when the design effect was calculated as $D_{Eff} = 1 + (M - 1) \times ICC$, where M is the mean cluster size. When included studies did not report ICCs for respective outcome measures, we derived ICCs from a different outcome from the same study, or from a different study included in the same meta-analysis. If the ICC value was not reported or was not available from trial authors directly, we assumed it to be 0.05 (Higgins 2021; Ukoumunne 1999). We combined adjusted measures of effects of cluster-randomised trials with results of individually randomised trials when it was possible to adjust the results of cluster trials adequately.

Dealing with missing data

We contacted investigators to verify key study characteristics and to obtain missing outcome data when possible (e.g. when a study was identified as abstract only). We tried to compute missing summary data from other reported statistics (Higgins 2021). We documented all the correspondence with trial authors that were contacted in order to provide unpublished data (Appendix 2). As mentioned above, when the ICC was neither available from the trial reports nor directly available from the trial authors, we assumed it to be 0.05 (Ukoumunne 1999). For continuous data, we applied a looser form of intention-to-treat (ITT) analysis, whereby all participants with at least one postbaseline measurement were represented by their last observation carried forward (LOCF). If the authors of included RCTs stated that they used an LOCF approach, we checked details on LOCF strategy and used data as reported by the study authors. When study authors report only the SE, t statistics, or P values, we calculated standard deviations according to Altman 1996. For dichotomous data, we applied ITT analysis, whereby we considered all dropouts not included in the analyses as negative outcomes (i.e. we assumed they would have experienced the negative outcome by the end of the trial).

When it was not possible to obtain data, we reported the level of missingness and considered how that might impact the certainty of evidence.

Assessment of heterogeneity

We assessed clinical heterogeneity through the creation of comprehensive synoptic tables by which it is possible to assess the variability of participants, interventions, and outcomes across trials (Characteristics of included studies table).

We assessed methodological heterogeneity by applying the risk of bias assessment to the included studies (Assessment of risk of bias in included studies; Characteristics of included studies table).

We obtained an initial visual overview of statistical heterogeneity by scrutinising the forest plots while looking at the overlap between CIs around the estimate for each included study. To quantify the impact of heterogeneity on each meta-analysis we used the I^2 statistic and considered the following ranges, according to the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2021).

- 0% to 40%: might not be important
- 30% to 60%: may represent moderate heterogeneity

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- 50% to 90%: may represent substantial heterogeneity
- 75% to 100%: considerable heterogeneity

The importance of the observed I^2 statistic depends on the magnitude and direction of intervention effects and the strength of evidence for heterogeneity (Higgins 2021; Purgato 2012).

If any meta-analysis was associated with substantial levels of heterogeneity (i.e. I^2 statistic > 75%), two review authors (MP and DP) independently checked data to ensure they were entered correctly. Assuming data were entered correctly, we investigated the source of this heterogeneity by visually inspecting the forest plots, and we removed each trial that had a very different result to the general pattern of the others until homogeneity was restored as indicated by an I^2 statistic value of less than 75%. We reported the results of this sensitivity analysis in the text of the review alongside hypotheses regarding the likely causes of the heterogeneity.

Assessment of reporting biases

As far as possible, we minimised the impact of reporting biases by undertaking comprehensive searches of multiple sources, increasing efforts to identify unpublished material without language restrictions. We did not use funnel plots for outcomes where there were fewer than 11 studies, or where all studies were of similar sizes (Sterne 2011).

Data synthesis

Given the potential heterogeneity of mental health promotion psychosocial interventions, we used a random-effects model in all analyses (Borenstein 2019). The random-effects model has the highest generalisability in empirical examinations of summary effect measures for meta-analyses (Furukawa 2002). Specifically, for dichotomous data, we used the Mantel-Haenszel method, as this is preferable in Cochrane reviews, given its better statistical properties when there are few events (Higgins 2021). We adopted the inverse variance method for continuous data: this method minimises the imprecision of the pooled effect estimate, as the weight given to each study is chosen to be the inverse of the variance of the effect estimate (Hjemdal 2011).

Subgroup analysis and investigation of heterogeneity

The small number of RCTs included in this review did not allow us to undertake subgroup analyses as preplanned in the protocol (Papola 2022a). See Differences between protocol and review.

Sensitivity analysis

Owing to the small number of RCTs included in this review, it was not possible to carry out sensitivity analyses. See Differences between protocol and review.

Summary of findings and assessment of the certainty of the evidence

We used the GRADE approach to interpret findings (Langendam 2013). Using GRADEpro GDT software, we imported data from Review Manager to create summary of findings tables (GRADEpro GDT; Review Manager 2024). These tables provide outcome-specific information concerning the overall certainty of the evidence from studies included in the comparison, the magnitude of effect of the psychosocial interventions examined, and the sum of available data on the outcomes we considered. We adhered to the standard methods for the preparation and presentation results outlined in the *Cochrane Handbook for Systematic Reviews of Interventions* (Guyatt 2013; Higgins 2021). Two review authors (DP, CG) independently performed the GRADE assessments, and resolved disagreements by arbitration by a senior review author (MP).

We included the following outcomes as measured at trial endpoint and follow-up in the summary of findings tables.

- Mental well-being
- Functioning
- Prosocial behaviour

We created two summary of findings tables, one for children and one for adults, for the comparison of psychosocial intervention versus control. For continuous outcomes, we adopted the Cohen's approach for the interpretation of effect size (0.2 represents a small effect; 0.5 represents a moderate effect; 0.8 represents a large effect) (Cohen 1988).

As RoB 1 does not calculate an overall risk of bias across risk of bias domains (Higgins 2017), we decided to downgrade the certainty of evidence due to study limitations if concrete risks of bias were reported in one or more domains for the studies providing outcome data.

R E S U L T S

Description of studies

Results of the search

We identified 5014 records from electronic sources to January 2023. Of these, we removed 1768 duplicates and 3185 records after title/abstract level screening. Sixty-one studies (72 reports) underwent full-text screening. Of these, we included 13 RCTs with 7917 participants (see Characteristics of included studies table) and excluded 45 studies (see Characteristics of excluded studies table). Two studies are awaiting classification (see Characteristics of studies awaiting classification table) and one study is ongoing (see Characteristics of ongoing studies table) (see Figure 1 for the PRISMA flow diagram).

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Figure 1.   Study flow diagram.

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┌─────────────────────┐   ┌─────────────────────┐
│ 5014 records        │   │ 0 records           │
│ identified through  │   │ identified through  │
│ database searching  │   │ other sources       │
└─────────────────────┘   └─────────────────────┘
           │                         │
           └───────────┬─────────────┘
                       ▼
          ┌─────────────────────┐
          │ 1768 duplicates     │
          │ excluded            │
          └─────────────────────┘
                       │
                       ▼
          ┌─────────────────────┐        ┌─────────────────────┐
          │ 3246 records        │───────▶│ 3174 records        │
          │ screened            │        │ excluded            │
          └─────────────────────┘        └─────────────────────┘
                       │
                       │              ┌──────────────────────────────┐
                       │              │ 45 studies (48 full-text      │
                       │              │ reports) excluded, with        │
                       │              │ reasons:                       │
                       │              │                                │
                       │              │   • 23 ineligible              │
                       │              │   population (clinical         │
                       │              │   patients)                    │
                       │              │   • 10 ineligible study        │
                       │              │   design                       │
                       ▼              │   • 9 ineligible setting       │
          ┌─────────────────────┐    │   • 2 ineligible               │
          │ 72 full-text reports│───▶│   comparison                   │
          │ (61 studies)        │    │   • 1 ineligible               │
          │ assessed for        │    │   intervention                 │
          │ eligibility         │    │                                │
          └─────────────────────┘    │ 2 studies awaiting             │
                       │             │ classification (2 reports)     │
                       │             │                                │
                       │             │ 1 ongoing study (2             │
                       │             │ reports)                       │
                       │             └──────────────────────────────┘
                       ▼
          ┌─────────────────────┐
          │ 13 studies (20      │
          │ reports) included   │
          │ in qualitative      │
          │ synthesis           │
          └─────────────────────┘
                       │
                       ▼
          ┌─────────────────────┐
          │ 13 studies included │
          │ in quantitative     │
          │ synthesis           │
          │ (meta-analysis)     │
          └─────────────────────┘
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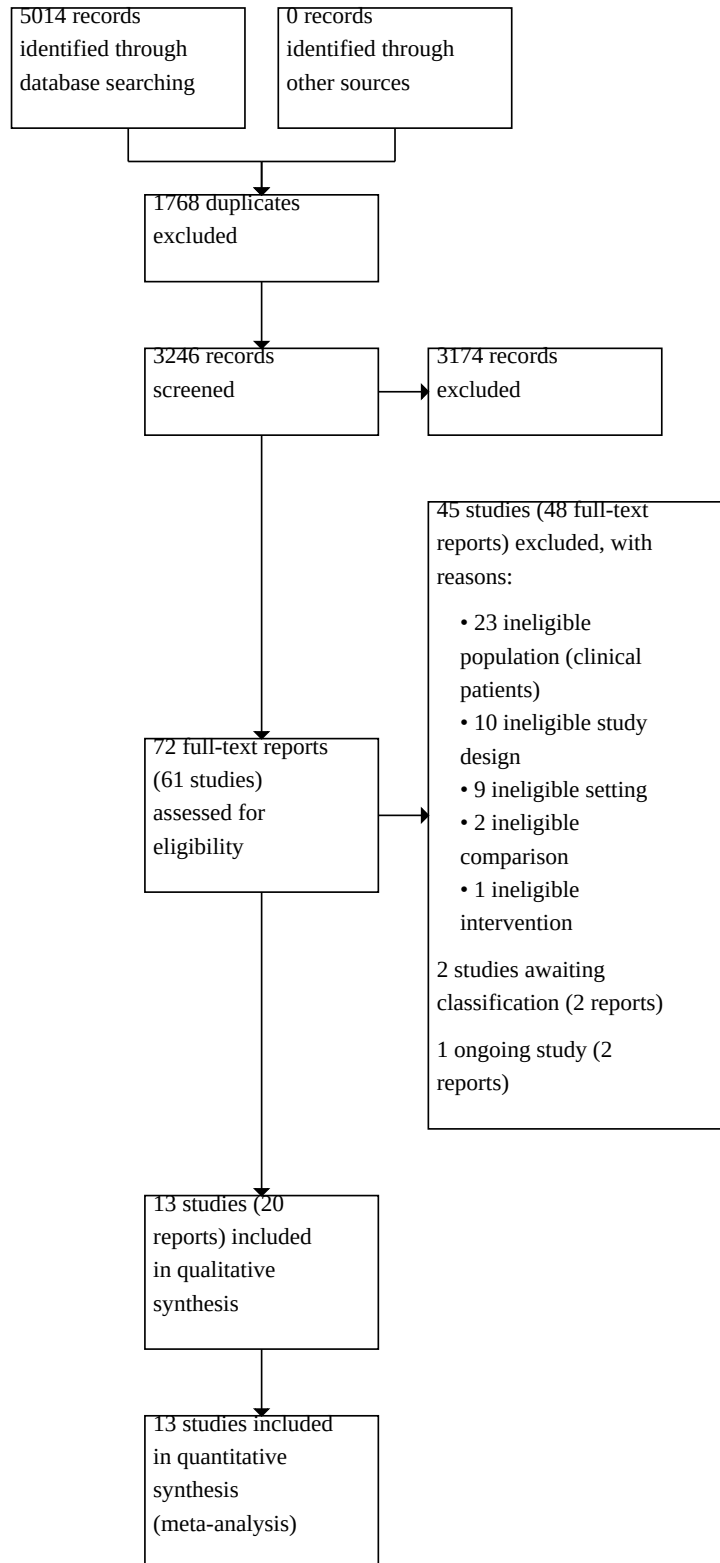
15

Figure 1. (Continued)

We contacted the author of one study (Panter-Brick 2018), to request details not reported in the study publication (Papola 2023 [pers comm]). The data supplied are available in Appendix 2.

Included studies

See Characteristics of included studies table for further details.

Design

We included six trials that randomised participants at the individual level (Berger 2018; Dybdahl 2001; James 2020; Leventhal 2015; O'Callaghan 2014; Yankey 2019), and seven cluster-randomised trials (Afifi 2010; Dhital 2019; Diab 2015; Maalouf 2020; Miller 2020; Miller 2023; Panter-Brick 2018). There were no cross-over trials.

Sample sizes

Included studies involved 7917 participants, with the number of participants in each trial ranging from 87 (Dybdahl 2001) to 2732 (Leventhal 2015).

Setting

Four studies were carried out in Lebanon (Afifi 2010; Maalouf 2020; Miller 2020; Miller 2023); two in India (Leventhal 2015; Yankey 2019); and one each in The Democratic Republic of the Congo (O'Callaghan 2014), Jordan (Panter-Brick 2018), Haiti (James 2020), Bosnia and Herzegovina (Dybdahl 2001), Palestine (Diab 2015), Nepal (Dhital 2019), and Tanzania (Berger 2018). In Dhital 2019 and James 2020, the humanitarian crisis was triggered by natural disasters, whereas in Berger 2018, Leventhal 2015, and Yankey 2019 the trigger was extreme poverty. In all the other cases, the humanitarian crisis was the aftermath of war or armed conflicts. Five studies delivered the intervention in community facilities (Dybdahl 2001; Miller 2020; Miller 2023; O'Callaghan 2014; Panter-Brick 2018), and the other studies delivered the intervention in schools. Aside from Dhital 2019, Diab 2015, Dybdahl 2001, and Maalouf 2020, which delivered the intervention after the end of the humanitarian crisis, all included studies delivered psychological and social interventions during the acute crisis.

Participants

Most studies considered adolescents between 11 and 18 years of age (Afifi 2010; Berger 2018; Dhital 2019; Diab 2015; Leventhal 2015; Maalouf 2020; Panter-Brick 2018; Yankey 2019), one study considered both children and adolescents (O'Callaghan 2014). James 2020 focused on adults, Dybdahl 2001 considered mother–child dyads, while two other studies focused on refugee caregivers with at least one child between the ages of three and 12 years (Miller 2020; Miller 2023). For these studies, we considered the outcomes related to the adult caregivers, as the interventions were primarily directed to promote their mental health. In all studies except Leventhal 2015 (enrolled only girls), both genders were represented. The main types of potentially traumatic events were bereavement (Diab 2015; Maalouf 2020; O'Callaghan 2014); displacement (Afifi 2010; Dhital 2019; Dybdahl 2001; Miller 2020; Miller 2023; Panter-Brick 2018; Yankey 2019); and a series of

compounded stressors without an identifiable recurrent event (James 2020; Leventhal 2015). No study enrolled participants formally diagnosed with mental disorders as per our exclusion criteria.

Interventions and comparators

The trials compared interventions involving humane, supportive, and practical help covering both a social and a psychological dimension versus a control condition.

- Afifi 2010 delivered the "Qaderoon" (We are Capable) intervention, a social skill-building intervention based on stress inoculation training, improving social awareness and social problem-solving, and positive youth development programme.

- Berger 2018 delivered the "ERSAE-Stress-Prosocial" (ESPS), a universal school-based programme, divided into two sets of strategies – stress-reduction interventions and prosocial interventions (i.e. perspective-taking, empathy training, mindfulness, and compassion-cultivating practices).

- Dhital 2019 implemented a teacher-mediated school-based intervention, which falls under the second layer of intervention as outlined in Inter-Agency Standing Committee (IASC) guidelines.

- Diab 2015 delivered the "Teaching Recovery Techniques" (TRT) intervention, where relaxation exercises and sleep hygiene are deployed to attune hyperarousal symptoms, manipulation of mental imagery to gain control of intrusive symptoms, and graded exposure techniques are trained to deal with avoidance symptoms. The TRT involves symbolic elements of play, drawing, writing, and narrating, as well as psychoeducation about normal and worrying trauma responses.

- The content and organisation of the psychosocial intervention in Dybdahl 2001 were based on two different sources: 1. therapeutic discussion groups for traumatised women that had been held during the war, and 2. the "International Child Development Program" (ICDP). The objectives of the ICDP are to influence the caregiver's positive experience with the child, promote sensitive emotional expressive communication, promote enriching, and stimulating interaction.

- James 2020 delivered the "mental health integrated disaster preparedness intervention", which utilises an experiential approach, including facilitated discussion, space for sharing personal experiences and exchange of peer-support, establishing safety and practising coping skills targeting disaster-related distress, and hands-on training in disaster preparedness and response techniques for use by participants in their own lives and to support other community members.

- Leventhal 2015 deployed an intervention developed for females only. Through the "Girls First Resilience Curriculum" girls used methods from positive psychology, social-emotional learning, and life skills as a foundation for problem-solving and conflict resolution, drawing from restorative practices. Girls then learned coping skills, building on their character strengths and drawing from other positive psychology skills, such as finding

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benefits in difficult situations ("benefit finding"); and emotional intelligence skills such as identifying and managing difficult emotions.

- Maalouf 2020 deployed the "FRIENDS program", a universal, preventive, cognitive-behavioural, school-based intervention.
- Miller 2020 and Miller 2023 deployed the "Caregiver Support Intervention" (CSI), focusing on caregiver well-being, strengthening parenting under conditions of adversity, and relaxation techniques.
- O'Callaghan 2014 delivered a psychosocial intervention based on three components: 1. ChuoChaMaisha, a youth life skills leadership programme developed and piloted in Tanzania; 2. Mobile Cinema clips: narrative, fictional films, produced and created in the local language to address stigma and discrimination and model how young people, parents, and the village community could welcome formerly abducted children back into their communities; and 3 relaxation technique scripts used in trauma-focused cognitive behavioural therapy.
- Panter-Brick 2018 delivered the "Advancing Adolescents" programme, an eight-week programme of structured activities informed by a profound stress attunement (PSA) framework. The PSA approach is a community-based, non-clinical programme of psychosocial care to meet the psychosocial needs of at-risk children and improve social interactions with participatory approaches. It focusses on the practice of attunement, for developing safe emotional spaces, managing stressors, and establishing healthy relationships.
- Yankey 2019 delivered the "Life Skills Training" (LST) intervention, which included techniques of brainstorming, role-playing, and group discussion.

Paraprofessionals (i.e. trained lay counsellors; community health workers) delivered almost all the interventions in the trials and at a group level. Control conditions were waiting list in eight trials (Afifi 2010; Diab 2015; James 2020; Maalouf 2020; Miller 2020; Miller 2023; O'Callaghan 2014; Panter-Brick 2018), no intervention (i.e. school as usual) in four trials (Berger 2018; Dhital 2019; Leventhal 2015; Yankey 2019), and CAU in one trial (Dybdahl 2001).

Outcomes

All RCTs provided data for at least one outcome. Six studies provided data for the outcome 'mental well-being' (Afifi 2010; Diab 2015; Dybdahl 2001; Leventhal 2015; Miller 2020; Miller 2023; 4052 participants), five studies provided data for the outcome 'prosocial behaviour' (Berger 2018; Diab 2015; Maalouf 2020; O'Callaghan 2014; Panter-Brick 2018; 1633 participants), two studies provided data for the outcome 'resilience' (Leventhal 2015; Panter-Brick 2018; 2774 participants), while the outcomes of 'functioning' (Berger 2018; 183 participants), 'coping' (Yankey 2019; 300 participants), and 'hope' (Dhital 2019; 1070 participants) were each informed by one study. No study provided data on the prespecified outcome of 'quality of life'.

All but one (Yankey 2019) study provided data on the secondary outcome of 'acceptability' (7390 participants).

Follow-up data were available for the outcomes of 'mental well-being' (six-month follow-up: Afifi 2010, 258 participants; three-month follow-up: Miller 2023, 480 participants), 'functioning' (eight-month follow-up: Berger 2018, 183 participants), 'resilience' (11-month follow-up: Panter-Brick 2018, 299 participants), and 'prosocial behaviour' (eight-month follow-up: Berger 2018; 11-month follow-up: Panter-Brick 2018, 483 participants).

Funding sources

Ten studies were funded by grants from foundations, academic institutions, or NGOs (Afifi 2010; Dhital 2019; Diab 2015; Dybdahl 2001; James 2020; Leventhal 2015; Maalouf 2020; Miller 2020; Miller 2023; Panter-Brick 2018). In one case, the funder wished to remain anonymous (O'Callaghan 2014). One study received no funding (Berger 2018), and the source of funding for one study was unknown (Yankey 2019).

Excluded studies

Of the 61 studies (72 reports) initially selected as potentially relevant, we excluded 23 studies because of ineligible population (participants with a diagnosis of a mental health condition or scoring above a scale cut-off). We excluded studies that employed rating scales with cut-off scores at baseline as an inclusion criterion. As cut-offs could be considered as a proxy of a diagnosis, we excluded these studies because we reasoned they were not really meant to be focused on promotion (but more on prevention or treatment). We excluded 10 studies due to ineligible design (not an RCT or incorrect randomisation procedure); nine studies because of inapplicable setting (no humanitarian crisis in LMICs); two studies because they tested active interventions against each other (ineligible comparison); and one study because it implemented an ineligible intervention (Figure 1). For further information, see Characteristics of excluded studies table.

Studies awaiting classification

We classified two studies as awaiting classification: one is not yet recruiting (ACTRN12618000892213), and another is completed but results are not yet available (NCT03760627). See Characteristics of studies awaiting classification table.

Ongoing studies

We classified one study as ongoing (Jansen 2022). This is a cluster-RCT designed to test the efficacy of a psychosocial intervention to promote social dignity among participants in post-genocide Rwanda. The study started in March 2022. See Characteristics of ongoing studies table.

Risk of bias in included studies

See Characteristics of included studies table. For graphical representations of overall risk of bias in included studies, see Figure 2. We summarised the risk of bias judgements across different studies for each of the domains listed in Figure 3.

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Figure 2. Risk of bias graph: review authors' judgements about each risk of bias item presented as percentages across all included studies.

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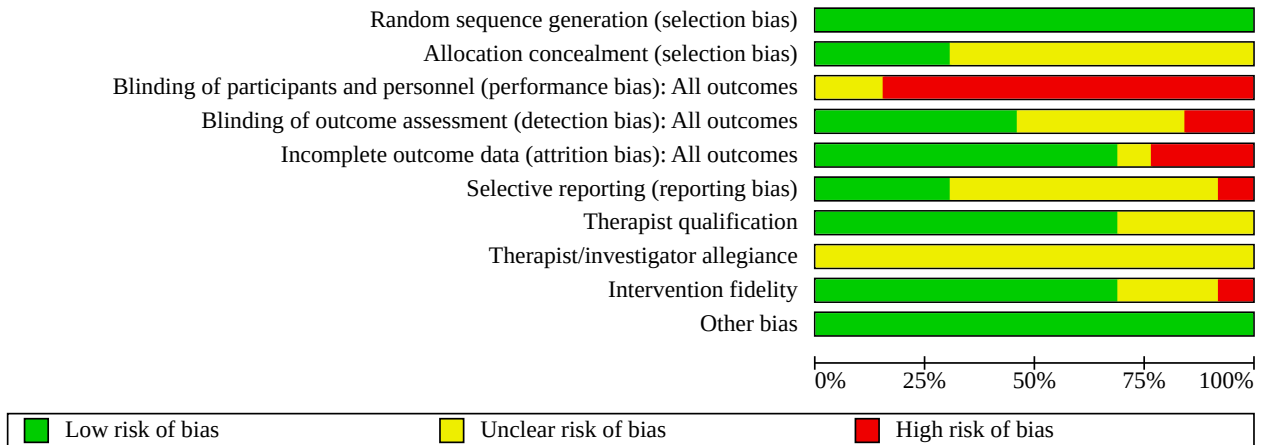
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Figure 3. Risk of bias summary: review authors' judgements about each risk of bias item for each included study.

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Allocation

Researchers described generation of a random sequence that we considered leading to low risk of bias in all 13 studies.

Regarding allocation concealment, we considered four trials at low risk of bias (Dhital 2019; Miller 2020; Miller 2023; O'Callaghan 2014), and the nine remaining RCTs at unclear risk of bias as they did not describe allocation concealment.

Blinding

Participants (both personnel and study participants) were aware of whether they had been assigned to an intervention group or a control group in all but two trials (Afifi 2010; Panter-Brick 2018); therefore, we rated 11 studies at high risk of performance bias. Afifi 2010 and Panter-Brick 2018 were at unclear risk of performance bias because there was insufficient information to make a judgement.

We rated six trials at low risk of bias when researchers described blinded assessment of outcomes (Berger 2018; Dybdahl 2001; Miller 2020; Miller 2023; O'Callaghan 2014; Panter-Brick 2018). We rated two trials at high risk of bias, as the assessors were described as likely to have been aware of participant allocation (James 2020; Leventhal 2015). The remaining five trials were at unclear risk of bias because there was insufficient information to make a judgement (Afifi 2010; Dhital 2019; Diab 2015; Maalouf 2020; Yankey 2019).

Incomplete outcome data

The risk of attrition bias was low in nine studies, as researchers clearly reported low dropout rates (Afifi 2010; Berger 2018; Dhital 2019; Diab 2015; Dybdahl 2001; Leventhal 2015; Miller 2020; Miller 2023; O'Callaghan 2014). In three other cases there was a high dropout rate (more than 20% of participants); therefore, we rated these studies at high risk of attrition bias (James 2020; Maalouf 2020; Panter-Brick 2018). Yankey 2019 did not provide information on study dropouts, therefore we rated this study at unclear risk of bias.

Selective reporting

Although none of the trials reported information on study protocols, four manuscripts provided the trial registration number, and thus were at low risk of bias (Dhital 2019; James 2020; Miller 2020; Miller 2023). One study did not report data for the control group at follow-up and for this reason, was rated at high risk of bias (O'Callaghan 2014). The remaining eight trials were at unclear risk of bias because there was insufficient information to make a judgement (Afifi 2010; Berger 2018; Diab 2015; Dybdahl 2001; Leventhal 2015; Maalouf 2020; Panter-Brick 2018; Yankey 2019).

Other potential sources of bias

We considered the following additional items in our risk of bias evaluation.

Therapist qualification

Most of the trials delivered their psychosocial intervention through trained lay counsellors, or by trained volunteer adults from local communities. In two trials, the intervention was delivered by specialised personnel (Diab 2015; Maalouf 2020). The interventions delivered through the task-sharing modality and the interventions delivered by professionals were considered at low risk of bias (nine trials: Berger 2018; Dhital 2019; Diab 2015; Dybdahl 2001; Leventhal 2015; Maalouf 2020; Miller 2020; Miller 2023; Panter-Brick 2018). Four trials that did not specify the qualification of the intervention facilitators were at unclear risk of bias (Afifi 2010; James 2020; O'Callaghan 2014; Yankey 2019). No study was at high risk of bias.

Therapist/investigator allegiance

We rated the risk of intervention facilitator or investigator allegiance as unclear in all trials because of lack of information reported in the manuscripts.

Intervention fidelity

Nine trials monitored intervention implementation fidelity, thus we rated the risk of bias as low. Only one trial, Dhital 2019, explicitly reported that intervention fidelity was not assessed (high risk of bias). We evaluated the risk as unclear for the remaining three trials because researchers provided no details about fidelity checks (Dybdahl 2001; James 2020; Yankey 2019).

There were no other potential sources of bias detected and thus all studies were rated at low risk of other bias. We did not inspect funnel plots to identify asymmetry in any of the comparisons between psychosocial interventions and comparators because no analysis included more than 10 studies.

Effects of interventions

See: **Summary of findings 1** Summary of findings table - Psychosocial intervention compared to control for promoting the mental health of people living in LMICs affected by humanitarian crises (children); **Summary of findings 2** Summary of findings table - Psychosocial intervention compared to control for promoting the mental health of people living in LMICs affected by humanitarian crises (adults)

Results of this systematic review must be interpreted within the context of the characteristics and risk of bias profile of each included study (see Characteristics of included studies table).

Psychological and social interventions versus control

Results are presented separately for children (Summary of findings 1) and adults (Summary of findings 2).

Primary outcomes

1.1 Mental well-being at study endpoint: children

There was no clear difference between psychosocial interventions and control comparators for this outcome, but the evidence is very uncertain (SMD 0.06, 95% CI −0.17 to 0.29; I² = 87%; 3 RCTs, 3378 participants; very low-certainty evidence; Analysis 1.1).

1.2 Mental well-being at follow-up (one to six months postintervention): children

There was no clear difference between psychosocial interventions and control comparators for this outcome, but the evidence is very uncertain (MD −0.70, 95% CI −2.39 to 0.99; 1 RCT, 258 participants; very low-certainty evidence; Analysis 1.2).

1.3 Mental well-being at study endpoint: adults

Psychosocial interventions may improve well-being slightly (SMD −0.29, 95% CI −0.44 to −0.14; I² = 0%; 3 RCTs, 674 participants; low-certainty evidence; Analysis 1.3).

1.4 Mental well-being at follow-up (one to six months postintervention): adults

There was no clear difference between psychosocial interventions and control comparators for this outcome, but the evidence is very uncertain (MD −0.44, 95% CI −2.07 to 1.19; 1 RCT, 441 participants; very low-certainty evidence; Analysis 1.4).

1.5 Functioning at study endpoint: children

Psychosocial interventions may improve functioning, but the evidence is very uncertain (MD −2.18, 95% CI −3.86 to −0.50; 1 RCT, 183 participants; very low-certainty evidence; Analysis 1.5).

1.6 Functioning at follow-up (one to six months postintervention): children

Psychosocial interventions may improve functioning, but the evidence is very uncertain (MD −3.33, 95% CI −5.03 to −1.63; 1 RCT, 183 participants; very low-certainty evidence; Analysis 1.6).

1.7 Functioning: adults

No study provided data for this outcome.

1.8 Quality of life: children

No study provided data for this outcome.

1.9 Quality of life: adults

No study provided data for this outcome.

1.10 Resilience at study endpoint: children

There was no clear difference between psychosocial interventions and control comparators for this outcome (SMD −0.11, 95% CI −0.52 to 0.30; I^2 = 93%; 2 RCTs, 2774 participants; Analysis 1.7).

1.11 Resilience at follow-up (one to six months postintervention): children

There was no clear difference between psychological and social interventions and control comparators for this outcome (MD 0.07, 95% CI −1.39 to 1.53; 1 RCT, 299 participants; Analysis 1.8).

1.12 Resilience: adults

No study provided data for this outcome.

1.13 Coping at study endpoint: children

Psychosocial interventions may improve coping (MD −2.26, 95% CI −3.57 to −0.95; 1 RCT, 300 participants; Analysis 1.9).

1.14 Coping at study endpoint: adults

No study provided data for this outcome.

1.15 Hope at study endpoint: children

There was no clear difference between psychological and social interventions and control comparators for this outcome (MD 0, 95% CI −0.74 to 0.74; 1 RCT, 1070 participants; Analysis 1.10).

1.16 Hope at study endpoint: adults

No study provided data for this outcome.

1.17 Prosocial behaviour at study endpoint: children

There was no clear difference between psychosocial interventions and control comparators for this outcome (SMD −0.25, 95% CI −0.60 to 0.10; I^2 = 92%; 5 RCTs, 1633 participants; low-certainty evidence; Analysis 1.11).

1.18 Prosocial behaviour at follow-up (one to six months postintervention): children

There was no clear difference between psychosocial interventions and control comparators for this outcome (SMD −0.48, 95% CI −1.80 to 0.83; I^2 = 98%; 2 RCTs, 483 participants; very low-certainty evidence; Analysis 1.12).

1.19 Prosocial behaviour at study endpoint: adults

No study provided data for this outcome.

1.20 Prosocial behaviour at follow-up (one to six months postintervention): adults

No study provided data for this outcome.

Secondary outcomes

1.21 Acceptability: dropouts at endpoint: children

There was no clear difference between psychosocial interventions and control comparators for this outcome (RR 0.92, 95% CI 0.59 to 1.43; I^2 = 83%; 10 RCTs, 6430 participants; Analysis 1.13).

1.22 Acceptability: dropouts at endpoint: adults

There was no clear difference between psychosocial interventions and control comparators for this outcome (RR 0.82, 95% CI 0.66 to 1.03; I^2 = 0%; 2 RCTs, 960 participants; Analysis 1.14).

DISCUSSION

Summary of main results

This systematic review and meta-analysis assessed the effects of psychosocial interventions focused on promoting positive aspects of mental health. We included 13 studies with 7917 participants. Two previous Cochrane reviews focused on treatment and prevention of mental disorders in such contexts. Consistent with the review on treatment (Purgato 2018) and the review on prevention (Papola 2020), we analysed data for the children and the adult population separately.

Overall, we found insufficient evidence to form solid conclusions. For children and adolescents, we observed that there may be no difference between psychosocial interventions and control conditions in improving mental well-being, resilience, hope, and prosocial behaviour at study endpoint or medium-term follow-up (one to six months after the end of the intervention). Conversely, functioning was positively influenced in one study by the ESPS intervention (Berger 2018), compared with control condition at study endpoint and medium-term follow-up, but the evidence was very uncertain. We also noted a beneficial effect of the LST intervention in improving coping strategies of children and adolescents immediately after completion of therapy, but again, the evidence is very uncertain (Yankey 2019). There were no data for coping at medium-term follow-up.

Four trials provided data for the adult population (Dybdahl 2001; James 2020; Miller 2020; Miller 2023). Although James 2020 demonstrated the effectiveness of the 'community-based mental health-integrated disaster preparedness' intervention in improving mental health outcomes among community members

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in Haiti vulnerable to natural hazards, efficacy data reported in the manuscript were not suitable for meta-analysis (see Potential biases in the review process). Hence, the study contributed to the acceptability outcome only. Dybdahl 2001, Miller 2020, and Miller 2023 tested parenting interventions. Growing recognition of the role of parenting in mediating the impact of war and displacement on children's mental health has fostered interest in strengthening parenting in conflict-affected communities (Miller 2016; Puffer 2017). In the case of these studies, we analysed caregivers' (parents') outcome data, as they were primarily targeted by the intervention. Pooling the trial estimates, we found that parenting intervention enhanced caregivers' mental well-being at endpoint. However, this encouraging result is tentative, as the evidence is very uncertain. Further, the beneficial effect was lost after three months by the end of the intervention and was based on limited data. Aside from the outcome mental well-being, there were no data for other primary outcomes for the adult population.

For both the child and the adult populations, there was no information for the outcome 'quality of life', and no long-term follow-up data (seven to 24 months postintervention) for any outcome.

In terms of acceptability, the likelihood of leaving the study prematurely for any reason was similar for participants enrolled in the psychosocial intervention groups and for those enrolled in control groups, for both children and adults. This suggests that interventions were not experienced as more or less acceptable than the control conditions. Notably, the results for the adult population were based on just one study and a few participants.

In conclusion, these limited, preliminary findings suggest a lack of evidence on the possible benefits of administering psychosocial interventions to promote mental health in LMICs affected by humanitarian crises.

Overall completeness and applicability of evidence

We found inconclusive evidence for psychosocial interventions for promoting mental health outcomes in both the adult and child populations.

The paucity of evidence available on positive mental health outcomes can be explained by the fact that, to date, most of the research efforts have been directed to treating diagnosable mental disorders. Far less attention has been paid to prevention and promotion by addressing the social determinants of mental disorders (Lund 2018). For example, it is widely acknowledged that social and cultural determinants of mental health, including chronic poverty, continued (gender-based) violence, and negative impacts of humanitarian crises on social relationships influence mental health outcomes. People in deprived areas or low socio-economic groups may typically not have adequate access to health care, education, or to basic resources such as food or shelter. In addition, humanitarian settings often do not provide the conditions that are necessary to promote positive mental health, such as suitable housing, adequate income, and opportunities for developing social coping skills. It is possible that in humanitarian contexts such determinants are sufficiently influential to over-ride the beneficial effect of psychosocial interventions. As positive mental health cannot be gained by treating mental disorders alone (Patel 2008), emphasis should be placed on preventing mental distress by eliminating individual, socioeconomic, and

environmental risk factors (e.g. exposure to violence, poverty, stigma, discrimination, and social isolation) and by promoting protective factors (e.g. community and family cohesion) (Williams 2005). Nonetheless, interventions targeting structural or social drivers of mental health promotion can hardly be evaluated through randomised trials, thus casting uncertainty on the applicability of the evidence found in this review focused on humanitarian settings to the entire mental health promotion field. Furthermore, studies of populations in humanitarian settings in LMICs may consider a wide range of outcomes. These measures may not undergo the conceptual scrutiny that should precede translation and testing (Johnson 2006), and measures may not be translated into the first or fluent language of research participants and tested before use (Vara 2012).

As we previously noted (Papola 2020; Purgato 2016), mental health prevention and promotion are distinct theoretical concepts with overlapping practical boundaries. Psychosocial interventions may contribute to reducing the chance of developing mental disorders (prevention) while at the same time strengthening positive aspects of mental health (promotion). To further complicate matters, positive outcomes targeted by promotive interventions have often been considered mediators of prevention and treatment outcomes, making promotive activities useful to strengthen mental health but also to treat subthreshold conditions (Purgato 2020b). Such an intertwined relation between mental prevention and promotion activities is well represented in the suite of RCTs included in the present review. Regardless of the theoretical intent of these randomised experimentations, and as highlighted in a Lancet Commission aimed to align global mental health efforts with sustainable development goals (Patel 2018), there are challenges that limit the integration of care practices meant to treat, prevent, or promote mental health in primary care settings. The main barriers to scale up promotive interventions for mental health conditions in LMICs affected by humanitarian crises are scarcity of trained health personnel and shortage of public health investments. At the same time, promoting mental health on a vast scale cannot happen without implementing economic and political actions to foster equity, reduce disparities, and promote human rights of people living in poverty and deprivation.

All of the above considerations limit the generalisability of the evidence in this review. Further, the information on children and adolescents is too scant to inform policy and clinical practice.

Quality of the evidence

The risk of bias assessment of the RCTs is summarised in Figure 2 and in Figure 3. We added to the risk of bias evaluation items related to psychosocial intervention and interventionist characteristics, according to Patel 2014. The risk of bias assessment holds a strong influence on the interpretation of trial results and, therefore, deserves particular attention. The quality of the 13 included RCTs was not easy to assess, given the complexity of the interventions and the settings in which these trials were conducted. Overall, the random sequence generation process was properly described and implemented, but allocation concealment procedures were only occasionally reported, leaving insufficient information for a clear judgement. We considered most of the included RCTs to be at high risk of performance bias, as participants were aware of whether they were receiving psychosocial interventions or not. In studies focused on psychosocial interventions, it is challenging or even impossible to ensure participants and facilitators are

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blinded to study allocation (Papola 2022b). We evaluated most trials as having low rates of dropout (low risk of attrition bias) and, although outcomes were properly reported, none of the included studies reported information on study protocols. Furthermore, less than half of the included studies provided details about trial registration (Afifi 2010; Dhital 2019; James 2020; Miller 2020; Miller 2023; O'Callaghan 2014). Regarding the specific items on psychosocial interventions, there was heterogeneity in the intervention delivery modalities as some studies were delivered by specialised personnel, others were delivered by trained lay counsellors (task-sharing modality), and in other cases there was no clear indication of which type of professional figure delivered the intervention (James 2020; O'Callaghan 2014; Yankey 2019). Nine RCTs adequately described methods for checking the fidelity of intervention implementation, one did not, and the risk of bias was unclear for the remaining three trials due to a lack of information. As none of the trials reported information on intervention facilitator/investigator allegiance, we judged them at unclear risk of bias.

When we pooled RCT estimates, there was inconsistency and imprecision. Although moderate to high levels of statistical heterogeneity emerged in the meta-analysis examining the effectiveness of interventions to improve mental well-being in the child population, a far more common problem both in the adult and child populations was imprecision of estimates. Due to the small number of participants analysed, CIs often crossed the line of no effect, creating uncertainty about the true effect of the intervention. High risk of bias, heterogeneity, and imprecision were the main reasons for downgrading the evidence according to the GRADE evidence rating.

Potential biases in the review process

The main concern about bias is associated with the low number of trials included in the present review. With so few studies and (consequently) participants, the pooled estimates of most primary outcomes were at risk of distortion due to random error. For this reason, we were probably unable to disclose the true differences between intervention and comparison groups in the real population. First, the applicability to real-life settings of the meta-analytic evidence we have generated might also be limited by the degree of statistical heterogeneity reported in the analyses. Notably, statistical heterogeneity is likely connected to the skewedness of data that contributed to each analysis. Second, systematic biases could have also played a role in distorting the results (see Quality of the evidence). Third, we cannot exclude that some trials were missed during the search including unpublished studies, particularly those with negative results. Since we conducted a comprehensive search of published and unpublished studies without any language restrictions, this should secure against the possibility of result distortions due to publication bias. Finally, we are aware that some months have passed since the search was conducted; however, as of November 2023, we have verified that further information is still lacking for the two studies awaiting classification (ACTRN12618000892213; NCT03760627) and the ongoing study (Jansen 2022); therefore, we consider all relevant studies to be included in the review.

James 2020 reported data unsuitable for meta-analysis on primary outcomes but contributed to the meta-analysis on the acceptability outcome (defined as the number of participants who dropped out of the trial for any reason).

Agreements and disagreements with other studies or reviews

To our knowledge, this is the first review focusing on psychosocial interventions for mental health promotion in people living in LMIC affected by humanitarian crises. The other investigations on mental health promotion in LMICs focused almost exclusively on children and adolescents in community care or school settings. For example, the narrative review by Barry 2013 reports on the findings for interventions promoting positive mental health of young people (aged six to 18 years) in schools and community-based settings in LMICs. Review findings suggest that structured promotive interventions for children may generate positive effects on students' mental well-being, including improved self-esteem and coping skills. Notably, these promising findings were extrapolated from both RCTs and quasi-experimental designs, with no restriction to humanitarian settings. Furthermore, the review did not include a quantitative synthesis of results. Starting from a similar aim, the review by O'Reilly 2018 pointed out a high degree of variability in type and quality of the available publications cautiously recommending a better and more standardised assessment of promotive interventions. Consistently, a narrative review by Petersen 2016 collected studies on promotion and prevention interventions implemented at "population-level" and at "community-level" in LMICs, identifying only a few studies focused on mental health promotion. The comparability of Petersen's findings with ours is complicated by several factors. First, as a narrative review, no systematic search or quantitative synthesis was performed. Second, Petersen's findings came from a mix of RCTs and quasi-RCTs whose risk of bias and the certainty of the evidence (GRADE) was not assessed. Finally, Petersen's findings were not limited to humanitarian settings.

AUTHORS' CONCLUSIONS

Implications for practice

To date, there is not enough randomised evidence assessing the potential efficacy of psychological and social (psychosocial) interventions to promote mental health in people living in low- and middle-income countries (LMICs) affected by humanitarian crises. Psychosocial interventions have little to no effect on promoting mental health, resilience, and prosocial behaviour in children and adolescents at study endpoint and long-term follow-up. The evidence on the outcome of hope at endpoint is also inconclusive, and the impact of the 'ERSAE-Stress-Prosocial' intervention and 'Life Skill Training' on functioning and coping observed in children and adolescents must be considered with caution: only one RCT for each outcome (Berger 2018 and Yankey 2019, respectively) provided data for the analysis. There were very limited data available for the adult population. There were no data for the outcome 'quality of life'. Current evidence shows that acceptability may be similar for participants enrolled in the psychosocial intervention groups and for those enrolled in control groups. In conclusion, randomised evidence on the efficacy of interventions on positive outcomes for both the youth and the adult population is too scant to allow any clear practice and policy implications.

Implications for research

To date, there is a lack of randomised studies on promotive interventions in humanitarian settings providing data on the positive outcomes of mental health. Evidence for most outcomes

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was inconclusive. The findings that the 'ERSAE-Stress-Prosocial' intervention (Berger 2018) and the 'Life Skill Training' (Yankey 2019) may improve functioning and coping, respectively, in children and adolescents are uncertain, and should encourage the design of mental health promotion trials in the future. At the same time, parenting interventions show a promising potential to strengthen caregivers' mental health that warrants further investigation. Therefore, more randomised evidence is needed to evaluate the promotive psychosocial interventions both in the short-term and long-term for both the adult and youth population.

The results of the present review renders nothing more than a blurred picture of what could be achieved through psychosocial interventions aimed at promoting mental health in humanitarian settings, identifying a large gap between what is known and what still needs to be addressed in the particular research area of promoting mental health in people living in LMICs affected by humanitarian crises.

Trialists could consider:

- designing future randomised controlled trials testing the impact of psychosocial interventions on quality of life;
- expanding the evidence base on the adult population;
- considering the importance of stronger partnerships between programme implementers (LMICs governments, international non-governmental organisations and multilateral agencies), and researchers, to enhance scientific rigour; and
- including economic analysis to inform policymakers and health planning.

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Editorial and peer-reviewer contributions

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* Indicates the major publication for the study

CHARACTERISTICS OF STUDIES

Characteristics of included studies *[ordered by study ID]*

Afifi 2010

Study characteristics	
Methods	Study design: cluster-RCT
	Study grouping: parallel group
	Cluster size: 60 children (mean)
	Study duration: 26 weeks
Participants	Inclusion criteria: 6 UNRWA (United Nations Refugee and Works Agency) schools in the camp having 5th and 6th grade (academic year 2008–2009); all students attending grades 5 and 6 (aged 11–14 years)
	Exclusion criteria: not reported
	Age range: 11–14 years
	Gender: boys and girls (unspecified percentage)
	Intervention sample: 299
	Control sample: 247
	Main type of traumatic event: displacement
	Phase of humanitarian crisis: during the acute crisis (mortality is still higher than it was before the crisis)
	Type of humanitarian crisis: war/armed conflict
Interventions	Intervention name: Qaderoon intervention
	Delivered by: para-professionals: 6 facilitators and 23 youth mentors (and 1 master trainer for pilot session)
	Format of therapy: face to face
	Number of sessions (total): 45 sessions with children (35 manualised and 10 developed across intervention); plus 15 sessions with parents and 6 workshops with teachers

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Afifi 2010 *(Continued)*

	Type of control: WLC
	Type of intervention context: primary school in a refugee camp
	Type of promotion intervention: group level
	Description of the intervention: Qaderoon (We are Capable) intervention: a year-long social skill building intervention for children (aged 11–14 years), and their parents and teachers. It is based on stress inoculation training, improving social awareness and social problem-solving, and positive youth development program. Main themes throughout sessions: communication, self-esteem, self-responsibility, social problem-solving, social action project and, for extra sessions, creativity, stereotypes, peer pressure, smoking, self-expression, proper nutrition/fitness/hygiene, controlling use of sharp weapons/violence, art therapy
Outcomes	Results are adjusted according to intraclass correlation coefficient of 0.02, as reported in the study publication.
	Mental well-being
	- Outcome type: continuous outcome - Reporting: fully reported - Scale: Arab Youth Mental Health scale - Direction: lower is better - Data value: endpoint, 6-month follow-up
	Acceptability (dropout from trial)
	- Outcome type: dichotomous outcome - Reporting: fully reported - Data value: endpoint
Notes	Sponsorship source: Wellcome Trust (081915/Z/07/Z)
	Country: Lebanon
	Setting: Burj El Barajneh Palestinian refugee camp in Beirut, Lebanon
	Author's name: Rema A Afifi
	Institution: Department of Health Promotion and Community Health, Faculty of Health Sciences, American University of Beirut
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Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The six elementary schools in the camp were randomly assigned by computer-generated sequence, three to the intervention group and three to the control group." No further information reported on the method of random sequence generation, but the balance of participant level characteristics suggests that the randomisation procedures were successful.
Allocation concealment (selection bias)	Unclear risk	No information provided.

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Afifi 2010 *(Continued)*

Blinding of participants and personnel (performance bias) All outcomes	Unclear risk	No information provided.
Blinding of outcome assessment (detection bias) All outcomes	Unclear risk	No information provided.
Incomplete outcome data (attrition bias) All outcomes	Low risk	< 10% of participants in both groups lost to follow-up.
Selective reporting (reporting bias)	Unclear risk	It was not possible to check this item as the information came from an abstract. No trial protocol/registration number available.
Therapist qualification	Unclear risk	No information provided.
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "high degree of fidelity."
Other bias	Low risk	This was a Wellcome Trust funded investigation. Cluster-RCT risk of bias extension 1. Recruitment bias; the recruited population belonged to the same catchment area (low risk of bias) 2. Baseline imbalance; no information provided (unclear risk of bias) 3. Loss of clusters; no information provided (unclear risk of bias) 4. Incorrect analysis; quote: "Changes in mental health scores were assessed with a modified t test that accounted for effects of clustering" (low risk of bias).

Berger 2018

Study characteristics	
Methods	Study design: RCT Study grouping: parallel group Study duration: 32 weeks
Participants	Inclusion criteria: all schools in the Meru district interested in participating in the programme Exclusion criteria: not reported Age range: mean 12.46 (SD 0.91) years Gender: 50% male, 50% female Intervention sample: 95 Control sample: 88

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Berger 2018 *(Continued)*

	Main type of traumatic event: compounded stressors
	Phase of humanitarian crisis: during the acute crisis (mortality is still higher than it was before the crisis)
	Type of humanitarian crisis: extreme poverty
Interventions	Intervention name: ERSAE-Stress-Prosocial (ESPS)
	Delivered by: para-professionals (community workers): homeroom teachers, with teaching experience of 4–12 years
	Format of therapy: face to face
	Number of sessions (total): 16 (2 weekly 45 minutes)
	Type of control: school as usual. The control group received 2-hour social studies classes weekly based on the Ministry of Education curriculum for primary schools.
	Type of intervention context: schools
	Type of promotion intervention: group level
	Description of the intervention: universal school-based programme (with cultural adaptation), divided into 2 sets of strategies – stress-reduction interventions and prosocial interventions (i.e. perspective-taking, empathy training, mindfulness, and compassion-cultivating practices). Each session contained a warm-up exercise, experimental work, psycho-educational knowledge, a contemplative practice, a learned skill, and homework assignments. The homework assignments for the students involved sharing some of the knowledge and the learned skills with their caretakers (i.e. parents, extended family, or guidance counsellors in orphanages) and practicing the skills between the classes.
Outcomes	Functioning • Outcome type: continuous outcome • Reporting: fully reported • Scale: Child Diagnostic Interview Schedule – FI Subscale • Direction: lower is better • Data value: endpoint, 8-month follow-up Prosocial behaviour • Outcome type: continuous outcome • Reporting: fully reported • Scale: SDQ-Prosocial • Direction: higher is better • Data value: endpoint, 8-month follow-up Acceptability (dropout from trial) • Outcome type: dichotomous outcome • Reporting: fully reported • Data value: endpoint
Notes	Sponsorship source: the authors received no financial support for the research, authorship, or publication of this article. Country: Tanzania Setting: 6 classes of a public primary school in the Meru district of Tanzania Comments: Tanzania: low-income country in 2013–2015

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Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "183 participated in the study: 95 were randomly assigned to receive the ESPS intervention (the experimental group) and 88 took part in social studies classes (SS control group)." No further information reported on the method of random sequence generation, but the balance of participant level characteristics suggests that the randomisation procedures were successful.
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias) All outcomes	High risk	Open-label trial. Participants and personnel were aware of the treatment allocation.
Blinding of outcome assessment (detection bias) All outcomes	Low risk	Quote: "Trained local psychology students who were blind to the participants' experimental condition administered the questionnaires and assisted students who had comprehension problems. The teachers who implemented the intervention were not present during the administration and the questionnaires were coded to protect the students' confidentiality."
Incomplete outcome data (attrition bias) All outcomes	Low risk	9 (4.3%) whose parents or guardians did not sign informed consent and 14 (6.8%) who did not fill out the questionnaires.
Selective reporting (reporting bias)	Unclear risk	All measures described in the methods section of the article were also reported in the results. No trial protocol/registration number available.
Therapist qualification	Low risk	Quote: "All the homeroom teachers had a secondary education certificate (known in Tanzania as "Grade A" teachers) with a teaching experience ranging between 4–12 years. The homeroom teachers were trained in a 4-day workshop (24 hours) by the first author in collaboration with two Tanzanian mental-health professionals who actively participated in providing information and facilitating the experiential exercises."
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "During the implementation in the classes, the two Tanzanian mental health professionals observed and then supervised the teachers on a bimonthly basis. They also consulted with the first author via scheduled Skype sessions."
Other bias	Low risk	No other sources of bias detected. The authors received no financial support for the research, authorship, or publication of the article.

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Dhital 2019

Study characteristics

Methods	Study design: cluster-RCT
	Study grouping: parallel group
	Cluster size: 80 children (mean)
	Study duration: 26 weeks
Participants	Inclusion criteria: adolescents studying in grades 6, 7, and 8 of the selected schools at the time of data collection; adolescents with written consent from themselves and their guardian without any known diagnosis of mental health problems
	Exclusion criteria: adolescent who refused to participate
	Age range: intervention group (n = 605): mean 12.9 (SD 1.3) years; control group (n = 615): mean 12.9 (SD 1.4) years
	Gender: 50% boys, 50% girls
	Intervention sample: 605
	Control sample: 615
	Main type of traumatic event: displacement
	Phase of humanitarian crisis: after the acute crisis (mortality was similar or less than what it was before the crisis)
	Type of humanitarian crisis: disasters triggered by natural hazards (earthquake)
Interventions	Intervention name: no specific name. Intervention described as a "teacher-mediated school-based intervention"
	Delivered by: para-professionals (community workers): school teachers
	Format of therapy: face to face
	Number of sessions (total): 8
	Type of control: school as usual
	Type of intervention context: school
	Type of promotion intervention: group level
	Description of the intervention: teacher-mediated school-based intervention, which falls under the second layer of intervention as outlined in Inter-Agency Standing Committee (IASC) guidelines.
Outcomes	The cluster effects were controlled for all the school in the generalised estimating equations model
	Hope
	• Outcome type: continuous outcome • Reporting: fully reported • Scale: Children's Hope Scale • Direction: higher is better • Data value: endpoint
	Acceptability (dropout from trial)

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Dhital 2019 *(Continued)*

- Outcome type: dichotomous outcome
- Reporting: fully reported
- Data value: endpoint

Notes	Sponsorship source: this work was supported by the Grant-in-Aid for Challenging Exploratory Research from Ministry of Education, Culture, Sports, Science and Technology, and National Center for Global Health and Medicines, and Post- Disaster Health Promotion Project in Dhading from The Association of Medical Doctors of Asia in Tokyo, Japan.
	Country: Nepal
	Setting: 15 municipality secondary schools in the Dhading district
	Author's name: Rolina Dhital
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Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The names of all schools were written in separate pieces of paper and folded into opaque envelops. Each pair of schools were grouped together and one school from each pair was randomly assigned to either group A or B. The groups were then randomly assigned as the intervention or control group through concealed allocation by the DEO. The unpaired school was also randomly assigned to either group through the methods mentioned above. As a result, the intervention group had eight schools, and the control group had seven schools."
Allocation concealment (selection bias)	Low risk	Quote: "The groups were then randomly assigned as the intervention or control group through concealed allocation by the DEO."
Blinding of participants and personnel (performance bias) All outcomes	High risk	Quote: "Blinding was not done for the intervention because all schools were required to be informed about the intervention."
Blinding of outcome assessment (detection bias) All outcomes	Unclear risk	No information provided.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Attrition rate intervention group: 7.6% (46 dropout out of 605 randomised participants); attrition rate comparison group: 16.9% (104 dropout out of 615 randomised participants).
Selective reporting (reporting bias)	Low risk	All measures described in the methods section of the article were also reported in the results. No trial protocol available but trial registered at ClinicalTrials.gov (NCT03387007)
Therapist qualification	Low risk	Quote: "the clinical psychologist provided two days of training on psycho-social support for the school teachers. The training comprised eight sessions in total with one to two hours for each session."

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Dhital 2019 *(Continued)*

Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	High risk	Intervention fidelity was not assessed. Quote: "the research team interacted with the teachers at 6 months follow-up through focus group discussions (FGD) to understand their perspectives on the usefulness of the training and the activities they conducted after the training."
Other bias	Low risk	No other sources of bias can be detected. Cluster-RCT risk of bias extension 1. Recruitment bias; the recruited population belonged to the same catchment area (low risk of bias) 2. Baseline imbalance; cluster balance was maintained after randomisation (low risk of bias) 3. Loss of clusters; none of the clusters were lost (low risk of bias) 4. Incorrect analysis; the analyses were correctly conducted and reported (low risk of bias)

Diab 2015

Study characteristics

Methods	Study design: cluster-RCT Study grouping: parallel group Cluster size: 30 children (mean) Study duration: 24 weeks
Participants	Inclusion criteria: children aged 10–13 years; selection from 2 regions (North Gaza and Gaza City); random sampling of 2 schools in both areas from a numbered list of schools; within each of the 4 schools, 2 boys' and 2 girls' classes were randomly sampled by using a lottery tool. Exclusion criteria: not reported Age range: 10–13 years Gender: 50.6% boys, 49.4% girls Intervention sample: 242 Control sample: 240 Main type of traumatic event: bereavement Phase of humanitarian crisis: after the acute crisis (mortality was similar or less than what it was before the crisis). 3.5 months after the War on Gaza ended Type of humanitarian crisis: protracted emergencies, war/armed conflict
Interventions	Intervention name: Teaching Recovery Techniques (TRT) Delivered by: professionals: 2 female and 2 male counsellors (master's degree in psychology and training in counselling, including the TRT techniques)

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Diab 2015 *(Continued)*

Format of therapy: face to face

Number of sessions (total): unclear

Type of control: waiting list

Type of intervention context: group sessions in school setting

Type of promotion intervention: group level

Description of the intervention: the TRT is a manualised intervention for traumatised children to learn how to cope effectively with the symptoms of post-traumatic stress. For example, relaxation exercises and sleep hygiene are expected to attune hyperarousal symptoms, manipulation of mental imagery to gain control of intrusive symptoms, and graded exposure techniques are trained to deal with avoidance symptoms. The TRT involved symbolic elements of play, drawing, writing, and narrating, as well as psychoeducation about normal and worrying trauma responses.

Outcomes	The cluster effects were controlled for all the classes.
	Mental well-being
	• Outcome type: continuous outcome • Reporting: fully reported • Scale: Mental Health Continuum–Short Form (MHC–SF) • Direction: higher is better • Data value: endpoint
	Prosocial behaviour
	• Outcome type: continuous outcome • Reporting: fully reported • Scale: SDQ • Direction: higher is better • Data value: endpoint
	Acceptability (dropout from trial)
	• Outcome type: dichotomous outcome • Reporting: fully reported • Data value: endpoint
Notes	Sponsorship source: Academy of Finland (grant #215555)
	Country: Palestine
	Setting: school classes in Gaza
	Author's name: Marwan Diab
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Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The sample consisted of 482 children whose ages were 10–13 years (M [mean] = 11.29, SD = .68; 50.6% were boys) and who were randomly select-

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Diab 2015 *(Continued)*

ed either to the intervention (n = 242) or to the control-waiting list group (n = 240)."

No further information reported on the method of random sequence generation, but the balance of participant level characteristics suggests that the randomisation procedures were successful.

Allocation concealment (selection bias)	Unclear risk	Allocation concealment procedures were not reported.
Blinding of participants and personnel (performance bias) All outcomes	High risk	Blinding procedures were not reported; however, it is likely that participants were aware of their intervention allocation as the trial was open-label.
Blinding of outcome assessment (detection bias) All outcomes	Unclear risk	No information provided.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Quote: "There were no drop-outs between T1 and T2 because children were assessed in their schools during the same semester."
Selective reporting (reporting bias)	Unclear risk	All measures described in the methods section of the article were also reported in the results. No trial protocol/registration number available.
Therapist qualification	Low risk	Quote: "two female and two male counsellors (master's degree in psychology and training in counselling, including the TRT techniques)."
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "The intervention fidelity was guaranteed by weekly supervision by the last author (SQ), including case studies, psychodrama of TRT tools, consultation sessions and practical guiding in the schools."
Other bias	Low risk	No other sources of bias can be detected.
		Cluster-RCT risk of bias extension
		1. Recruitment bias; the recruited population belonged to the same catchment area (low risk of bias)
		2. Baseline imbalance; cluster balance was maintained after randomisation (low risk of bias)
		3. Loss of clusters; none of the clusters were lost (low risk of bias)
		4. Incorrect analysis; the analyses were correctly conducted and reported (low risk of bias)

Dybdahl 2001

Study characteristics	

Methods	Study design: RCT
	Study grouping: parallel group

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Dybdahl 2001 *(Continued)*

	Study duration: 20 weeks
Participants	Inclusion criteria: internally displaced families with children born in 1990 and 1991 (aged 5–6 years) were invited to participate; only those families who were not participating in any other intervention programme and were unlikely to move from the Tuzla region before November 1996 were selected
	Exclusion criteria: participating in any other intervention programme; likely to move out of the area before November 1996
	Age: mothers: mean 30.7 (SD 4.9) years, range 20–44 years; children: mean 5.5 (SD 0.7) years
	Gender: children: 55% girls, 45% boys
	Intervention sample: 42
	Control sample: 45
	Main type of traumatic event: displacement
	Phase of humanitarian crisis: after the acute crisis (mortality was similar or less than what it was before the crisis).
	Type of humanitarian crisis: war/armed conflict
Interventions	Intervention name: International Child Development Program (ICDP)
	Delivered by: para-professionals: group leaders; 5 preschool teachers trained for the study
	Format of therapy: face to face
	Number of sessions (total): 20
	Type of control: usual care – participants received free basic medical care
	Type of intervention context: community facility (Psychological Centre in Tuzla)
	Type of promotion intervention: group level
	Description of the intervention: the contents and organisation of the psychosocial intervention in this study were based on 2 different sources: 1. therapeutic discussion groups for traumatised women that had been held during the war, and 2. the ICDP. The objectives of the ICDP are to influence the caregiver's positive experience with the child; promote sensitive emotional expressive communication; promote enriching, stimulating interaction; and reactivate indigenous childrearing practices.
Outcomes	Mental well-being
	• Outcome type: continuous outcome • Reporting: fully reported • Scale: Wellbeing Scale (Andrews 1976) • Direction: higher is better • Data value: endpoint
	Acceptability (dropout from trial)
	• Outcome type: dichotomous outcome • Reporting: fully reported • Data value: endpoint
Notes	Sponsorship source: supported, in part, by the United Nations International Children's Emergency Fund (UNICEF) and the University of Tromsø.
	Country: Bosnia and Herzegovina

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Dybdahl 2001 *(Continued)*

Setting: 2 areas a few kilometres outside Tuzla (on opposite sides of the town) were chosen, 1 a refugee village or so-called collective centre, the other an area where displaced people were being accommodated in private homes.

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Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The assignment was random. All the names of the mother–child dyads were written on pieces of paper, which were folded, mixed together, and then separated into two piles at random so that one pile formed the intervention group and the other pile formed the control group."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias) All outcomes	High risk	Open-label trial.
Blinding of outcome assessment (detection bias) All outcomes	Low risk	Quote: "The interviewers were experienced mental health workers (e.g., psychiatrists and pedagogues), but were not involved in the treatment of these children. They were blind with respect to which families were in the intervention or control groups, as were the physicians who provided the medical checkups."
Incomplete outcome data (attrition bias) All outcomes	Low risk	Attrition rate intervention group: 16% (7/42 participants dropped out from the study). Attrition rate control group: 11% (5/45 participants dropped out from the study).
Selective reporting (reporting bias)	Unclear risk	All measures described in the methods section of the article were also reported in the results. No trial protocol/registration number available.
Therapist qualification	Low risk	5 preschool teachers were trained as group leaders for the discussion groups.
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Unclear risk	Weekly group meetings with 6–8 group leaders with a supervisor (a mental health professional) (and later twice a month).
Other bias	Low risk	No other sources of bias detected.

James 2020

Study characteristics

Methods	Study design: RCT

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James 2020 *(Continued)*

	Study grouping: parallel group
	Study duration: 12 weeks
Participants	Inclusion criteria: interviewers approached every 5th dwelling in the order encountered when walking through the community, starting from the side of the community most affected by flooding in past seasons. At each household, researchers used a recruitment script to assess interest and eligibility (aged 18–65 years; household decision-maker; availability to attend 3-day intervention training). There were no specific screen out or in criteria, assuming the community member was able to give consent.
	Exclusion criteria: not reported
	Age range: 18–65 years
	Gender: 239/480 (49.8%) women, 241/480 (50.2%) men
	Intervention sample: 240
	Control sample: 240
	Main type of traumatic event: compounded stressors
	Phase of humanitarian crisis: during the acute crisis (mortality was still higher than it was before the crisis). Study conducted between July 2014 and April 2015.
	Type of humanitarian crisis: natural disaster
Interventions	Intervention name: Mental Health Integrated Disaster Preparedness Intervention
	Delivered by: para-professionals: 2 trained Haitian lay mental health workers
	Format of therapy: face to face
	Number of sessions (total): 3
	Type of control: waiting list
	Type of intervention context: community setting
	Type of promotion intervention: group level
	Description of the intervention: the Mental Health Integrated Disaster Preparedness Intervention utilises an experiential approach, including facilitated discussion, space for sharing personal experiences and exchange of peer-support, establishing safety and practicing coping skills targeting disaster-related distress, and hands-on training in disaster preparedness and response techniques for use by participants in their own lives and to support other community members.
Outcomes	Acceptability (dropout from trial) • Outcome type: dichotomous outcome • Reporting: fully reported • Data value: endpoint
Notes	Sponsorship source: Research for Health in Humanitarian Crises (R2HC)
	Country: Haiti
	Setting: rural communities in Port-au-Prince
	Author's name: Leah Emily James
	Institution: University of Colorado
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James 2020 *(Continued)*

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Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Randomization occurred using a random number generator applied to participant lists."
		No further information reported on the method of random sequence generation, but the balance of participant-level characteristics suggests that the randomisation procedures were successful.
Allocation concealment (selection bias)	Unclear risk	Allocation concealment procedures were not reported.
Blinding of participants and personnel (performance bias) All outcomes	High risk	Blinding procedures were not reported; however, it is likely that participants were aware of their treatment allocation because the trial was open label.
Blinding of outcome assessment (detection bias) All outcomes	High risk	Quote: "Due to staffing constraints, interviewers were not blind to condition, as team members served as both interviewers and intervention facilitators (though participants were not typically interviewed by the same staff person who facilitated their group's intervention)."
Incomplete outcome data (attrition bias) All outcomes	High risk	High attrition rates: 78/240 (32.5%) dropouts in the intervention group and 94/240 (39%) dropouts in the wait-list group.
Selective reporting (reporting bias)	Low risk	All measures described in the methods section of the article were also reported in the results. No trial protocol available but trial registered at Clinical Trials Registry-India (CTRI/2018/02/012002).
Therapist qualification	Unclear risk	No information provided on therapist qualifications and background.
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Unclear risk	No information on how fidelity to intervention was recorded/checked.
Other bias	Low risk	No other sources of bias detected.

Leventhal 2015

Study characteristics

Methods	Study design: RCT
	Study grouping: parallel group
	Study duration: 20 weeks
Participants	Inclusion criteria: middle-school girls attending 1 of 76 government schools in rural Bihar, India
	Exclusion criteria: not reported

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Leventhal 2015 *(Continued)*

	Age range: 11–14 years
	Gender: 100% girls
	Intervention sample: 1832
	Control sample: 900
	Main type of traumatic event: compounded stressors
	Phase of humanitarian crisis: during the acute crisis (mortality was still higher than it was before the crisis)
	Type of humanitarian crisis: extreme poverty (> 33% of the population lived on < 30 rupees (about 50 cents) per day)
Interventions	Intervention name: Girls First Resilience Curriculum
	Delivered by: para-professional
	Format of therapy: face to face
	Number of sessions (total): 23
	Type of control: school as usual (no intervention)
	Type of intervention context: school
	Type of promotion intervention: group level
	Description of the psychosocial intervention: initial sessions integrate methods from positive psychology, social-emotional learning, and life skills. Girls identified their character strengths and used these to identify and plan to reach goals. Girls then learned coping skills, building on their character strengths and drawing from other positive psychology skills, such as finding benefits in difficult situations ("benefit finding"); and emotional intelligence skills such as identifying and managing difficult emotions. Girls then use these assets as a foundation for problem-solving and conflict resolution, drawing from restorative practices. In the final sessions, girls worked together to design and carry out projects to increase peace in their own or others' lives. They were asked to exercise character strengths, emotional intelligence, and interpersonal skills, and to use these in a way that was meaningful to them.
Outcomes	Mental well-being • Outcome type: continuous outcome • Reporting: fully reported • Scale: KIDSCREEN-52 Psychological Wellbeing Subscale • Direction: higher is better • Data value: change from baseline Resilience • Outcome type: continuous outcome • Reporting: fully reported • Scale: Connor-Davidson Resilience Scale-10 • Direction: higher is better • Data value: change from baseline Acceptability (dropout from trial) • Outcome type: dichotomous outcome • Reporting: fully reported • Data value: endpoint

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Leventhal 2015 *(Continued)*

Notes	Sponsorship source: David & Lucile Packard Foundation
	Country: India
	Setting: school-based psychosocial intervention in rural India
	Comments: the state of Bihar was chosen for the study as it has 1 of India's poorest populations with > 33% of the population living on < 30 rupees (about 50 cents) per day.
	Author's name: Katherine Sachs Leventhal
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	Address: 250 Camino Alto, Suite 100A, Mill Valley, California 94941, USA

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Stratified block randomization was conducted to distribute schools by location and girl enrolment across Girls First e Bihar conditions (19 schools/condition)." No further information reported on the method of random sequence generation, but the balance of participant level characteristics suggests that the randomisation procedures were successful.
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias) All outcomes	High risk	Open-label trial.
Blinding of outcome assessment (detection bias) All outcomes	High risk	Quote: "Questionnaires were administered at girls' schools by PFs trained to administer assessments and provide help to girls with difficulty reading or understanding questions." It is unlikely that the PFs were kept blind to intervention allocation.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Of the 2508 girls who completed time 1, 121 did not complete time 2 (71 intervention; 50 control).
Selective reporting (reporting bias)	Unclear risk	All measures described in the methods section of the article were also reported in the results. No trial protocol/registration number available.
Therapist qualification	Low risk	Quote: "the final group of 51 recruited and trained PFs was young (M [mean] = 26.8 years, SD = 6.6 years), with little education (highest level of education completed: 9.8% 10th grade; 47.1% 12th grade; 29.4% Bachelor's degree; 13.7% beyond Bachelor's), and little experience (M = 3.1 years of previous experience, SD = 3.7 years; 39.2% had no prior experience)."
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "Fidelity and quality were measured through MT ratings during session observations. Fidelity ratings consisted of whether PFs followed the RC man-

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Leventhal 2015 *(Continued)*

		ual's session structure and content. Ratings indicated that 85.4% of PF pairs followed session structure and 87.2% covered session content adequately or better. Quality ratings indicated that 81.3% of PF pairs presented information clearly, 95.8% managed behavior issues and discipline, 91.7% maintained girls' interest, and 70.8% used facilitative (rather than didactic) methods adequately or better. PFs were given additional training and support during refresher trainings based on these ratings."
Other bias	Low risk	No other sources of bias can be detected.

Maalouf 2020

Study characteristics		
Methods	Study design: cluster-RCT	
	Study grouping: parallel group	
	Cluster size: 28 children (mean)	
	Study duration: 12 weeks	
Participants	Inclusion criteria: school-level inclusion criteria: being private (independent schools), mixed-gender, tuition fees in the middle range, and having both grades 6 and 7 (with ≥ 2 sections in grade 6). Each school site was also required to have ≥ 15 consenting students in order to be included as a participating school.	
	Exclusion criteria: not reported	
	Age range: 11–13 years	
	Gender: 53% girls, 47% boys	
	Intervention sample: 145	
	Control sample: 135	
	Main type of traumatic event: bereavement	
	Phase of humanitarian crisis: after the acute crisis (mortality was similar or less that what it was before the crisis)	
	Type of humanitarian crisis: war/armed conflict	
Interventions	Intervention name: FRIENDS program	
	Delivered by: mental health professionals or trainees	
	Format of therapy: face to face	
	Number of sessions (total): 10	
	Type of control: waiting list	
	Type of intervention context: school setting	
	Type of promotion intervention: group level	
	Description of the intervention: a universal preventive cognitive behavioural school-based intervention.	

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Maalouf 2020 *(Continued)*

Outcomes	The cluster effects were controlled for, all the school in the generalised estimating equations model

Prosocial behaviour

- Outcome type: continuous outcome
- Reporting: fully reported
- Scale: SDQ-Prosocial
- Direction: higher is better
- Data value: endpoint

Acceptability (dropout from trial)

- Outcome type: dichotomous outcome
- Reporting: fully reported
- Data value: endpoint

Notes	Sponsorship source: funded by the Harvard Medical School Center for Global Health Delivery–Dubai.

Country: Lebanon

Setting: school based

Author's name: Fadi T Maalouf

Institution: American University of Beirut

Email: fm38@aub.edu.lb

Address: Department of Psychiatry, Faculty of Medicine, American University of Beirut, Box 11-0236, Riad El-Solh/Beirut 1107 2020, Lebanon

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Schools with a sufficient number of consenting parents and assenting participants were then randomized to either receive the intervention immediately (n = 5) or to the control group (n = 5)." No further information reported on the method of random sequence generation, but the balance of participant level characteristics suggests that the randomisation procedures were successful.
Allocation concealment (selection bias)	Unclear risk	Allocation concealment procedures were not reported.
Blinding of participants and personnel (performance bias) All outcomes	High risk	Open-label trial.
Blinding of outcome assessment (detection bias) All outcomes	Unclear risk	No information provided.
Incomplete outcome data (attrition bias) All outcomes	High risk	Study attrition around 20%, identified by the authors as a study limitation in the discussion: (quote) "Another study limitation was the sizeable attrition rate at post-intervention (almost 20%)."

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Maalouf 2020 *(Continued)*

Selective reporting (reporting bias)	Unclear risk	All measures described in the methods section of the article were also reported in the results. No trial protocol/registration number available.
Therapist qualification	Low risk	Quote: "Facilitators and co-facilitators were all native Arabic speakers and were mental health professionals or trainees (i.e., master's students in psychology, clinical psychologists, psychiatry residents, and post-doctoral research fellows)."
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "With regard to fidelity, all facilitators delivering the sessions answered questions regarding intervention delivery. In total, 78 out of the total 107 sessions had forms filled by facilitators. When facilitators were asked to report on whether they were able to deliver the objectives of the sessions as outlined in the intervention manual (Extent of delivery, 0–25%, 26–50%, 51– 75%, or 76–100%). Facilitators reported that in 78% of the sessions, 76 to 100% of the objectives were met."
Other bias	Low risk	No other sources of bias detected. Study funded by the Harvard Medical School Center for Global Health Delivery–Dubai.
		Cluster-RCT risk of bias extension
		1. Recruitment bias; the recruited population belonged to the same catchment area (low risk of bias)
		2. Baseline imbalance; cluster balance was maintained after randomisation (low risk of bias)
		3. Loss of clusters; none of the clusters were lost (low risk of bias)
		4. Incorrect analysis; the analyses were correctly conducted and reported (low risk of bias)

Miller 2020

Study characteristics	
Methods	Study design: cluster-RCT
	Study grouping: parallel group
	Cluster size: 2 (parent level)
	Study duration: 10 weeks
Participants	Inclusion criteria: Syrian refugee or vulnerable host community families with ≥ 1 child aged 3–12 years; both primary caregivers willing to participate in the study and willing to commit to attending all 9 sessions of the Caregiver Skills Intervention if randomised to the Caregiver Skills Intervention arm of the study; participating caregivers were Arabic speaking
	Exclusion criteria: prior or current participation by either caregiver in a parenting or stress management intervention; family did not have a child aged 3–12 years; anyone who was unable, even with assistance, to complete the assessment questionnaires; unwillingness of either caregiver to give informed consent
	Age range: children 3–12 years; parents not specified

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Miller 2020 *(Continued)*

Gender (parents): 52% women, 48% men

Gender (children): 41% girls, 59% boys

Intervention sample: 78

Control sample: 73

Main type of traumatic event: displacement

Phase of humanitarian crisis: during the acute crisis (mortality was still higher than it was before the crisis). The study took place between November 2017 and July 2019.

Type of humanitarian crisis: war/armed conflict

Interventions	Intervention name: Caregiver Support Intervention (CSI)
	Delivered by: para-professionals: non-mental health specialist, aged ≥ 24 years, with ≥ 2 years of experience implementing psychosocial interventions, preferably with adults, even more preferably with parents/caregivers
	Format of therapy: face to face
	Number of sessions (total): 9
	Type of control: waiting list
	Type of intervention context: group intervention – offices of 3 Community-Based Organizations (CBOs) with which War Child Holland (WCH) collaborates in the target communities
	Type of promotion intervention: group level
	Description of the intervention: 9-session, weekly group intervention, offered separately to women and men. Sessions 1–4 focussed exclusively on caregiver well-being (covering topics such as stress and relaxation, lowering stress, and coping with frustration and anger). Sessions 5–8 focussed on strengthening parenting under conditions of adversity, and draw heavily on social learning theory and commonly used methods of training in positive parenting (i.e. increasing awareness of the impact of stress on parenting, increasing positive parent-child interactions and the use of non-violent discipline methods, and reducing harsh parenting). Session 9 entailed a review and closing of the intervention. In addition, in each session, participants were introduced to a new relaxation or stress management technique. These techniques were also provided to participants in Arabic on mp3 files, which they could either play on their smartphones or on mp3 players provided at the start of the programme. Participants were encouraged to practice any relaxation or stress management activity ≥ 3 times each week.
Outcomes	The cluster effects were controlled by using the STATA command "clustersampsi."
	Mental well-being
	• Outcome type: continuous outcome • Reporting: fully reported • Scale: Kid-KINDL for Parents • Direction: higher is better • Data value: endpoint
	Acceptability (dropout from trial)
	• Outcome type: dichotomous • Reporting: fully reported • Data value: endpoint
Notes	Sponsorship source: funding grants from the Bernard van Leer Foundation and Open Society Foundations. Ethical approval provided by the University of Balamand, Tripoli, Lebanon

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Miller 2020 *(Continued)*

Country: Lebanon

Setting: city of Tripoli in North Lebanon. 70,000 registered Syrian refugees were living in Tripoli

Author's name: Kenneth E Miller

Institution: War Child Holland

Email: kenneth.miller@warchild.nl

Address: Helmholtzstraat 61g, 1098LE Amsterdam, The Netherlands

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "After participants had completed the baseline assessment, our research coordinator explained the randomization process to participants, inviting them to draw a lollipop out of an opaque bag containing an equal number of red and green lollipops, corresponding to the number of participants at the assessment. Baseline assessment took place over five days at the three CBOs, so this process was repeated several times. The first caregiver to be assessed from each family drew the lollipop that determined that family's group assignment. Once all data were collected from the full sample, the group assignment represented by each color was determined by a coin toss done by a WCH staff member based in Amsterdam who was unaffiliated with the study."
Allocation concealment (selection bias)	Low risk	Group assignment was concealed until a coin was flipped in Amsterdam.
Blinding of participants and personnel (performance bias) All outcomes	High risk	The Lebanon-based research co-ordinator was not blind, neither, by necessity, were participants blind to their group assignment.
Blinding of outcome assessment (detection bias) All outcomes	Low risk	The principal investigator, co-investigators, and research assistants remained blind throughout the study.
Incomplete outcome data (attrition bias) All outcomes	Low risk	2/151 participants dropped out from the study.
Selective reporting (reporting bias)	Low risk	All measures described in the methods section of the article were also reported in the results. No trial protocol available, but trial registered at the ISRCTN registry (ISRCTN33665023).
Therapist qualification	Low risk	Quote: "non-mental health specialist, 24 years or older, with at least 2 years of experience implementing psychosocial interventions, preferably with adults, even more preferably with parents/caregivers, emotionally mature."
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "A review of the checklists indicated that all activities were implemented as designed in six of the seven groups. In one of the men's groups, however, the facilitators were initially insufficiently prepared and failed to implement two activities in each of the first two sessions."
Other bias	Low risk	No other sources of bias detected.

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Miller 2020 *(Continued)*

Cluster-RCT risk of bias extension

1. Recruitment bias; the recruited population belonged to the same catchment area (low risk of bias)

2. Baseline imbalance; cluster balance was maintained after randomisation (low risk of bias)

3. Loss of clusters; just 1/79 clusters were lost (low risk of bias)

4. Incorrect analysis; the analyses were correctly conducted and reported (low risk of bias)

Miller 2023

Study characteristics	
Methods	Study design: cluster-RCT
	Study grouping: parallel group
	Cluster size: 2 (parent level)
	Study duration: 12 weeks
Participants	Inclusion criteria: Arabic-speaking Syrian refugee or host community families with ≥ 1 child aged 3–12 years; both primary caregivers willing to commit to attending all sessions of the CSI if randomised to the intervention arm of the study; not having participated in a parenting or stress management intervention previously
	Exclusion criteria: not reported
	Age range: children: 3–12 years; mean age of caregivers: 37.4 years
	Gender: not reported for both the adult and the children population
	Intervention sample: 240
	Control sample: 240
	Main type of traumatic event: displacement
	Phase of humanitarian crisis: during the acute crisis (mortality is still higher than it was before the crisis). The study took place between July 2019 and spring 2020.
	Type of humanitarian crisis: war/armed conflict
Interventions	Intervention name: Caregiver Support Intervention (CSI)
	Delivered by: para-professionals: 20 facilitators were non-specialist providers, including 10 Syrians, 9 Lebanese, and 1 Palestinian, with an equal number of women and men
	Format of therapy: face to face
	Number of sessions (total): 9
	Type of control: waiting list
	Type of intervention context: group intervention – offices of 3 community-based organisations with which War Child Holland collaborates in the target communities
	Type of promotion intervention: group level

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Miller 2023 *(Continued)*

Description of the intervention: the CSI was a 9-session, weekly selective preventive group intervention, co-facilitated by trained and supervised non-mental health specialists. Groups were offered separately to women and men, with 10–12 participants per group (see also Miller 2020).

Outcomes	To account for clustering at the family level, the intraclass correlation was estimated at 0.15.
	Mental well-being
	• Outcome type: continuous outcome
	• Reporting: fully reported
	• Scale: Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)
	• Direction: higher is better
	• Data value: endpoint, 3-month follow-up
	Acceptability (dropout from trial)
	• Outcome type: dichotomous outcome
	• Reporting: fully reported
	• Data value: endpoint
Notes	Sponsorship source: grants from the ELMA Creative Foundations, the Open Societies Foundation, and the Fred Foundation.
	Country: Lebanon
	Setting: Tripoli in North Lebanon
	Author's name: Kenneth E Miller
	Institution: University of British Columbia
	Email: kenneth.miller@warchild.nl
	Address: 2125 Main Mall Vancouver, BC, V6T 1Z4, Canada

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "A block randomization design was used, using a participatory methodology implemented successfully in our pilot RCT. At baseline assessment, after completing the questionnaires, one caregiver from each family was asked to draw a lollipop out of an opaque bag, filled with an equal number of red and green lollipops to ensure an equal number of CSI and wait list control participants. After baseline data were completed, a coin toss determined the meaning of each color, CSI or WLC. This process resulted in an equal number of CSI and WLC families in each wave."
Allocation concealment (selection bias)	Low risk	The group assignment was concealed until a coin was flipped.
Blinding of participants and personnel (performance bias) All outcomes	High risk	Quote: "Coordinators were not blind to group assignment, as they were involved in scheduling participants into CSI groups. Given the nature of the study, participants and group facilitators were not blind to group assignment."
Blinding of outcome assessment (detection bias) All outcomes	Low risk	Quote: "The lead investigators, trial statisticians and Research Assistants (RAs) remained blind to group assignment throughout the study."

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Miller 2023 *(Continued)*

Incomplete outcome data (attrition bias) All outcomes	Low risk	Attrition < 10% in both study arms.
Selective reporting (reporting bias)	Low risk	All measures described in the methods section of the article were also reported in the results. No trial protocol available but trial registered at the ISRCTN registry (prospective trial registration: ISRCTN22321773).
Therapist qualification	Low risk	Quote: "All prospective facilitators participated in a six-day training, followed by three on-site observations and weekly supervision by a social worker experienced in psychosocial interventions in humanitarian settings, who in turn was supervised remotely by a clinical psychologist [KM]."
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "Implementation fidelity was assessed with a fidelity checklist, which was completed by the co-facilitators following each session.
Other bias	Low risk	No other sources of bias detected. Cluster-RCT risk of bias extension 1. Recruitment bias; the recruited population belonged to the same catchment area (low risk of bias) 2. Baseline imbalance; cluster balance was maintained after randomisation (low risk of bias) 3. Loss of clusters; < 10% of the clusters were lost (low risk of bias) 4. Incorrect analysis; the analyses were correctly conducted and reported (low risk of bias)

O'Callaghan 2014

Study characteristics	
Methods	Study design: RCT Study grouping: parallel group Study duration: 12 weeks
Participants	Inclusion criteria: children aged 7–18 years and their caregivers living in a war-affected community facing current risks of attack/abduction by armed groups Exclusion criteria: not reported Age range: 7–18 years Gender: 55% boys, 45% girls Intervention sample: 79 Control sample: 80 Main type of traumatic event: bereavement

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O'Callaghan 2014 *(Continued)*

	Phase of humanitarian crisis: during the acute crisis (mortality was still higher than it was before the crisis)
	Type of humanitarian crisis: war/armed conflict
Interventions	Intervention name: no specific name. The intervention is generically described as a "psychosocial intervention."
	Delivered by: para-professional
	Format of therapy: face to face
	Number of sessions (total): 8
	Type of control: waiting list
	Type of intervention context: intervention took place in Li-May and Kiliwa, 2 small villages in Dungu territory, in Haut Uele Province, with an estimated combined population of < 1000 inhabitants.
	Type of promotion intervention: group level
	Description of the intervention: the author-compiled intervention manual was based on 3 components: 13 'Chuo Cha Maisha', a youth life skills leadership programme developed and piloted in Tanzania; 2. Mobile Cinema clips: narrative, fictional films, produced and created in Dungu in the local language to address stigma and discrimination and model how young people, parents and the village community could welcome formerly abducted children back into their communities; and 3. relaxation technique scripts used in trauma-focused CBT and used in 3 studies with young people in the Democratic Republic of the Congo.
Outcomes	Prosocial behaviour
	• Outcome type: continuous outcome • Reporting: fully reported • Scale: AYPA-Prosocial • Direction: lower is better • Data value: endpoint
	Acceptability (dropout from trial)
	• Outcome type: dichotomous • Reporting: fully reported • Data value: endpoint
Notes	Sponsorship source: funded by a donor who wished to remain anonymous.
	Country: Democratic Republic of Congo
	Setting: rural communities in the Haut-Uele Province of northern Democratic Republic of Congo
	Author's name: Paul O'Callaghan
	Institution: School of Psychology, Queen's University
	Email: pocallaghan02@qub.ac.uk
	Address: Belfast, Northern Ireland, UK

Risk of bias

Bias	Authors' judgement	Support for judgement

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O'Callaghan 2014 (Continued)

Random sequence generation (selection bias)	Low risk	Quote: "each member (…) was randomly assigned to either the treatment or the control group using a computer generated random sequence (www.random.org). This sequence was supplied by one of the authors off site. The lead author then allocated participants using the randomized sequence."
Allocation concealment (selection bias)	Low risk	Quote: "Selection bias was reduced by ensuring treatment allocation was concealed from those responsible for participant enrolment and by ensuring the person responsible for assigning participants met none of the participants prior to the group allocation."
Blinding of participants and personnel (performance bias) All outcomes	High risk	Judgement comment: blinding procedures were not reported. It is likely that participants were not blinded to intervention allocation because the trial was open label.
Blinding of outcome assessment (detection bias) All outcomes	Low risk	Quote: "data were collected by the same blinded outcome assessors (…). Blinding involved with holding the randomization sequence from the assessors, having no overlap between the assessors and the intervention facilitation team, having no contact between assessors and participants during the intervention and requesting that the assessors do not ask participants which group they were in during the post-intervention and follow-up assessment."
Incomplete outcome data (attrition bias) All outcomes	Low risk	Low attrition rate according to figure 1 of the publication. Dropouts were reported together with reasons (3/79 dropouts in the intervention group and 3/80 dropouts in the wait-list group).
Selective reporting (reporting bias)	High risk	Data for the control group were missing at follow-up. No protocol available but trial registered at ClinicalTrials.gov (NCT01542398).
Therapist qualification	Unclear risk	Quote: "Three male and three female local lay facilitators living in Dungu and working for SAIPED, a Dungu-based humanitarian NGO, delivered the intervention in the church in Kiliwa in the morning and in the church in Li-May in the afternoon every second day."
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "To enhance intervention fidelity, facilitators were given a copy of the manualised intervention in French and met for three hours with the lead researcher the day before delivering each module in order to review the previous module taught, prepare for the subsequent module and discuss any suggested cultural changes to the module (e.g., using culturally familiar songs and games as warm-up activities etc.)."
Other bias	Low risk	No other sources of bias detected.

Panter-Brick 2018

Study characteristics

Methods	Study design: cluster-RCT
	Study grouping: parallel group
	Cluster size: not reported (family)

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Panter-Brick 2018 *(Continued)*

	Study duration: 10 weeks (postintervention); 28–56 weeks (follow-up), mean 44 weeks
Participants	Inclusion criteria: Syrian refugee youth and Jordanian host-community youth, aged 12–18 years
	Exclusion criteria: not a refugee; not having self-reported mental health difficulties, and poor access to local services
	Age range: 12–18 years
	Gender: 47% girls, 53% boys
	Intervention sample: 463
	Control sample: 354
	Main type of traumatic event: displacement
	Phase of humanitarian crisis: during the acute crisis (mortality was still higher than it was before the crisis)
	Type of humanitarian crisis: war/armed conflict
Interventions	Intervention name: Advancing Adolescents
	Delivered by: para-professionals (community workers): adult lay facilitators from the local community (coaches)
	Format of therapy: face to face
	Number of sessions (total): 16
	Type of control: waiting list
	Type of intervention context: community at youth centres
	Type of promotion intervention: group level
	Type of psychosocial intervention: 8-week psychosocial intervention for adolescents in humanitarian crises, based on profound stress attunement processes. Featured 3 elements that were widely viewed as important to support youth adjustment in contexts of complex emergencies: safety: establishment of a 'safe space' within the community as a base for activities and site of protection; support: facilitation of social support and self-expression; and structured, group-based activities.
Outcomes	Regression models included siblings and adjusted for clustering.
	Prosocial behaviour
	• Outcome type: continuous outcome • Reporting: provided by study authors • Scale: SDQ-Prosocial • Direction: higher is better • Data value: endpoint, 11-month follow-up
	Resilience
	• Outcome type: continuous outcome • Reporting: provided by study authors • Scale: adapted CYRM • Direction: higher is better • Data value: endpoint, 11-month follow-up
	Acceptability (dropout from trial)

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Panter-Brick 2018 *(Continued)*

- Outcome type: dichotomous outcome
- Reporting: fully reported
- Data value: endpoint

Notes	Sponsorship source: Elrha's Research for Health in Humanitarian Crises (R2HC) Programme (el-rha.org/r2hc)
	Country: Jordan
	Setting: community. Urban youth centres, designed as 'Adolescent Friendly Spaces'
	Author's name: Catherine Panter-Brick
	Institution: Department of Anthropology and Jackson Institute for Global Affairs, Yale University, New Haven, CT, USA
	Email: catherine.panter-brick@yale.edu
	Address: 10 Sachem Street, New Haven, CT06511, USA

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Families consented to a coin-toss allocation (ratio 1:1) of lollipop colours to study arms, with each youth selecting one of two coloured lollipops from an opaque cloth bag. Once baseline assessments were complete, one author (RD) completed the coin toss, informing families of an immediate or delayed programme start-date."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias) All outcomes	Unclear risk	No information provided.
Blinding of outcome assessment (detection bias) All outcomes	Low risk	Assessors were blinded to intervention allocation.
Incomplete outcome data (attrition bias) All outcomes	High risk	Nearly 50% of both intervention arm and control group participants were lost to follow-up at study endpoint.
Selective reporting (reporting bias)	Unclear risk	All measures described in the methods section of the article were reported in the results. No trial protocol/registration number available.
Therapist qualification	Low risk	Interventions were delivered by trained lay counsellors.
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Low risk	Quote: "Training, implementation, and assessments (e.g. session plans, delivery of technical skills, goal-setting for youth in development plans, attendance) are undertaken by the Mercy Corps monitoring and evaluation team. Training guidelines reinforce an understanding of key objectives, quality assurance and quality improvement. A lay coordinator monitors and supports the project plans during their development and implementation. Weekly

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Panter-Brick 2018 *(Continued)*

		meetings are scheduled to review progress, share experiences and address issues arising. Refresher training courses are offered to lay coaches before each new cycle of implementation."
Other bias	Low risk	No other sources of bias detected.
		Cluster-RCT risk of bias extension
		1. Recruitment bias; the recruited population belonged to the same catchment area (low risk of bias)
		2. Baseline imbalance; cluster balance was maintained after randomisation (low risk of bias)
		3. Loss of clusters; unclear how many clusters were lost in the experimental trial and how many in the RCT (unclear risk of bias)
		4. Incorrect analysis; the analyses were correctly conducted and reported (low risk of bias)

Yankey 2019

Study characteristics

Methods	Study design: RCT
	Study grouping: parallel group
	Study duration: not reported
Participants	Inclusion criteria: students having low coping strategies, self-confidence, and emotional intelligence
	Exclusion criteria: students showing normal or high coping strategies, self-confidence, and emotional intelligence
	Age range: 13–17 years
	Gender: boys and girls
	Intervention sample: 150
	Control sample: 150
	Main type of traumatic event: displacement
	Phase of humanitarian crisis: during the acute crisis (mortality was still higher than it was before the crisis)
	Type of humanitarian crisis: extreme poverty
Interventions	Intervention name: Life Skills Training
	Delivered by: unclear
	Format of therapy: face to face
	Number of sessions (total): 30
	Type of control: school as usual
	Type of intervention context: school

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Yankey 2019 *(Continued)*

Type of promotion intervention: group level

Description of the intervention: techniques of brainstorming, role-playing, and group discussion were employed to train them on life skills. Life skills assessment scales were administered after each intervention session to assess how effective the Life Skills Training has been for the participants. The intervention was completed in 30 basic sessions, and additional 15 sessions were given for those students who were not able to acquire life skills in a single session.

Outcomes	Coping • Outcome type: continuous outcome • Reporting: fully reported • Scale: Coping Across Situation Questionnaire (CASQ) • Direction: higher is better • Data value: endpoint
Notes	Sponsorship source: unknown Country: India Setting: Tibetan Children's Village school located in Himachal Pradesh, India Author's name: Tsering Yankey Institution: The Maharaja Sayajirao University of Baroda, Vadodara, India Email: tseringyankey10@gmail.com Address: Department of Psychology, Faculty of Education and Psychology, The Maharaja Sayajirao University of Baroda, Vadodara, India

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "students were further randomly assigned to experimental and control groups, consisting of 150 students in each group." No further information reported on the method of random sequence generation, but the balance of participant level characteristics suggests that the randomisation procedures were successful.
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias) All outcomes	High risk	Open-label trial.
Blinding of outcome assessment (detection bias) All outcomes	Unclear risk	No information provided.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	No information provided.
Selective reporting (reporting bias)	Unclear risk	All measures described in the methods section of the article were reported in the results. No trial protocol/registration number available.

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Yankey 2019 *(Continued)*

Therapist qualification	Unclear risk	No information provided.
Therapist/investigator allegiance	Unclear risk	No information provided.
Intervention fidelity	Unclear risk	No information provided.
Other bias	Low risk	No other sources of bias detected.

AYPA: African Youth Psychosocial Assessment; CBT: cognitive behavioural therapy; CSI: Caregiver Support Intervention; CYRM: Child and Youth Resilience Measure; DEO: district education officer; ESPS: ERSAE-Stress-Prosocial; FI: functional impairment; FRIENDS: is an acronym for the skills taught throughout the programme (F: feelings; R: remember to relax, have quiet time; I: I can do it! I can try (inner helpful thoughts); E: explore solutions and coping step plans; N: now reward yourself! You've done your best!; D: don't forget to practice; and S: smile! Stay calm, stay strong and talk to your support networks!); Kid-KINDL: Kinder Lebensqualität fragebogen; KIDSCREEN: SCREENing for and Promotion of Health Related Quality of Life in Children an Adolescents; n: number; PF: programme facilitator; RCT: randomised controlled trial; SD: standard deviation; SDQ: Strength and Difficulties Questionnaire; WLC: waiting-list control.

Characteristics of excluded studies *[ordered by study ID]*

Study	Reason for exclusion
Aber 2017	Ineligible study design
Akhtar 2021a	Ineligible population
Akhtar 2021b	Ineligible population
Akiyama 2018	Ineligible study design
Baker 2012	Ineligible setting
Bonilla-Escobar 2018	Ineligible population (clinical patients)
Bryant 2022	Ineligible population (clinical patients)
Chen 2014	Ineligible population (clinical patients)
Cuijpers 2022	Ineligible population (clinical patients)
De Graaff 2022	Ineligible setting
DRKS00023505	Ineligible population (clinical patients)
El-Khani 2021	Ineligible population (clinical patients)
Farhood 2014	Ineligible study design
Fine 2021	Ineligible population (clinical patients)
Green 2019	Ineligible intervention
Greene 2021	Ineligible population (clinical patients)
Haar 2021	Ineligible setting

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Study	Reason for exclusion
Hasha 2022	Ineligible setting
Hirani 2018	Ineligible setting
Jordans 2021	Ineligible population (clinical patients)
Karam 2008	Ineligible study design
Karibwende 2023	Ineligible population (clinical patients)
Kim 2023	Ineligible comparison
Koch 2020	Ineligible setting
Koebach 2021	Ineligible population (clinical patients)
Lange-Nielsen 2012	Ineligible population
Lenglet 2018	Ineligible population (clinical patients)
Li 2022	Ineligible setting
Miller-Graff 2022	Ineligible comparison
Morris 2012	Ineligible study design
Murray 2015	Ineligible population (clinical patients)
NCT03359486	Ineligible population (clinical patients)
Neville 2022	Ineligible study design
Newnham 2015	Ineligible study design
NTR6842	Ineligible setting
Orengo-Aguayo 2022	Ineligible design
Ramaiya 2022	Ineligible design
Sangraula 2020	Ineligible population (clinical patients)
Sangraula 2023	Ineligible population (clinical patients)
Tam 2020	Ineligible setting
Tol 2008	Ineligible population (clinical patients)
Tol 2014	Ineligible population (clinical patients)
Tol 2020	Ineligible population (clinical patients)
Weiss 2015	Ineligible population (clinical patients)
Welton-Mitchell 2018	Ineligible study design

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Characteristics of studies awaiting classification *[ordered by study ID]*

ACTRN12618000892213

Methods	Randomised controlled trial
Participants	Parents or primary caregivers of children aged 8–12 years
Interventions	Intervention: a parent group consisting of 6 × 2-hour sessions, once a week over 6 weeks. Providing psycho-education, psychological support, and strategies to parents based on cognitive behavioural and attachment-based principles. Delivered by non-specialist staff (Community Mental Health Workers and Counsellors) working for Médecins Sans Frontière (MSF) in contexts of humanitarian crisis (Iraq, Syria and Democratic Republic of the Congo)
	Control: waiting list
Outcomes	Parent well-being as assessed by change in scores on the Outcome Rating Scale (ORS)
Notes	

NCT03760627

Methods	Cluster-randomised controlled trial
Participants	Adult and adolescent (13–19 years) refugees, Syrian and non-Syrians, who are currently residing in Amman, Jordan
Interventions	Intervention: the Collateral Repair Project (CRP) conducted a Mindfulness Resiliency Training Program (MRTP) for refugees residing in Amman, Jordan. A small support group demonstrated to participants techniques that they could use to self-manage their own stress and trauma.
	Control: waiting list
Outcomes	Resiliency
Notes	

Characteristics of ongoing studies *[ordered by study ID]*

Jansen 2022

Study name	Evaluating the impact of community-based sociotherapy on social dignity in post-genocide Rwanda: study protocol for a cluster randomized controlled trial
Methods	Study design: cluster-randomised controlled trial
	Study grouping: parallel group
	Cluster size: 10–15 people
	Study duration: 15 weeks (postintervention); 36 weeks (follow-up).
Participants	Inclusion criteria: everyone who is invited by a facilitator for eventual participation is eligible

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Jansen 2022 *(Continued)*

Exclusion criteria: those who have gone through the same programme in previous projects will not be eligible

Age range: not specified

Gender: male and females

Intervention sample: around 600 participants

Control sample: around 600 participants

Main type of traumatic event: displacement, bereavement

Phase of humanitarian crisis: after the acute crisis

Type of humanitarian crisis: war/armed conflict

Interventions	Intervention name: Community-Based Sociotherapy (CBS)
	Delivered by: para-professionals (community workers): adult lay facilitators from the local community.
	Format of therapy: face to face
	Number of sessions (total): 15
	Type of control: waiting list
	Type of intervention context: community centres
	Type of promotion intervention: group level
	Type of psychosocial intervention: the Community-Based Sociotherapy (CBS) intervention is 1 of the programmes initiated in Rwanda to address the psychosocial needs of the Rwandan population in the aftermath of the 1994 genocide against the Tutsi and to restore the social fabric. CBS is a psychosocial peacebuilding intervention that has been shown to promote social cohesiveness, psychological well-being, reconciliation, and economic development among the populations of Rwanda.
Outcomes	Mental well-being • Outcome type: continuous outcome • Scale: WHO-5 Well-being Index • Direction: higher is better • Data value: endpoint, 9-month follow-up
Starting date	9 March 2022
Contact information	Author's name: Stefan Jansen
	Institution: Mental Health & Behaviour Research Group, College of Medicine and Health Sciences, University of Rwanda, Kigali, Rwanda
	Email: niyonsengajaphet74@gmail.com
Notes	Sponsorship source: funded by Community-Based Sociotherapy (CBS)
	Country: Rwanda
	Setting: different community centres of 10 districts of Rwanda: Gasabo, Karongi, Rubavu, Rulindo, Burera, Gatsibo, Gicumbi, Nyanza, Muhanga, and Nyamagabe

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DATA AND ANALYSES

Comparison 1. Psychological and social interventions versus control

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1.1 Mental well-being at study endpoint: children	3	3378	Std. Mean Difference (IV, Random, 95% CI)	0.06 [-0.17, 0.29]
1.1.1 Qaderoon intervention	1	509	Std. Mean Difference (IV, Random, 95% CI)	0.17 [-0.01, 0.34]
1.1.2 Teaching Recovery Techniques (TRT)	1	482	Std. Mean Difference (IV, Random, 95% CI)	0.18 [0.00, 0.36]
1.1.3 Girls First Resilience Curriculum	1	2387	Std. Mean Difference (IV, Random, 95% CI)	-0.13 [-0.22, -0.04]
1.2 Mental well-being at follow-up: children	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.2.1 Qaderoon intervention	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.3 Mental well-being at study endpoint: adults	3	674	Std. Mean Difference (IV, Random, 95% CI)	-0.29 [-0.44, -0.14]
1.3.1 Caregiver Support Intervention (CSI)	2	599	Std. Mean Difference (IV, Random, 95% CI)	-0.27 [-0.43, -0.11]
1.3.2 International Child Development Program (ICDP)	1	75	Std. Mean Difference (IV, Random, 95% CI)	-0.46 [-0.92, 0.00]
1.4 Mental well-being at follow-up: adults	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.4.1 Caregiver Support Intervention (CSI)	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.5 Functioning at study endpoint: children	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.5.1 ERSAE-Stress-Prosocial (ESPS)	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.6 Functioning at follow-up: children	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.6.1 ERSAE-Stress-Prosocial (ESPS)	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.7 Resilience at study endpoint: children	2	2774	Std. Mean Difference (IV, Random, 95% CI)	-0.11 [-0.52, 0.30]
1.7.1 Girls First Resilience Curriculum	1	2387	Std. Mean Difference (IV, Random, 95% CI)	-0.31 [-0.40, -0.22]

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Outcome or subgroup title	No. of studies	No. of partici-pants	Statistical method	Effect size
1.7.2 Advancing Adolescents	1	387	Std. Mean Difference (IV, Random, 95% CI)	0.11 [-0.09, 0.30]
1.8 Resilience at follow-up: children	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.8.1 Advancing Adolescents	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.9 Coping at study endpoint: children	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.9.1 Life Skills Training (LST)	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.10 Hope at study endpoint: children	1		Mean Difference (IV, Random, 95% CI)	Totals not selected
1.11 Prosocial behaviour at study endpoint: children	5	1633	Std. Mean Difference (IV, Random, 95% CI)	-0.25 [-0.60, 0.10]
1.11.1 ERSAE-Stress-Prosocial (ESP)	1	183	Std. Mean Difference (IV, Random, 95% CI)	-1.05 [-1.36, -0.74]
1.11.2 Teaching recovery techniques	1	482	Std. Mean Difference (IV, Random, 95% CI)	0.18 [0.01, 0.36]
1.11.3 FRIENDS program	1	277	Std. Mean Difference (IV, Random, 95% CI)	-0.09 [-0.32, 0.15]
1.11.4 Psychosocial intervention	1	159	Std. Mean Difference (IV, Random, 95% CI)	-0.28 [-0.59, 0.03]
1.11.5 Advancing Adolescents	1	532	Std. Mean Difference (IV, Random, 95% CI)	-0.07 [-0.24, 0.10]
1.12 Prosocial behaviour at follow-up: children	2	483	Std. Mean Difference (IV, Random, 95% CI)	-0.48 [-1.80, 0.83]
1.12.1 ERSAE-Stress-Prosocial (ESP)	1	183	Std. Mean Difference (IV, Random, 95% CI)	-1.16 [-1.48, -0.85]
1.12.2 Advancing Adolescents	1	300	Std. Mean Difference (IV, Random, 95% CI)	0.18 [-0.04, 0.41]
1.13 Acceptability at study endpoint: children	10	6430	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.59, 1.43]
1.14 Acceptability at study endpoint: adults	2	960	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.66, 1.03]

Analysis 1.1. Comparison 1: Psychological and social interventions versus control, Outcome 1: Mental well-being at study endpoint: children

Study or Subgroup	Psychosocial intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Std. Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
1.1.1 Qaderoon intervention										
Afifi 2010	33.25	8.29	280	31.87	8.11	229	31.8%	0.17 [-0.01 , 0.34]		
Subtotal (95% CI)			**280**			**229**	**31.8%**	**0.17 [-0.01 , 0.34]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 1.88 (P = 0.06)										
1.1.2 Teaching Recovery Techniques (TRT)										
Diab 2015	-34.98	9.66	242	-36.66	8.86	240	31.5%	0.18 [0.00 , 0.36]		
Subtotal (95% CI)			**242**			**240**	**31.5%**	**0.18 [0.00 , 0.36]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 1.98 (P = 0.05)										
1.1.3 Girls First Resilience Curriculum										
Leventhal 2015	-0.99	7.01	1681	-0.05	7.46	706	36.7%	-0.13 [-0.22 , -0.04]		
Subtotal (95% CI)			**1681**			**706**	**36.7%**	**-0.13 [-0.22 , -0.04]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 2.93 (P = 0.003)										
Total (95% CI)			**2203**			**1175**	**100.0%**	**0.06 [-0.17 , 0.29]**		
Heterogeneity: Tau² = 0.04; Chi² = 15.37, df = 2 (P = 0.0005); I² = 87%										
Test for overall effect: Z = 0.52 (P = 0.60)										
Test for subgroup differences: Chi² = 15.37, df = 2 (P = 0.0005), I² = 87.0%										

-0.5 -0.25 0 0.25 0.5
Favours psychosocial intervention   Favours control

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

Analysis 1.2. Comparison 1: Psychological and social interventions versus control, Outcome 2: Mental well-being at follow-up: children

Study or Subgroup	Psychosocial intervention Mean	SD	Total	Control Mean	SD	Total	Mean Difference IV, Random, 95% CI	Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
1.2.1 Qaderoon intervention									
Afifi 2010 (1)	30.99	6.76	140	31.69	6.98	118	-0.70 [-2.39 , 0.99]		

-4 -2 0 2 4
Favours psychosocial intervention   Favours control

Footnotes
(1) Follow-up 26 weeks.

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

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Analysis 1.3. Comparison 1: Psychological and social interventions versus control, Outcome 3: Mental well-being at study endpoint: adults

Study or Subgroup	Psychosocial intervention			Control			Weight	Std. Mean Difference IV, Random, 95% CI	Std. Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
	Mean	SD	Total	Mean	SD	Total				
1.3.1 Caregiver Support Intervention (CSI)										
Miller 2020	-52.44	7.59	78	-49.24	8.56	73	22.2%	-0.39 [-0.72 , -0.07]		+ + – + + + + ? + +
Miller 2023	-48.93	8.83	226	-46.96	8.65	222	66.9%	-0.22 [-0.41 , -0.04]		+ + – + + + + ? + +
Subtotal (95% CI)			**304**			**295**	**89.1%**	**-0.27 [-0.43 , -0.11]**		
Heterogeneity: Tau² = 0.00; Chi² = 0.80, df = 1 (P = 0.37); I² = 0%										
Test for overall effect: Z = 3.25 (P = 0.001)										
1.3.2 International Child Development Program (ICDP)										
Dybdahl 2001	-4.6	1.3	35	-4	1.3	40	10.9%	-0.46 [-0.92 , 0.00]		+ ? – + + ? + ? ? +
Subtotal (95% CI)			**35**			**40**	**10.9%**	**-0.46 [-0.92 , 0.00]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 1.95 (P = 0.05)										
Total (95% CI)			**339**			**335**	**100.0%**	**-0.29 [-0.44 , -0.14]**		
Heterogeneity: Tau² = 0.00; Chi² = 1.38, df = 2 (P = 0.50); I² = 0%										
Test for overall effect: Z = 3.71 (P = 0.0002)										
Test for subgroup differences: Chi² = 0.58, df = 1 (P = 0.45), I² = 0%										

-1 -0.5 0 0.5 1
Favours psychosocial intervention   Favours control

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

Analysis 1.4. Comparison 1: Psychological and social interventions versus control, Outcome 4: Mental well-being at follow-up: adults

Study or Subgroup	Psychosocial intervention			Control			Mean Difference IV, Random, 95% CI	Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
	Mean	SD	Total	Mean	SD	Total			
1.4.1 Caregiver Support Intervention (CSI)									
Miller 2023	-46.12	8.6	223	-45.68	8.83	218	-0.44 [-2.07 , 1.19]		+ + – + + + + ? + +

-100 -50 0 50 100
Favours psychosocial intervention   Favours control

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

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Analysis 1.5. Comparison 1: Psychological and social interventions versus control, Outcome 5: Functioning at study endpoint: children

Study or Subgroup	Psychosocial intervention			Control			Mean Difference IV, Random, 95% CI	Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
	Mean	SD	Total	Mean	SD	Total			
1.5.1 ERSAE-Stress-Prosocial (ESPS)									
Berger 2018 (1)	14.98	5.3	95	17.16	6.22	88	-2.18 [-3.86 , -0.50]		+ ? − + + ? + ? + +

-4   -2   0   2   4
Favours psychosocial intervention   Favours control

Footnotes
(1) Measured as "function impairment".

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

Analysis 1.6. Comparison 1: Psychological and social interventions versus control, Outcome 6: Functioning at follow-up: children

Study or Subgroup	Psychosocial intervention			Control			Mean Difference IV, Random, 95% CI	Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
	Mean	SD	Total	Mean	SD	Total			
1.6.1 ERSAE-Stress-Prosocial (ESPS)									
Berger 2018 (1)	14.64	5.05	95	17.97	6.55	88	-3.33 [-5.03 , -1.63]		+ ? − + + ? + ? + +

-10   -5   0   5   10
Favours psychosocial intervention   Favours control

Footnotes
(1) Measured as "function impairment"; follow-up 34 weeks.

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

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Analysis 1.7. Comparison 1: Psychological and social interventions versus control, Outcome 7: Resilience at study endpoint: children

	Psychosocial intervention			Control				Std. Mean Difference	Std. Mean Difference	Risk of Bias
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI	A B C D E F G H I J
1.7.1 Girls First Resilience Curriculum										
Leventhal 2015	-4.79	11.09	1681	-1.25	11.79	706	52.4%	-0.31 [-0.40 , -0.22]		+ ? ● ● + ? + ? + +
Subtotal (95% CI)			**1681**			**706**	**52.4%**	**-0.31 [-0.40 , -0.22]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 6.95 (P < 0.00001)										
1.7.2 Advancing Adolescents										
Panter-Brick 2018	-50.11	6.28	187	-50.74	5.66	200	47.6%	0.11 [-0.09 , 0.30]		+ ? ? + ● ? + ? + +
Subtotal (95% CI)			**187**			**200**	**47.6%**	**0.11 [-0.09 , 0.30]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 1.04 (P = 0.30)										
Total (95% CI)			**1868**			**906**	**100.0%**	**-0.11 [-0.52 , 0.30]**		
Heterogeneity: Tau² = 0.08; Chi² = 14.13, df = 1 (P = 0.0002); I² = 93%										
Test for overall effect: Z = 0.54 (P = 0.59)										
Test for subgroup differences: Chi² = 14.13, df = 1 (P = 0.0002), I² = 92.9%										

-1 -0.5 0 0.5 1
Favours psychosocial intervention   Favours control

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

Analysis 1.8. Comparison 1: Psychological and social interventions versus control, Outcome 8: Resilience at follow-up: children

	Psychosocial intervention			Control			Mean Difference	Mean Difference	Risk of Bias
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	IV, Random, 95% CI	IV, Random, 95% CI	A B C D E F G H I J
1.8.1 Advancing Adolescents									
Panter-Brick 2018 (1)	-51.07	6.14	159	-51.14	6.69	140	0.07 [-1.39 , 1.53]		+ ? ? + ● ? + ? + +

-4 -2 0 2 4
Favours psychosocial intervention   Favours control

Footnotes
(1) Follow-up 7–14 months (mean 11 months).

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

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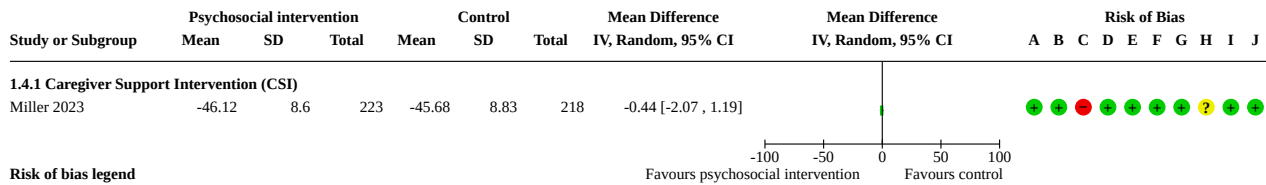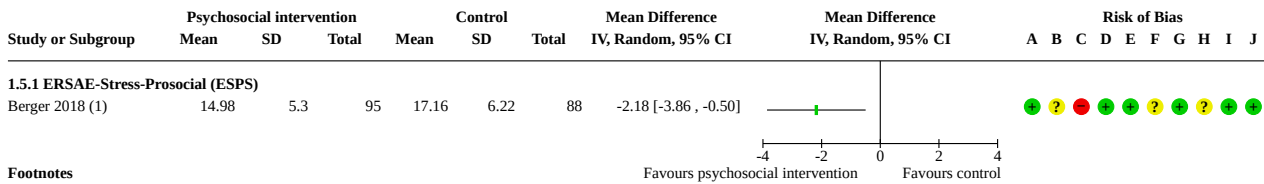
74

Analysis 1.9.   Comparison 1: Psychological and social interventions versus control, Outcome 9: Coping at study endpoint: children
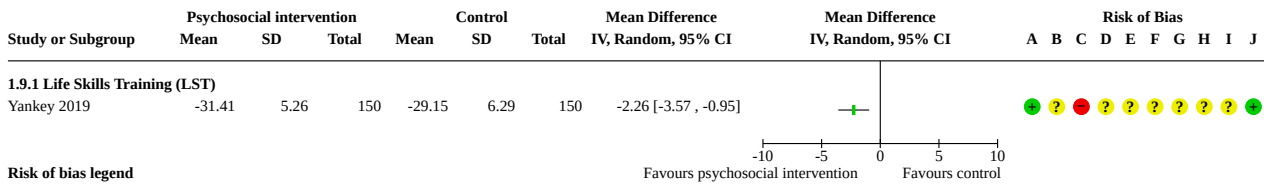
Study or Subgroup	Psychosocial intervention			Control			Mean Difference IV, Random, 95% CI	Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
	Mean	SD	Total	Mean	SD	Total			
1.9.1 Life Skills Training (LST)									
Yankey 2019	-31.41	5.26	150	-29.15	6.29	150	-2.26 [-3.57 , -0.95]		+ ? − ? ? ? ? ? ? +

Favours psychosocial intervention   Favours control

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

Analysis 1.10.   Comparison 1: Psychological and social interventions versus control, Outcome 10: Hope at study endpoint: children
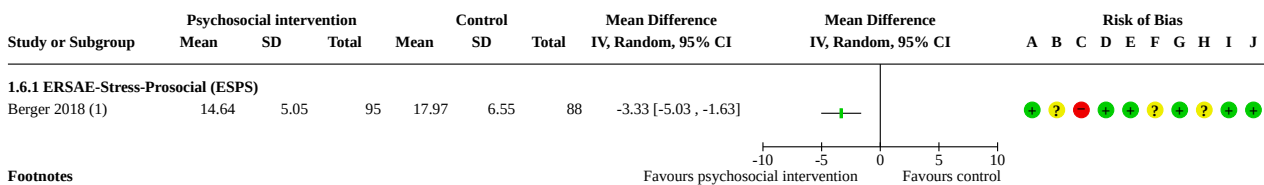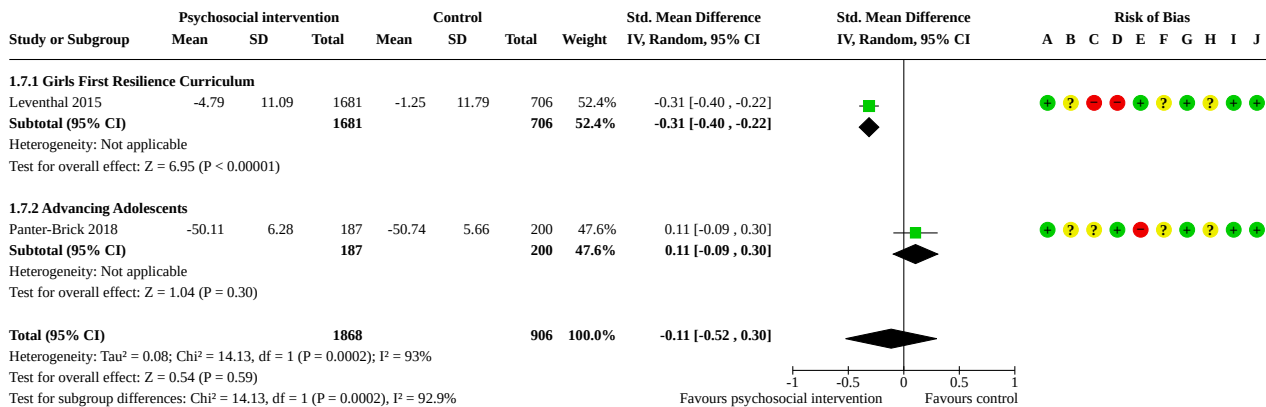
Study or Subgroup	Psychosocial intervention			Control			Mean Difference IV, Random, 95% CI	Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
	Mean	SD	Total	Mean	SD	Total			
Dhital 2019	-22.3	6	559	-22.3	6.3	511	0.00 [-0.74 , 0.74]		+ + − ? + + + ? − +

Favours psychosocial intervention   Favours control

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
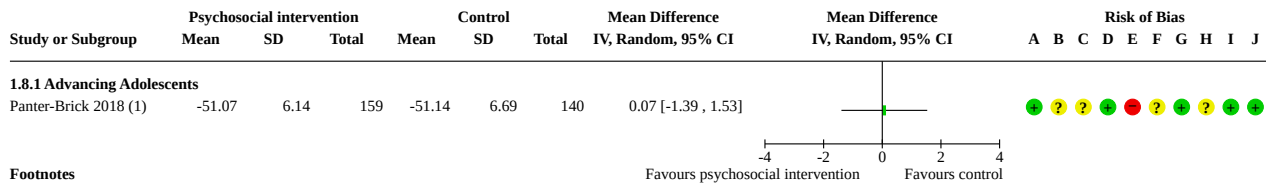(I) Intervention fidelity
(J) Other bias

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Analysis 1.11. Comparison 1: Psychological and social interventions versus control, Outcome 11: Prosocial behaviour at study endpoint: children

Study or Subgroup	Psychosocial intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Std. Mean Difference IV, Random, 95% CI	Risk of Bias A B C D E F G H I J
1.11.1 ERSAE-Stress-Prosocial (ESP)										
Berger 2018	-10.47	1.36	95	-8.87	1.66	88	18.9%	-1.05 [-1.36 , -0.74]		
Subtotal (95% CI)			**95**			**88**	**18.9%**	**-1.05 [-1.36 , -0.74]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 6.67 (P < 0.00001)										
1.11.2 Teaching recovery techniques										
Diab 2015	-3.22	1.4	242	-3.47	1.3	240	21.0%	0.18 [0.01 , 0.36]		
Subtotal (95% CI)			**242**			**240**	**21.0%**	**0.18 [0.01 , 0.36]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 2.02 (P = 0.04)										
1.11.3 FRIENDS program										
Maalouf 2020	-8.4	1.69	144	-8.24	1.91	133	20.2%	-0.09 [-0.32 , 0.15]		
Subtotal (95% CI)			**144**			**133**	**20.2%**	**-0.09 [-0.32 , 0.15]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 0.74 (P = 0.46)										
1.11.4 Psychosocial intervention										
O'Callaghan 2014	14.01	2.43	79	14.66	2.22	80	18.9%	-0.28 [-0.59 , 0.03]		
Subtotal (95% CI)			**79**			**80**	**18.9%**	**-0.28 [-0.59 , 0.03]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 1.74 (P = 0.08)										
1.11.5 Advancing Adolescents										
Panter-Brick 2018	-8.48	1.62	299	-8.36	1.64	233	21.1%	-0.07 [-0.24 , 0.10]		
Subtotal (95% CI)			**299**			**233**	**21.1%**	**-0.07 [-0.24 , 0.10]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 0.84 (P = 0.40)										
Total (95% CI)			**859**			**774**	**100.0%**	**-0.25 [-0.60 , 0.10]**		

Heterogeneity: Tau² = 0.14; Chi² = 47.38, df = 4 (P < 0.00001); I² = 92%
Test for overall effect: Z = 1.38 (P = 0.17)
Test for subgroup differences: Chi² = 47.38, df = 4 (P < 0.00001), I² = 91.6%

-2   -1   0   1   2
Favours psychosocial intervention   Favours control

Risk of bias legend

(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

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Analysis 1.12. Comparison 1: Psychological and social interventions versus control, Outcome 12: Prosocial behaviour at follow-up: children
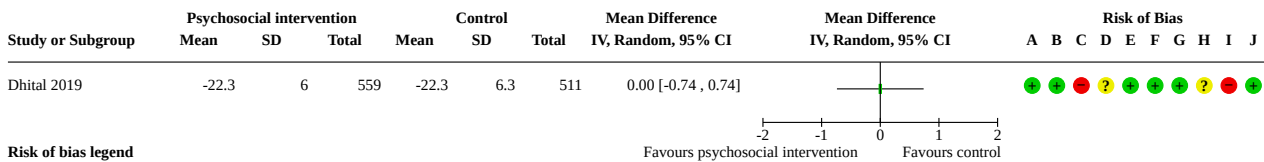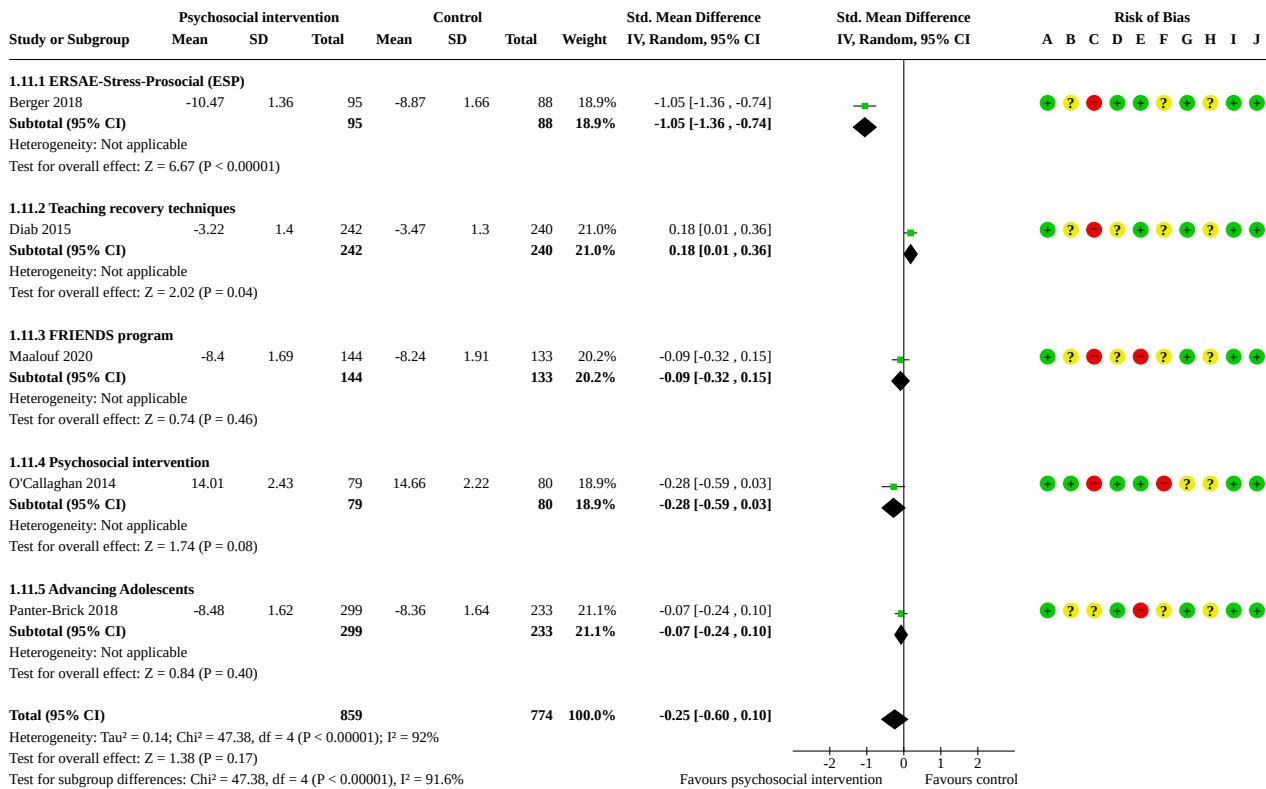
	Psychosocial intervention			Control				Std. Mean Difference	Std. Mean Difference	Risk of Bias
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI	A B C D E F G H I J
1.12.1 ERSAE-Stress-Prosocial (ESP)										
Berger 2018 (1)	-10.57	1.33	95	-8.74	1.79	88	49.7%	-1.16 [-1.48 , -0.85]		
Subtotal (95% CI)			**95**			**88**	**49.7%**	**-1.16 [-1.48 , -0.85]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 7.26 (P < 0.00001)										
1.12.2 Advancing Adolescents										
Panter-Brick 2018 (2)	-8.24	1.59	160	-8.52	1.44	140	50.3%	0.18 [-0.04 , 0.41]		
Subtotal (95% CI)			**160**			**140**	**50.3%**	**0.18 [-0.04 , 0.41]**		
Heterogeneity: Not applicable										
Test for overall effect: Z = 1.58 (P = 0.11)										
Total (95% CI)			**255**			**228**	**100.0%**	**-0.48 [-1.80 , 0.83]**		

Heterogeneity: Tau² = 0.89; Chi² = 46.30, df = 1 (P < 0.00001); I² = 98%

Test for overall effect: Z = 0.72 (P = 0.47)

Test for subgroup differences: Chi² = 46.30, df = 1 (P < 0.00001), I² = 97.8%

Favours psychosocial intervention / Favours control

Footnotes

(1) Follow-up 34 weeks.

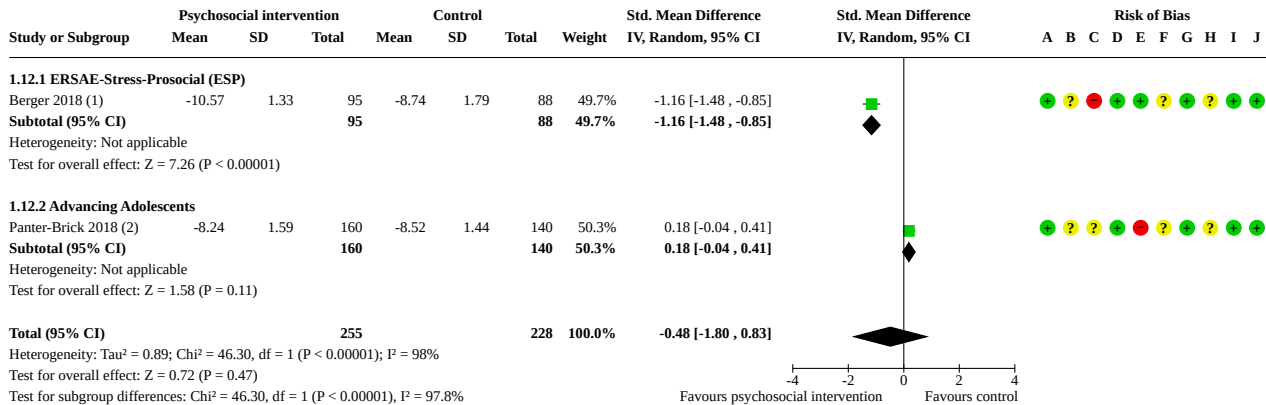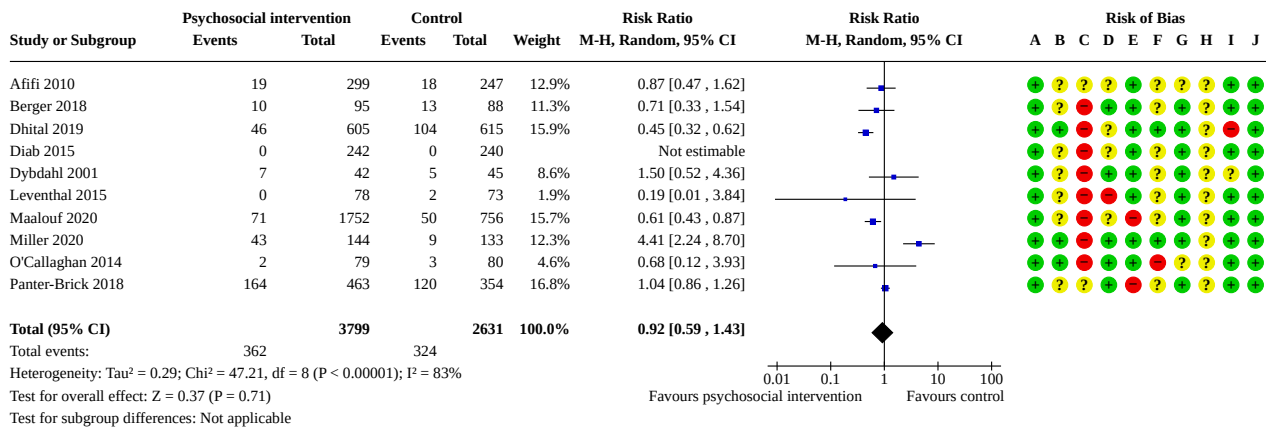(2) Follow-up 7–14 months (mean 11 months).

Risk of bias legend

(A) Random sequence generation (selection bias)

(B) Allocation concealment (selection bias)

(C) Blinding of participants and personnel (performance bias)

(D) Blinding of outcome assessment (detection bias)

(E) Incomplete outcome data (attrition bias)

(F) Selective reporting (reporting bias)

(G) Therapist qualification

(H) Therapist/investigator allegiance
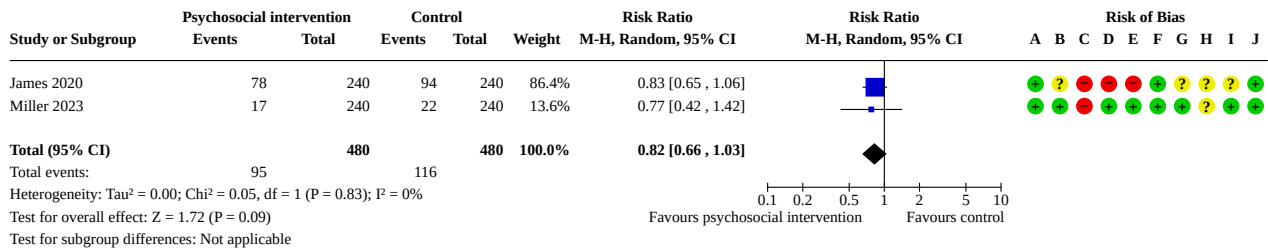
(I) Intervention fidelity

(J) Other bias

Analysis 1.13. Comparison 1: Psychological and social interventions versus control, Outcome 13: Acceptability at study endpoint: children

	Psychosocial intervention		Control			Risk Ratio	Risk Ratio	Risk of Bias
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI	A B C D E F G H I J
Afifi 2010	19	299	18	247	12.9%	0.87 [0.47 , 1.62]		
Berger 2018	10	95	13	88	11.3%	0.71 [0.33 , 1.54]		
Dhital 2019	46	605	104	615	15.9%	0.45 [0.32 , 0.62]		
Diab 2015	0	242	0	240		Not estimable		
Dybdahl 2001	7	42	5	45	8.6%	1.50 [0.52 , 4.36]		
Leventhal 2015	0	78	2	73	1.9%	0.19 [0.01 , 3.84]		
Maalouf 2020	71	1752	50	756	15.7%	0.61 [0.43 , 0.87]		
Miller 2020	43	144	9	133	12.3%	4.41 [2.24 , 8.70]		
O'Callaghan 2014	2	79	3	80	4.6%	0.68 [0.12 , 3.93]		
Panter-Brick 2018	164	463	120	354	16.8%	1.04 [0.86 , 1.26]		
Total (95% CI)		**3799**		**2631**	**100.0%**	**0.92 [0.59 , 1.43]**		
Total events:	362		324					

Heterogeneity: Tau² = 0.29; Chi² = 47.21, df = 8 (P < 0.00001); I² = 83%

Test for overall effect: Z = 0.37 (P = 0.71)

Test for subgroup differences: Not applicable

Favours psychosocial intervention / Favours control

Risk of bias legend

(A) Random sequence generation (selection bias)

(B) Allocation concealment (selection bias)

(C) Blinding of participants and personnel (performance bias)

(D) Blinding of outcome assessment (detection bias)

(E) Incomplete outcome data (attrition bias)

(F) Selective reporting (reporting bias)

(G) Therapist qualification

(H) Therapist/investigator allegiance

(I) Intervention fidelity

(J) Other bias

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Analysis 1.14. Comparison 1: Psychological and social interventions versus control, Outcome 14: Acceptability at study endpoint: adults

Study or Subgroup	Psychosocial intervention Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
James 2020	78	240	94	240	86.4%	0.83 [0.65 , 1.06]
Miller 2023	17	240	22	240	13.6%	0.77 [0.42 , 1.42]
Total (95% CI)		**480**		**480**	**100.0%**	**0.82 [0.66 , 1.03]**
Total events:	95		116			

Heterogeneity: Tau² = 0.00; Chi² = 0.05, df = 1 (P = 0.83); I² = 0%
Test for overall effect: Z = 1.72 (P = 0.09)
Test for subgroup differences: Not applicable

Risk Ratio M-H, Random, 95% CI
0.1 0.2 0.5 1 2 5 10
Favours psychosocial intervention   Favours control

Risk of Bias — A B C D E F G H I J

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of participants and personnel (performance bias)
(D) Blinding of outcome assessment (detection bias)
(E) Incomplete outcome data (attrition bias)
(F) Selective reporting (reporting bias)
(G) Therapist qualification
(H) Therapist/investigator allegiance
(I) Intervention fidelity
(J) Other bias

A P P E N D I C E S

Appendix 1. Search strategies

Cochrane Central Register of Controlled Trials (CENTRAL)

via Wiley http://onlinelibrary.wiley.com/

Date range: Issue 1 of 12, January 2023

Date searched: 20 January 2023

Records retrieved: 1096

#1 [mh ^"Crisis Intervention"] 239

#2 [mh Disasters] 1761

#3 [mh ^Refugees] 173

#4 ([mh ^"Adaptation, Psychological"] or [mh ^"Resilience, Psychological"]) 4693

#5 [mh Terrorism] 81

#6 [mh War] 159

#7 [mh ^Torture] 14

#8 (humanitarian NEAR/3 (aid or affair* or agenc* or assistance or catastrophe* or crisis or crises or

disaster* or effort* or emergenc* or evacuation* or integration or reintegration or mission or

organization* or organisation* or program* or relief or setting* or support* or task NEXT force or

work*)):ti,ab,kw 125

#9 (genocide or armed NEXT conflict* or mass NEXT execution* or mass NEXT violence):ti,ab,kw 75

#10 (cataclysmic or catastroph* or devastation or disaster* or drought* or earthquake* or

evacuation* or famine* or flood or floods or hurricane or cyclone* or landslide* or land NEXT slide* or

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mass NEXT casualt* or tsunami* or tidal NEXT wave* or volcano*):ti,ab,kw 5666

#11 (refugee* or forced NEXT migration or (displac* NEAR/2 (internal or forced or mass or person* or

people* or population*))):ti,ab,kw 721

#12 (torture* or (politic* NEAR/2 (persecut* or prison* or imprison* or violen*))):ti,ab,kw 69

#13 (warfare or (war NEXT (affected or afflicted or trauma*)) or (war and (abuse* or crime* or rape* or

survivor* or victim*))):ti,ab,kw 344

#14 (bereav* or orphan* or widow*):ti,ab,kw 1390

#15 {OR #1-#14} 14545

#16 [mh ^"Developing Countries"] 919

#17 ((developing or less* developed or under NEXT developed or underdeveloped or middle NEXT income or

low* NEXT income or underserved or under NEXT served or deprived or poor*) NEAR/3 (countr* or nation* or

population* or world)):ti,ab,kw 11885

#18 ((developing or less* developed or under NEXT developed or underdeveloped or middle NEXT income or

low* NEXT income) NEAR/1 (economy or economies)):ti,ab,kw 28

#19 (low* NEAR/1 (GDP or GNP or gross NEXT domestic or gross NEXT national)):ti,ab,kw 48

#20 (low NEAR/3 middle NEAR/3 countr*):ti,ab,kw 2091

#21 (LMIC or LMICs or third NEXT world or LAMI NEXT country or LAMI NEXT countries):ti,ab,kw 693

#22 (transitional NEXT country or transitional NEXT countries):ti,ab,kw 5

#23 (Africa or Asia or Caribbean or West NEXT Indies or South NEXT America or Latin NEXT America or Central

NEXT America or Afghanistan or Albania or Algeria or Angola or Antigua or Barbuda or Argentina or

Armenia or Armenian or Aruba or Azerbaijan or Bahrain or Bangladesh or Barbados or Benin or

Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or

Bosnia or Herzegovina or Hercegovina or Botswana or Brasil or Brazil or Bulgaria or Burkina

Faso or Burkina NEXT Fasso or Upper NEXT Volta or Burundi or Urundi or Cambodia or Khmer NEXT Republic or

Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape NEXT Verde or "Central

African Republic" or Chad or Chile or China or Colombia or Comoros or Comoro NEXT Islands or

Comores or Mayotte or Congo or Zaire or Costa NEXT Rica or "Cote d'Ivoire" or Ivory NEXT Coast or Croatia or Cuba or Cyprus or Czechoslovakia or Czech NEXT Republic or Slovakia or Slovak NEXT Republic or Djibouti

or French NEXT Somaliland or Dominica or Dominican NEXT Republic or East NEXT Timor or East NEXT Timur or Timor

NEXT Leste or Ecuador or Egypt or "United Arab Republic" or El NEXT Salvador or Eritrea or Estonia or

Ethiopia or Fiji or Gabon or Gabonese NEXT Republic or Gambia or Gaza or Georgia or Georgian or

Ghana or Gold NEXT Coast or Greece or Grenada or Guatemala or Guinea or Guam or Guiana or

Guyana or Haiti or Honduras or Hungary or India or Maldives or Indonesia or Iran or Iraq or "Isle

of Man" or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or

Kyrgyzstan or Kirghizia or Kyrgyz NEXT Republic or Kirghiz or Kirgizstan or Lao NEXT PDR or Laos or Latvia

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or Lebanon or Lesotho or Basutoland or Liberia or Libya or Lithuania or Macedonia or

Madagascar or Malagasy NEXT Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or

Malawi or Nyasaland or Mali or Malta or Marshall NEXT Islands or Mauritania or Mauritius or Agalega

NEXT Islands or Mexico or Micronesia or Middle NEXT East or Moldova or Moldovia or Moldovian or Mongolia

or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia

or Nepal or Netherlands NEXT Antilles or New NEXT Caledonia or Nicaragua or Niger or Nigeria or "Northern

Mariana Islands" or Oman or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or

Peru or Philippines or Philipines or Phillippines or Phillippines or Poland or Portugal or Puerto NEXT Rico

or Romania or Rumania or Roumania or Russia or Russian or Rwanda or Ruanda or Saint NEXT Kitts

or St NEXT Kitts or Nevis or Saint NEXT Lucia or St NEXT Lucia or Saint NEXT Vincent or St NEXT Vincent or Grenadines or

Samoa or Samoan NEXT Islands or Navigator NEXT Island or Navigator NEXT Islands or Sao NEXT Tome or Saudi NEXT Arabia

or Senegal or Serbia or Montenegro or Seychelles or Sierra NEXT Leone or Slovenia or Sri NEXT Lanka or

Ceylon or Solomon NEXT Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or Syria

or Tajikistan or Tadzhikistan or Adjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese

Republic or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or

Uganda or Ukraine or Uruguay or USSR or Soviet NEXT Union or "Union of Soviet Socialist Republics" or

Uzbekistan or Uzbek or Vanuatu or New NEXT Hebrides or Venezuela or Vietnam or Viet NEXT Nam or West

NEXT Bank or Yemen or Yugoslavia or Zambia or Zimbabwe or Rhodesia):ti,ab,kw 116988

#24 {OR #16-#23} 122991

#25 [mh ^"Mental Health"] 2007

#26 [mh ^"Health Promotion"] 6351

#27 [mh "Mental Disorders"] 83362

#28 (mental or psychiatri* or psycho* or affective NEXT disorder* or affective NEXT symptom* or mood or

depressi* or depressed or MDD):ti,ab,kw 265576

#29 (anxi* or phobi* or agrophobi* or PTSD or post NEXT trauma* or posttrauma or

(combat NEAR/3 disorder*) or panic* or OCD or obsess* or compulsi* or GAD or stress NEXT disorder* or

stress NEXT reaction* or acute NEXT stress or neurosis or neuroses or neurotic or psychoneuro*):ti,ab,kw 82110

#30 (substance NEXT use* or substance NEXT abuse* or SUD or addict*):ti,ab,kw 19348

#31 (somatiz* or somatis* or hysteri* or briquet or multisomat* or multi NEXT somat* or MUPs or

medically NEXT unexplained):ti,ab,kw 1206

#32 ((dissociative NEAR/3 (disorder* or reaction*)) or dissociation):ti,ab,kw 1719

#33 {OR #25-#32} 321754

#34 (#15 and #24 and #33) in Trials 1096

Key:

mh = exploded indexing term (MeSH)

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mh ^ = unexploded indexing term (MeSH)

* = truncation

? = wildcard for one additional character

ti,ab,kw = terms in either title or abstract or keyword fields

near/3 = terms within three words of each other (any order)

next = terms are next to each other

Ovid MEDLINE(R) ALL

via Ovid http://ovidsp.ovid.com/

Date range searched: 1946 to January 19, 2023

Date searched: 20 January 2023

Records retrieved: 1097

1 Crisis Intervention/ (6152)

2 exp Disasters/ (98132)

3 Refugees/ (12802)

4 Adaptation, Psychological/ or Resilience, Psychological/ (109219)

5 exp Terrorism/ (13608)

6 exp War/ (11872)

7 Torture/ (2281)

8 (humanitarian adj3 (aid or affair* or agenc* or assistance or catastrophe* or crisis or crises or disaster* or effort* or emergenc* or evacuation* or integration or reintegration or mission or organization* or organisation* or program* or relief or setting* or support* or task force or work*)).mp. (3750)

9 (genocide or armed conflict* or mass execution* or mass violence).mp. (3627)

10 (cataclysmic or catastroph* or devastation or disaster* or drought* or earthquake* or evacuation* or famine* or flood or floods or hurricane or cyclone* or landslide* or land slide* or mass casualt* or tsunami* or tidal wave* or volcano*).mp. (154992)

11 (refugee* or forced migration or (displac* adj2 (internal or forced or mass or person* or people* or population*))).mp. (20055)

12 (torture* or (politic* adj2 (persecut* or prison* or imprison* or violen*))).mp. (3942)

13 (warfare or (war adj (affected or afflicted or trauma*)) or (war and (abuse* or crime* or rape* or survivor* or victim*))).mp. (41590)

14 (bereav* or orphan* or widow*).mp. (41986)

15 or/1-14 (421448)

16 ((Africa? or Asia? or Arab* or Caribbean or West Indi* or South America? or Latin America? or Central America? or Afghan* or Albania? or Algeria? or Angola? or Antigu* or Barbuda? or Argentin* or Armenia or Armenian or Aruba? or Azerbaijan? or Bahrain* or Bangladesh? or Barbados or Barbadian? or Bajan* or Benin* or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Beliz* or Bhutan* or Bolivia? or Bosnia? or Herzegovina? or Hercegovin* or Botswana? or Brasil* or Brazil* or Bulgaria? or Burkina Faso or Burkina Fasso or Upper Volta or Burundi* or Urundi* or Cambodia? or Khmer Republic* or Kampuchea? or Cameroon* or Cameroons or Cameron* or Camerons or Cape Verde* or Central Africa* or Chad* or Chile* or China or Chinese or Colombia? or Comoros or Comoro Island* or Comores or Comoran or Mayotte* or Congo* or Zaire* or Costa Rica? or Cote d'Ivoire or Ivory Coast or Croatia? or Cuba? or Cyprus or Cyprian or Czechoslovakia? or Czech Republic* or Slovakia? or Slovak Republic or Djibouti* or French Somaliland or Dominica? or Dominican Republic or East Timor* or East Timur* or Timor Leste* or Timorese or Ecuador* or Egypt* or United Arab Republic or El Salvador* or Eritrea? or Estonia? or Ethiopia? or Fiji* or Gabon or Gabonese or Gambia? or Gaza? or Georgia or Georgian or Ghana or Ghanaian or Gold Coast or Greece or Greek or Grenada or Grenadian or Guatemala? or Guinea? or Guam* or Guiana or Guyana? or Haiti* or Hondura? or Hungary or Hungarian or India? or Maldives or Maldivian? or Indonesia? or Iran* or Iraq? or Isle of Man or Jamaica? or Jordan* or Kazakhstan or Kazakh

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or Kenya? or Kiribati* or Korea? or Kosov* or Kyrgyzstan or Kirghizia or Kyrgyz or Kirghiz or Kirgizstan or Lao PDR or Lao? or Latvia? or Lebanon or Lebanese or Lesotho* or Basutoland or Liberia? or Libya? or Lithuania? or Macedonia? or Madagasca? or Malagasy Republic or Malaysia or Malay? or Sabah* or Sarawak* or Malawi* or Nyasaland or Mali or Malta or Maltese or Marshall Island* or Mauritania? or Mauritius or Mauritian or Agalega Islands* or Mexico or Mexican or Micronesia or Middle East* or Moldova or Moldovia or Moldovian or Mongolia? or Montenegro or Morocc* or Ifni or Mozambique or Myanmar or Myanma or Burma or Burmese or Namibia? or Nepal* or Netherlands Antilles or New Caledonia? or Nicaragua? or Niger or Nigeria? or Northern Mariana Island*s or Oman* or Muscat or Pakistan? or Palau or Palestin* or Panama or Paraguay or Peru or Peruvian or Philippin* or Philipin* or Phillipin* or Phillippin* or Poland or Polish or Portugal or Portuguese or Puerto Ric* or Romania? or Rumania? or Roumania? or Russia or Russian or Rwanda? or Ruanda? or Saint Kitts or St Kitts or Nevis or Saint Lucia? or St Lucia? or Saint Vincent or St Vincent or Grenadines or Samoa? or Samoan Island* or Navigator Island* or Sao Tom* or Saudi Arabia? or Senegal* or Serbia? or Montenegr* or Seychell* or Sierra Leon* or Slovenia? or Slovak* or Sri Lanka? or Ceylon or Solomon Island* or Somali* or Sudan* or Surinam* or Swaziland* or Syria? or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania? or Thailand or Thai or Togo or Togolese or Tonga? or Trinidad* or Tobag* or Tunisia? or Turkey or Turkish or Turkmenistan? or Turkmen or Uganda? or Ukrain* or Uruguay* or USSR? or Soviet Union? or Union of Soviet Socialist Republics or Uzbekistan? or Uzbek? or Vanuat* or New Hebride* or Venezuel* or Vietnam* or Viet Nam* or West Bank or Yemen? or Yugoslavia? or Zambia? or Zimbabwe* or Rhodesia?) adj3 (combatant? or ex-combatant? or soldier? or ((conflict or terroris* or war) adj2 (affected or afflicted or trauma*)) or refugee? or survivor? or victim? or orphan* or widow*)).mp. (9883)

17 Developing Countries/ (80268)

18 ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj3 (countr* or nation* or population* or world)).mp. (203453)

19 ((developing or less* developed or under developed or underdeveloped or middle income or low* income) adj1 (economy or economies)).mp. (935)

20 (low* adj1 (GDP or GNP or gross domestic or gross national)).mp. (340)

21 (low adj3 middle adj3 countr*).mp. (29394)

22 (LMIC or LMICs or third world or LAMI country or LAMI countries).mp. (12737)

23 (transitional country or transitional countries).mp. (179)

24 (Africa or Asia or Caribbean or West Indies or South America or Latin America or Central America or Afghanistan or Albania or Algeria or Angola or Antigua or Barbuda or Argentina or Armenia or Armenian or Aruba or Azerbaijan or Bahrain or Bangladesh or Barbados or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brasil or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or Chile or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Croatia or Cuba or Cyprus or Czechoslovakia or Czech Republic or Slovakia or Slovak Republic or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timur or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Estonia or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia or Georgian or Ghana or Gold Coast or Greece or Grenada or Guatemala or Guinea or Guam or Guiana or Guyana or Haiti or Honduras or Hungary or India or Maldives or Indonesia or Iran or Iraq or Isle of Man or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Latvia or Lebanon or Lesotho or Basutoland or Liberia or Libya or Lithuania or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Nyasaland or Mali or Malta or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldovia or Moldovian or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or New Caledonia or Nicaragua or Niger or Nigeria or Northern Mariana Islands or Oman or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Poland or Portugal or Puerto Rico or Romania or Rumania or Roumania or Russia or Russian or Rwanda or Ruanda or Saint Kitts or St Kitts or Nevis or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Saudi Arabia or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Slovenia or Sri Lanka or Ceylon or Solomon Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or Syria or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese Republic or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uruguay or USSR or Soviet Union or Union of Soviet Socialist Republics or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Yugoslavia or Zambia or Zimbabwe or Rhodesia).mp. (2384848)

25 or/17-24 (2470529)

26 Mental Health/ (57793)

27 Health Promotion/ (80537)

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28 exp Mental Disorders/ (1407688)

29 (mental or psychiatri* or psycho* or affective disorder* or affective symptom* or mood or depressi* or depressed or MDD).mp. (2768394)

30 (anxi* or phobi* or agrophobi* or PTSD or post-trauma* or posttrauma or post trauma* or (combat adj3 disorder*) or panic* or OCD or obsess* or compulsi* or GAD or stress disorder* or stress reaction* or acute stress or neurosis or neuroses or neurotic or psychoneuro*).mp. (468300)

31 (substance use* or substance abuse* or SUD or addict*).mp. (172259)

32 (somatiz* or somatis* or hysteri* or briquet or multisomat* or multi somat* or MUPs or medically unexplained).mp. (15785)

33 ((dissociative adj3 (disorder* or reaction*)) or dissociation).mp. (123249)

34 or/26-33 (3622026)

35 randomized controlled trial.pt. (584664)

36 (randomi#ed or randomi#ation).ab,ti. (779248)

37 (random* adj3 (administ* or allocat* or assign* or class* or control* or determine* or divide* or distribut* or expose* or fashion or number* or place* or recruit* or subsitut* or treat*)).ab. (599905)

38 ((waitlist* or wait* list* or treatment as usual or TAU) adj3 (control or group)).ab. (8247)

39 intervention as usual.ab. (1748)

40 or/35-39 (1131587)

41 15 and 25 and 34 and 40 (1008)

42 16 and 34 and 40 (259)

43 41 or 42 (1099)

44 exp animals/ not humans.sh. (5083690)

45 43 not 44 (1099)

46 remove duplicates from 45 (1097)

Key:

/ or.sh. = indexing term (Medical Subject Heading: MeSH)

exp = exploded indexing term (MeSH)

* = truncation

? or # = optional wild card character - stands for zero or one letters

ti,ab terms in either title or abstract field

mp = multipurpose field

adj3 = terms within three words of each other (any order)

pt = publication type

Embase

via Ovid http://ovidsp.ovid.com/

Date range searched: 1974 to 2023 January 19

Date searched: 20 January 2023

Records retrieved: 993

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

83

1 crisis intervention/ (6556)

2 exp disaster/ (32968)

3 refugee/ (15669)

4 exp psychological adjustment/ (8661)

5 psychological resilience/ (8382)

6 exp terrorism/ (10206)

7 exp war/ (32236)

8 torture/ (2992)

9 (humanitarian adj3 (aid or affair* or agenc* or assistance or catastrophe* or crisis or crises or disaster* or effort* or emergenc* or evacuation* or integration or reintegration or mission or organization* or organisation* or program* or relief or setting* or support* or task force or work*)).mp. (4071)

10 (genocide or armed conflict* or mass execution* or mass violence).mp. (2962)

11 (cataclysmic or catastroph* or devastation or disaster* or drought* or earthquake* or evacuation* or famine* or flood or floods or hurricane or cyclone* or landslide* or land slide* or mass casualt* or tsunami* or tidal wave* or volcano*).mp. (182373)

12 (refugee* or forced migration or (displac* adj2 (internal or forced or mass or person* or people* or population*))).mp. (22313)

13 (torture* or (politic* adj2 (persecut* or prison* or imprison* or violen*))).mp. (4669)

14 (warfare or (war adj (affected or afflicted or trauma*)) or (war and (abuse* or crime* or rape* or survivor* or victim*))).mp. (25563)

15 (bereav* or orphan* or widow*).mp. (59000)

16 or/1-15 (338893)

17 ((Africa? or Asia? or Arab* or Caribbean or West Indi* or South America? or Latin America? or Central America? or Afghan* or Albania? or Algeria? or Angola? or Antigu* or Barbuda? or Argentin* or Armenia or Armenian or Aruba? or Azerbaijan? or Bahrain* or Bangladesh? or Barbados or Barbadian? or Bajan* or Benin* or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Beliz* or Bhutan* or Bolivia? or Bosnia? or Herzegovina? or Hercegovin* or Botswana? or Brasil* or Brazil* or Bulgaria? or Burkina Faso or Burkina Fasso or Upper Volta or Burundi* or Urundi* or Cambodia? or Khmer Republic* or Kampuchea? or Cameroon* or Cameroons or Cameron* or Camerons or Cape Verde* or Central Africa* or Chad* or Chile* or China or Chinese or Colombia? or Comoros or Comoro Island* or Comores or Comoran or Mayotte* or Congo* or Zaire* or Costa Rica? or Cote d'Ivoire or Ivory Coast or Croatia? or Cuba? or Cyprus or Cyprian or Czechoslovakia? or Czech Republic* or Slovakia? or Slovak Republic or Djibouti* or French Somaliland or Dominica? or Dominican Republic or East Timor* or East Timur* or Timor Leste* or Timorese or Ecuador* or Egypt* or United Arab Republic or El Salvador* or Eritrea? or Estonia? or Ethiopia? or Fiji* or Gabon or Gabonese or Gambia? or Gaza? or Georgia or Georgian or Ghana or Ghanaian or Gold Coast or Greece or Greek or Grenada or Grenadian or Guatemala? or Guinea? or Guam* or Guiana or Guyana? or Haiti* or Hondura? or Hungary or Hungarian or India? or Maldives or Maldivian? or Indonesia? or Iran* or Iraq? or Isle of Man or Jamaica? or Jordan* or Kazakhstan or Kazakh or Kenya? or Kiribati* or Korea? or Kosov* or Kyrgyzstan or Kirghizia or Kyrgyz or Kirghiz or Kirgizstan or Lao PDR or Lao? or Latvia? or Lebanon or Lebanese or Lesotho* or Basutoland or Liberia? or Libya? or Lithuania? or Macedonia? or Madagasca? or Malagasy Republic or Malaysia or Malay? or Sabah* or Sarawak* or Malawi* or Nyasaland or Mali or Malta or Maltese or Marshall Island* or Mauritania? or Mauritius or Mauritian or Agalega Islands* or Mexico or Mexican or Micronesia or Middle East* or Moldova or Moldovia or Moldovian or Mongolia? or Montenegro or Morocc* or Ifni or Mozambique or Myanmar or Myanma or Burma or Burmese or Namibia? or Nepal* or Netherlands Antilles or New Caledonia? or Nicaragua? or Niger or Nigeria? or Northern Mariana Island*s or Oman* or Muscat or Pakistan? or Palau or Palestin* or Panama or Paraguay or Peru or Peruvian or Philippin* or Philipin* or Phillipin* or Phillippin* or Poland or Polish or Portugal or Portuguese or Puerto Ric* or Romania? or Rumania? or Roumania? or Russia or Russian or Rwanda? or Ruanda? or Saint Kitts or St Kitts or Nevis or Saint Lucia? or St Lucia? or Saint Vincent or St Vincent or Grenadines or Samoa? or Samoan Island* or Navigator Island* or Sao Tom* or Saudi Arabia? or Senegal* or Serbia? or Montenegr* or Seychell* or Sierra Leon* or Slovenia? or Slovak* or Sri Lanka? or Ceylon or Solomon Island* or Somali* or Sudan* or Surinam* or Swaziland* or Syria? or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania? or Thailand or Thai or Togo or Togolese or Tonga? or Trinidad* or Tobag* or Tunisia? or Turkey or Turkish or Turkmenistan? or Turkmen or Uganda? or Ukrain* or Uruguay* or USSR? or Soviet Union? or Union of Soviet Socialist Republics or Uzbekistan? or Uzbek? or Vanuat* or New Hebride* or Venezuel* or Vietnam* or Viet Nam* or West Bank or Yemen? or Yugoslavia? or Zambia? or Zimbabwe* or Rhodesia?) adj3 (combatant? or ex-combatant? or soldier? or ((conflict or terroris* or war) adj2 (affected or afflicted or trauma*)) or refugee? or survivor? or victim? or orphan* or widow*)).mp. (11198)

18 developing country/ (99728)

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

84

19 ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj3 (countr* or nation* or population* or world)).mp. (243275)

20 ((developing or less* developed or under developed or underdeveloped or middle income or low* income) adj1 (economy or economies)).mp. (1070)

21 (low* adj1 (GDP or GNP or gross domestic or gross national)).mp. (480)

22 (low adj3 middle adj3 countr*).mp. (33819)

23 (LMIC or LMICs or third world or LAMI country or LAMI countries).mp. (15514)

24 (transitional country or transitional countries).mp. (254)

25 (Africa or Asia or Caribbean or West Indies or South America or Latin America or Central America or Afghanistan or Albania or Algeria or Angola or Antigua or Barbuda or Argentina or Armenia or Armenian or Aruba or Azerbaijan or Bahrain or Bangladesh or Barbados or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brasil or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or Chile or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Croatia or Cuba or Cyprus or Czechoslovakia or Czech Republic or Slovakia or Slovak Republic or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timur or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Estonia or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia or Georgian or Ghana or Gold Coast or Greece or Grenada or Guatemala or Guinea or Guam or Guiana or Guyana or Haiti or Honduras or Hungary or India or Maldives or Indonesia or Iran or Iraq or Isle of Man or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Latvia or Lebanon or Lesotho or Basutoland or Liberia or Libya or Lithuania or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Nyasaland or Mali or Malta or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldovia or Moldovian or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or New Caledonia or Nicaragua or Niger or Nigeria or Northern Mariana Islands or Oman or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Poland or Portugal or Puerto Rico or Romania or Rumania or Roumania or Russia or Russian or Rwanda or Ruanda or Saint Kitts or St Kitts or Nevis or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Saudi Arabia or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Slovenia or Sri Lanka or Ceylon or Solomon Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or Syria or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese Republic or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uruguay or USSR or Soviet Union or Union of Soviet Socialist Republics or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Yugoslavia or Zambia or Zimbabwe or Rhodesia).mp. (2889957)

26 or/18-25 (3002618)

27 mental health/ (191240)

28 health promotion/ (108370)

29 exp mental disease/ (2527669)

30 (mental or psychiatri* or psycho* or affective disorder* or affective symptom* or mood or depressi* or depressed or MDD).mp. (3044670)

31 (anxi* or phobi* or agrophobi* or PTSD or post-trauma* or posttrauma or post trauma* or (combat adj3 disorder*) or panic* or OCD or obsess* or compulsi* or GAD or stress disorder* or stress reaction* or acute stress or neurosis or neuroses or neurotic or psychoneuro*).mp. (703024)

32 (substance use* or substance abuse* or SUD or addict*).mp. (264348)

33 (somatiz* or somatis* or hysteri* or briquet or multisomat* or multi somat* or MUPs or medically unexplained).mp. (23217)

34 ((dissociative adj3 (disorder* or reaction*)) or dissociation).mp. (149604)

35 or/27-34 (4503929)

36 randomized controlled trial/ (746481)

37 randomization.de. (96051)

38 controlled clinical trial/ (468069)

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

85

39 *clinical trial/ (17640)

40 placebo.de. (390848)

41 placebo.ti,ab. (352798)

42 trial.ti. (380269)

43 (randomi#ed or randomi#ation or randomi#ing).ti,ab,kw. (1119149)

44 (RCT or "at random" or (random* adj3 (administ* or allocat* or assign* or class* or control* or determine* or divide* or division or distribut* or expose* or fashion or number* or place* or recruit* or split or subsitut* or treat*))).ti,ab,kw. (905806)

45 ((singl$ or doubl$ or trebl$ or tripl$) adj3 (blind$ or mask$ or dummy)).mp. (354344)

46 (control* and (trial or study or group*) and (waitlist* or wait* list* or ((treatment or care) adj2 usual))).ti,ab,kf. (37932)

47 or/36-46 (2113762)

48 16 and 26 and 35 and 47 (874)

49 17 and 35 and 47 (308)

50 48 or 49 (1013)

51 (rat or rats or mouse or mice or swine or porcine or murine or sheep or lambs or pigs or piglets or rabbit or rabbits or cat or cats or dog or dogs or cattle or bovine or monkey or monkeys or trout or marmoset$).ti,ot. and animal experiment/ (1183003)

52 animal experiment/ not (human experiment/ or human/) (2483666)

53 51 or 52 (2547411)

54 50 not 53 (1008)

55 remove duplicates from 54 (993)

Key:

/ = indexing term (Emtree Subject Heading)

exp = exploded indexing term (Emtree)

* before an Emtree term = focussed subject heading

de = subject heading

$ or * = truncation

? or # = optional wild card character - stands for zero or one letters

ti,ab,kf = terms in either title, abstract, or keyword field

pt = publication type

ot = original title

mp = multipurpose field

de = MeSH subject headings

adj3 = terms within three words of each other (any order)

APA PsycInfo

via Ovid http://ovidsp.ovid.com/

Date range searched: 1806 to January Week 2 2023

Date searched: 20 January 2023

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

86

Records retrieved: 479

1 Crisis Intervention/ (4192)

2 exp Disasters/ (10561)

3 Refugees/ (7915)

4 Emotional Adjustment/ (17042)

5 "Resilience (Psychological)"/ (19620)

6 exp Terrorism/ (8728)

7 exp War/ (15417)

8 Torture/ (1381)

9 (humanitarian adj3 (aid or affair* or agenc* or assistance or catastrophe* or crisis or crises or disaster* or effort* or emergenc* or evacuation* or integration or reintegration or mission or organization* or organisation* or program* or relief or setting* or support* or task force or work*)).tw,id. (1540)

10 (genocide or armed conflict* or mass execution* or mass violence).tw,id. (3693)

11 (cataclysmic or catastroph* or devastation or disaster* or drought* or earthquake* or evacuation* or famine* or flood or floods or hurricane or cyclone* or landslide* or land slide* or mass casualt* or tsunami* or tidal wave* or volcano*).tw,id. (28784)

12 (refugee* or forced migration or (displac* adj2 (internal or forced or mass or person* or people* or population*))).tw,id. (12123)

13 (torture* or (politic* adj2 (persecut* or prison* or imprison* or violen*))).tw,id. (5139)

14 (warfare or (war adj (affected or afflicted or trauma*)) or (war and (abuse* or crime* or rape* or survivor* or victim*))).tw,id. (7994)

15 (bereav* or orphan* or widow*).tw,id. (20510)

16 or/1-15 (127170)

17 ((Africa? or Asia? or Arab* or Caribbean or West Indi* or South America? or Latin America? or Central America? or Afghan* or Albania? or Algeria? or Angola? or Antigu* or Barbuda? or Argentin* or Armenia or Armenian or Aruba? or Azerbaijan? or Bahrain* or Bangladesh? or Barbados or Barbadian? or Bajan* or Benin* or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Beliz* or Bhutan* or Bolivia? or Bosnia? or Herzegovina? or Hercegovin* or Botswana? or Brasil* or Brazil* or Bulgaria? or Burkina Faso or Burkina Fasso or Upper Volta or Burundi* or Urundi* or Cambodia? or Khmer Republic* or Kampuchea? or Cameroon* or Cameroons or Cameron* or Camerons or Cape Verde* or Central Africa* or Chad* or Chile* or China or Chinese or Colombia? or Comoros or Comoro Island* or Comores or Comoran or Mayotte* or Congo* or Zaire* or Costa Rica? or Cote d'Ivoire or Ivory Coast or Croatia? or Cuba? or Cyprus or Cyprian or Czechoslovakia? or Czech Republic* or Slovakia? or Slovak Republic or Djibouti* or French Somaliland or Dominica? or Dominican Republic or East Timor* or East Timur* or Timor Leste* or Timorese or Ecuador* or Egypt* or United Arab Republic or El Salvador* or Eritrea? or Estonia? or Ethiopia? or Fiji* or Gabon or Gabonese or Gambia? or Gaza? or Georgia or Georgian or Ghana or Ghanaian or Gold Coast or Greece or Greek or Grenada or Grenadian or Guatemala? or Guinea? or Guam* or Guiana or Guyana? or Haiti* or Hondura? or Hungary or Hungarian or India? or Maldives or Maldivian? or Indonesia? or Iran* or Iraq? or Isle of Man or Jamaica? or Jordan* or Kazakhstan or Kazakh or Kenya? or Kiribati* or Korea? or Kosov* or Kyrgyzstan or Kirghizia or Kyrgyz or Kirghiz or Kirgizstan or Lao PDR or Lao? or Latvia? or Lebanon or Lebanese or Lesotho* or Basutoland or Liberia? or Libya? or Lithuania? or Macedonia? or Madagasca? or Malagasy Republic or Malaysia or Malay? or Sabah* or Sarawak* or Malawi* or Nyasaland or Mali or Malta or Maltese or Marshall Island* or Mauritania? or Mauritius or Mauritian or Agalega Islands* or Mexico or Mexican or Micronesia or Middle East* or Moldova or Moldovia or Moldovian or Mongolia? or Montenegro or Morocc* or Ifni or Mozambique or Myanmar or Myanma or Burma or Burmese or Namibia? or Nepal* or Netherlands Antilles or New Caledonia? or Nicaragua? or Niger or Nigeria? or Northern Mariana Island*s or Oman* or Muscat or Pakistan? or Palau or Palestin* or Panama or Paraguay or Peru or Peruvian or Philippin* or Philipin* or Phillipin* or Phillippin* or Poland or Polish or Portugal or Portuguese or Puerto Ric* or Romania? or Rumania? or Roumania? or Russia or Russian or Rwanda? or Ruanda? or Saint Kitts or St Kitts or Nevis or Saint Lucia? or St Lucia? or Saint Vincent or St Vincent or Grenadines or Samoa? or Samoan Island* or Navigator Island* or Sao Tom* or Saudi Arabia? or Senegal* or Serbia? or Montenegr* or Seychell* or Sierra Leon* or Slovenia? or Slovak* or Sri Lanka? or Ceylon or Solomon Island* or Somali* or Sudan* or Surinam* or Swaziland* or Syria? or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania? or Thailand or Thai or Togo or Togolese or Tonga? or Trinidad* or Tobag* or Tunisia? or Turkey or Turkish or Turkmenistan? or Turkmen or Uganda? or Ukrain* or Uruguay* or USSR? or Soviet Union? or Union of Soviet Socialist Republics or Uzbekistan? or Uzbek? or Vanuat* or New Hebride* or Venezuel* or Vietnam* or Viet Nam* or West Bank or Yemen? or Yugoslavia? or Zambia? or Zimbabwe* or Rhodesia?) adj3 (combatant? or ex-combatant? or soldier? or ((conflict or terroris* or war) adj2 (affected or afflicted or trauma*)) or refugee? or survivor? or victim? or orphan* or widow*)).tw,id,hw. (7107)

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

87

18 Developing Countries/ (6211)

19 ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj3 (countr* or nation* or population* or world)).tw,id. (26643)

20 ((developing or less* developed or under developed or underdeveloped or middle income or low* income) adj1 (economy or economies)).tw,id. (500)

21 (low* adj1 (GDP or GNP or gross domestic or gross national)).tw,id. (53)

22 (low adj3 middle adj3 countr*).tw,id. (4961)

23 (LMIC or LMICs or third world or LAMI country or LAMI countries).tw,id. (2647)

24 (transitional country or transitional countries).tw,id. (68)

25 (Africa or Asia or Caribbean or West Indies or South America or Latin America or Central America or Afghanistan or Albania or Algeria or Angola or Antigua or Barbuda or Argentina or Armenia or Armenian or Aruba or Azerbaijan or Bahrain or Bangladesh or Barbados or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brasil or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or Chile or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Croatia or Cuba or Cyprus or Czechoslovakia or Czech Republic or Slovakia or Slovak Republic or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timur or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Estonia or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia or Georgian or Ghana or Gold Coast or Greece or Grenada or Guatemala or Guinea or Guam or Guiana or Guyana or Haiti or Honduras or Hungary or India or Maldives or Indonesia or Iran or Iraq or Isle of Man or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Latvia or Lebanon or Lesotho or Basutoland or Liberia or Libya or Lithuania or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Nyasaland or Mali or Malta or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldavia or Moldovian or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or New Caledonia or Nicaragua or Niger or Nigeria or Northern Mariana Islands or Oman or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Poland or Portugal or Puerto Rico or Romania or Rumania or Roumania or Russia or Russian or Rwanda or Ruanda or Saint Kitts or St Kitts or Nevis or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Saudi Arabia or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Slovenia or Sri Lanka or Ceylon or Solomon Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or Syria or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese Republic or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uruguay or USSR or Soviet Union or Union of Soviet Socialist Republics or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Yugoslavia or Zambia or Zimbabwe or Rhodesia).tw,id,hw. (302308)

26 or/18-25 (317258)

27 Mental Health/ (83958)

28 Health Promotion/ (27904)

29 exp Mental Disorders/ (954964)

30 (mental or psychiatri* or psycho* or affective disorder* or affective symptom* or mood or depressi* or depressed or MDD).tw,id. (1773251)

31 (anxi* or phobi* or agrophobi* or PTSD or post-trauma* or posttrauma or post trauma* or (combat adj3 disorder*) or panic* or OCD or obsess* or compulsi* or GAD or stress disorder* or stress reaction* or acute stress or neurosis or neuroses or neurotic or psychoneuro*).tw,id. (362641)

32 (substance use* or substance abuse* or SUD or addict*).tw,id. (131618)

33 (somatiz* or somatis* or hysteri* or briquet or multisomat* or multi somat* or MUPs or medically unexplained).tw,id. (15175)

34 ((dissociative adj3 (disorder* or reaction*)) or dissociation).tw,id. (22126)

35 or/27-34 (2293831)

36 clinical trials.sh. (12130)

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

88

37 (randomi#ed or randomi#ation or randomi#ing).ti,ab,id. (104614)

38 (RCT or at random or (random* adj3 (administ* or allocat* or assign* or class* or control* or crossover or cross-over or determine* or divide* or division or distribut* or expose* or fashion or number* or place* or recruit* or split or subsitut* or treat*))).ti,ab,id. (121503)

39 (control* and (trial or study or group) and (placebo or waitlist* or wait* list* or ((treatment or care) adj2 usual))).ti,ab,id,hw. (33564)

40 ((single or double or triple or treble) adj2 (blind* or mask* or dummy)).ti,ab,id. (28710)

41 trial.ti. (36695)

42 placebo.ti,ab,id,hw. (43497)

43 treatment outcome.md. (23075)

44 treatment effectiveness evaluation.sh. (27329)

45 mental health program evaluation.sh. (2305)

46 or/36-45 (225739)

47 16 and 26 and 35 and 46 (395)

48 17 and 35 and 46 (171)

49 47 or 48 (479)

50 remove duplicates from 49 (479)

Key:

/ or sh = indexing term (Thesaurus of Psychological Index Terms)

exp = exploded indexing term

? or # = optional wild card character - stands for zero or one letters

* = truncation

ti,ab,id = terms in either title, abstract, or key concepts field

hw = heading word field

adj3 = terms within three words of each other (any order)

ProQuest PTSD Pubs

via ProQuest https://www.proquest.com/ptsdpubs/advanced/index

Date range: Inception – 20 January 2023

Date searched: 20 January 2023

Records retrieved: 250

TI,AB,SU(humanitarian OR refugee* OR migrant* OR immigrant* OR forced migration OR asylum) AND TI,AB,SU(mental* OR psycho* OR depressi* OR OR anxiet* OR phobia OR PTSD OR panic OR OCD OR stress* OR neuros* or neurotic) AND TI,AB,SU,IF(RCT OR random* OR trial* OR placebo OR blind* OR mask* OR dummy)

Key:

TI,AB,SU = in title, abstract or subject field

ProQuest Dissertations & Theses A&I

via https://www.proquest.com/pqdt/advanced/index

Date range: 1743 – 20 January 2023

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

89

Date searched: 20 January 2023

Records retrieved: 364

TI,AB,SU(humanitarian OR refugee* OR migrant* OR immigrant* OR forced migration OR asylum) AND TI,AB,SU(mental* OR psycho* OR depressi* OR OR anxiet* OR phobia OR PTSD OR panic OR OCD OR stress* OR neuros* or neurotic) AND TI,AB,SU,IF(RCT OR random* OR trial* OR placebo OR blind* OR mask* OR dummy)

Key:

TI,AB,SU = in title, abstract or subject field

ERIC

via EBSCO https://web.p.ebscohost.com/

Date range searched: Inception - 19 January 2023

Date searched: 20 January 2023

Records retrieved: 139

S45 S36 AND S44 (139)

S44 S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 (34,578)

S43 TI ((single OR double OR triple OR treble) adj2 (blind* OR mask* OR dummy)) OR AB ((single OR double OR triple OR treble) adj2 (blind* OR mask* OR dummy)) (4)

S42 TI (control* AND (trial OR study OR group*) AND (waitlist* OR wait* list* OR ((treatment OR care) NEAR2 usual))) OR AB (control* AND (trial OR study OR group*) AND (waitlist* OR wait* list* OR ((treatment OR care) NEAR2 usual))) (600)

S41 AB (control* NEAR3 group*) (1,010)

S40 TI trial OR AB trial (16,018)

S39 TI placebo OR AB placebo (819)

S38 TI (RCT OR "at random" OR (random* NEAR3 (administ* OR allocat* OR assign* OR class* OR cluster OR crossover OR cross-over OR control* OR determine* OR divide* OR division OR distribut* OR expose* OR fashion OR number* OR place* OR pragmatic OR quasi OR recruit* OR split OR subsitut* OR treat*))) OR AB (RCT OR "at random" OR (random* NEAR3 (administ* OR allocat* OR assign* OR class* OR cluster OR crossover OR cross-over OR control* OR determine* OR divide* OR division OR distribut* OR expose* OR fashion OR number* OR place* OR pragmatic OR quasi OR recruit* OR split OR subsitut* OR treat*))) (15,694)

S37 TI (randomis* OR randomiz*) OR AB (randomis* OR randomiz*) (8,206)

S36 S34 OR S35 (3,149)

S35 S23 AND S33 (3,125)

S34 S14 AND S24 AND S33 (31)

S33 S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 (169,839)

S32 TI ((dissociative NEAR3 (disorder* or reaction*)) or dissociation) OR AB ((dissociative NEAR3 (disorder* or reaction*)) or dissociation) (957)

S31 TI (somatiz* or somatis* or hysteri* or briquet or multisomat* or multi somat* or MUPs or medically unexplained) OR AB (somatiz* or somatis* or hysteri* or briquet or multisomat* or multi somat* or MUPs or medically unexplained) (262)

S30 TI (substance use* or substance abuse* or SUD or addict*) OR AB (substance use* or substance abuse* or SUD or addict*) (9,282)

S29 TI (anxi* or phobi* or agrophobi* or PTSD or post-trauma* or posttrauma or post trauma* or (combat NEAR3 disorder*) or panic* or OCD or obsess* or compulsi* or GAD or stress disorder* or stress reaction* or acute stress or neurosis or neuroses or neurotic or psychoneuro*) OR AB (anxi* or phobi* or agrophobi* or PTSD or post-trauma* or posttrauma or post trauma* or (combat NEAR3 disorder*) or panic* or OCD or obsess* or compulsi* or GAD or stress disorder* or stress reaction* or acute stress or neurosis or neuroses or neurotic or psychoneuro*) (24,192)

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

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S28 TI (mental or psychiatri* or psycho* or affective disorder* or affective symptom* or mood or depressi* or depressed or MDD) OR AB (mental or psychiatri* or psycho* or affective disorder* or affective symptom* or mood or depressi* or depressed or MDD) (136,724)

S27 DE "Mental Disorders" (6,539)

S26 DE "Health Promotion" (8,898)

S25 DE "Mental Health" (14,754)

S24 S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 (16,322)

S23 TI (Africa or Asia or Caribbean or West Indies or South America or Latin America or Central America or Afghanistan or Albania or Algeria or Angola or Antigua or Barbuda or Argentina or Armenia or Armenian or Aruba or Azerbaijan or Bahrain or Bangladesh or Barbados or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brasil or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or Chile or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Croatia or Cuba or Cyprus or Czechoslovakia or Czech Republic or Slovakia or Slovak Republic or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timur or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Estonia or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia or Georgian or Ghana or Gold Coast or Greece or Grenada or Guatemala or Guinea or Guam or Guiana or Guyana or Haiti or Honduras or Hungary or India or Maldives or Indonesia or Iran or Iraq or Isle of Man or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Latvia or Lebanon or Lesotho or Basutoland or Liberia or Libya or Lithuania or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Nyasaland or Mali or Malta or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldova or Moldovian or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or New Caledonia or Nicaragua or Niger or Nigeria or Northern Mariana Islands or Oman or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Poland or Portugal or Puerto Rico or Romania or Rumania or Roumania or Russia or Russian or Rwanda or Ruanda or Saint Kitts or St Kitts or Nevis or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Saudi Arabia or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Slovenia or Sri Lanka or Ceylon or Solomon Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or Syria or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese Republic or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uruguay or USSR or Soviet Union or Union of Soviet Socialist Republics or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Yugoslavia or Zambia or Zimbabwe or Rhodesia) (52,088)

S22 TI (transitional country or transitional countries) OR AB (transitional country or transitional countries) (33)

S21 TI (LMIC or LMICs or third world or LAMI country or LAMI countries) OR AB (LMIC or LMICs or third world or LAMI country or LAMI countries) (1,851)

S20 TI (low NEAR3 middle NEAR3 countr*) OR AB (low NEAR3 middle NEAR3 countr*) (47)

S19 TI (low* NEAR1 (GDP or GNP or gross domestic or gross national)) OR AB (low* NEAR1 (GDP or GNP or gross domestic or gross national)) (82)

S18 TI ((developing or less* developed or under developed or underdeveloped or middle income or low* income) NEAR1 (economy or economies)) OR AB ((developing or less* developed or under developed or underdeveloped or middle income or low* income) NEAR1 (economy or economies)) (7,988)

S17 TI ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) NEAR3 (countr* or nation* or population* or world)) OR AB ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) NEAR3 (countr* or nation* or population* or world)) (163)

S16 DE "Developing Nations" (15,578)

S15 TI ((Africa* or Asia* or Arab* or Caribbean or West Indi* or South America* or Latin America* or Central America* or Afghan* or Albania* or Algeria* or Angola* or Antigu* or Barbuda* or Argentin* or Armenia or Armenian or Aruba* or Azerbaijan* or Bahrain* or Bangladesh* or Barbados or Barbadian* or Bajan* or Benin* or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Beliz* or Bhutan* or Bolivia* or Bosnia* or Herzegovina* or Hercegovin* or Botswana* or Brasil* or Brazil* or Bulgaria* or Burkina Faso or Burkina Fasso or Upper Volta or Burundi* or Urundi* or Cambodia* or Khmer Republic* or Kampuchea* or Cameroon* or Cameroons or Cameron* or Camerons or Cape Verde* or Central Africa* or Chad* or Chile* or China or Chinese or Colombia* or Comoros or Comoro Island* or Comores or Comoran or Mayotte* or Congo* or Zaire* or Costa Rica* or Cote d'Ivoire or Ivory Coast or Croatia* or Cuba* or Cyprus or Cyprian or

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Czechoslovakia* or Czech Republic* or Slovakia* or Slovak Republic or Djibouti* or French Somaliland or Dominica* or Dominican Republic or East Timor* or East Timur* or Timor Leste* or Timorese or Ecuador* or Egypt* or United Arab Republic or El Salvador* or Eritrea* or Estonia* or Ethiopia* or Fiji* or Gabon or Gabonese or Gambia* or Gaza* or Georgia or Georgian or Ghana or Ghanaian or Gold Coast or Greece or Greek or Grenada or Grenadian or Guatemala* or Guinea* or Guam* or Guiana or Guyana* or Haiti* or Hondura* or Hungary or Hungarian or India* or Maldives or Maldivian* or Indonesia* or Iran* or Iraq* or Isle of Man or Jamaica* or Jordan* or Kazakhstan or Kazakh or Kenya* or Kiribati* or Korea* or Kosov* or Kyrgyzstan or Kirghizia or Kyrgyz or Kirghiz or Kirgizstan or Lao PDR or Lao* or Latvia* or Lebanon or Lebanese or Lesotho* or Basutoland or Liberia* or Libya* or Lithuania* or Macedonia* or Madagasca* or Malagasy Republic or Malaysia or Malay* or Sabah* or Sarawak* or Malawi* or Nyasaland or Mali or Malta or Maltese or Marshall Island* or Mauritania* or Mauritius or Mauritian or Agalega Islands* or Mexico or Mexican or Micronesia or Middle East* or Moldova or Moldovia or Moldovian or Mongolia* or Montenegro or Morocc* or Ifni or Mozambique or Myanmar or Myanma or Burma or Burmese or Namibia* or Nepal* or Netherlands Antilles or New Caledonia* or Nicaragua* or Niger or Nigeria* or Northern Mariana Island*s or Oman* or Muscat or Pakistan* or Palau or Palestin* or Panama or Paraguay or Peru or Peruvian or Philippin* or Philipin* or Phillipin* or Phillippin* or Poland or Polish or Portugal or Portuguese or Puerto Ric* or Romania* or Rumania* or Roumania* or Russia or Russian or Rwanda* or Ruanda* or Saint Kitts or St Kitts or Nevis or Saint Lucia* or St Lucia* or Saint Vincent or St Vincent or Grenadines or Samoa* or Samoan Island* or Navigator Island* or Sao Tom* or Saudi Arabia* or Senegal* or Serbia* or Montenegr* or Seychell* or Sierra Leon* or Slovenia* or Slovak* or Sri Lanka* or Ceylon or Solomon Island* or Somali* or Sudan* or Surinam* or Swaziland* or Syria* or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania* or Thailand or Thai or Togo or Togolese or Tonga* or Trinidad* or Tobag* or Tunisia* or Turkey or Turkish or Turkmenistan* or Turkmen or Uganda* or Ukrain* or Uruguay* or USSR* or Soviet Union* or Union of Soviet Socialist Republics or Uzbekistan* or Uzbek* or Vanuat* or New Hebride* or Venezuel* or Vietnam* or Viet Nam* or West Bank or Yemen* or Yugoslavia* or Zambia* or Zimbabwe* or Rhodesia*) NEAR3 (combatant* or ex-combatant* or soldier* or ((conflict or terroris* or war) NEAR2 (affected or afflicted or trauma*)) or refugee* or survivor* or victim* or orphan* or widow*)) OR AB ((Africa* or Asia* or Arab* or Caribbean or West Indi* or South America* or Latin America* or Central America* or Afghan* or Albania* or Algeria* or Angola* or Antigu* or Barbuda* or Argentin* or Armenia or Armenian or Aruba* or Azerbaijan* or Bahrain* or Bangladesh* or Barbados or Barbadian* or Bajan* or Benin* or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Beliz* or Bhutan* or Bolivia* or Bosnia* or Herzegovina* or Hercegovin* or Botswana* or Brasil* or Brazil* or Bulgaria* or Burkina Faso or Burkina Fasso or Upper Volta or Burundi* or Urundi* or Cambodia* or Khmer Republic* or Kampuchea* or Cameroon* or Cameroons or Cameron* or Camerons or Cape Verde* or Central Africa* or Chad* or Chile* or China or Chinese or Colombia* or Comoros or Comoro Island* or Comores or Comoran or Mayotte* or Congo* or Zaire* or Costa Rica* or Cote d'Ivoire or Ivory Coast or Croatia* or Cuba* or Cyprus or Cyprian or Czechoslovakia* or Czech Republic* or Slovakia* or Slovak Republic or Djibouti* or French Somaliland or Dominica* or Dominican Republic or East Timor* or East Timur* or Timor Leste* or Timorese or Ecuador* or Egypt* or United Arab Republic or El Salvador* or Eritrea* or Estonia* or Ethiopia* or Fiji* or Gabon or Gabonese or Gambia* or Gaza* or Georgia or Georgian or Ghana or Ghanaian or Gold Coast or Greece or Greek or Grenada or Grenadian or Guatemala* or Guinea* or Guam* or Guiana or Guyana* or Haiti* or Hondura* or Hungary or Hungarian or India* or Maldives or Maldivian* or Indonesia* or Iran* or Iraq* or Isle of Man or Jamaica* or Jordan* or Kazakhstan or Kazakh or Kenya* or Kiribati* or Korea* or Kosov* or Kyrgyzstan or Kirghizia or Kyrgyz or Kirghiz or Kirgizstan or Lao PDR or Lao* or Latvia* or Lebanon or Lebanese or Lesotho* or Basutoland or Liberia* or Libya* or Lithuania* or Macedonia* or Madagasca* or Malagasy Republic or Malaysia or Malay* or Sabah* or Sarawak* or Malawi* or Nyasaland or Mali or Malta or Maltese or Marshall Island* or Mauritania* or Mauritius or Mauritian or Agalega Islands* or Mexico or Mexican or Micronesia or Middle East* or Moldova or Moldovia or Moldovian or Mongolia* or Montenegro or Morocc* or Ifni or Mozambique or Myanmar or Myanma or Burma or Burmese or Namibia* or Nepal* or Netherlands Antilles or New Caledonia* or Nicaragua* or Niger or Nigeria* or Northern Mariana Island*s or Oman* or Muscat or Pakistan* or Palau or Palestin* or Panama or Paraguay or Peru or Peruvian or Philippin* or Philipin* or Phillipin* or Phillippin* or Poland or Polish or Portugal or Portuguese or Puerto Ric* or Romania* or Rumania* or Roumania* or Russia or Russian or Rwanda* or Ruanda* or Saint Kitts or St Kitts or Nevis or Saint Lucia* or St Lucia* or Saint Vincent or St Vincent or Grenadines or Samoa* or Samoan Island* or Navigator Island* or Sao Tom* or Saudi Arabia* or Senegal* or Serbia* or Montenegr* or Seychell* or Sierra Leon* or Slovenia* or Slovak* or Sri Lanka* or Ceylon or Solomon Island* or Somali* or Sudan* or Surinam* or Swaziland* or Syria* or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania* or Thailand or Thai or Togo or Togolese or Tonga* or Trinidad* or Tobag* or Tunisia* or Turkey or Turkish or Turkmenistan* or Turkmen or Uganda* or Ukrain* or Uruguay* or USSR* or Soviet Union* or Union of Soviet Socialist Republics or Uzbekistan* or Uzbek* or Vanuat* or New Hebride* or Venezuel* or Vietnam* or Viet Nam* or West Bank or Yemen* or Yugoslavia* or Zambia* or Zimbabwe* or Rhodesia*) NEAR3 (combatant* or ex-combatant* or soldier* or ((conflict or terroris* or war) NEAR2 (affected or afflicted or trauma*)) or refugee* or survivor* or victim* or orphan* or widow*)) (306)

S14 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 (26,482)

S13 TI (bereav* or orphan* or widow*) OR AB (bereav* or orphan* or widow*) (2,009)

S12 TI (warfare or (war NEAR1 (affected or afflicted or trauma*)) or (war and (abuse* or crime* or rape* or survivor* or victim*))) OR AB (warfare or (war NEAR1 (affected or afflicted or trauma*)) or (war and (abuse* or crime* or rape* or survivor* or victim*))) (883)

S11 TI (torture* or (politic* NEAR2 (persecut* or prison* or imprison* or violen*))) OR AB (torture* or (politic* NEAR2 (persecut* or prison* or imprison* or violen*))) (151)

S10 TI (refugee* or forced migration or (displac* NEAR2 (internal or forced or mass or person* or people* or population*))) OR AB (refugee* or forced migration or (displac* NEAR2 (internal or forced or mass or person* or people* or population*))) (3,887)

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S9 TI (cataclysmic or catastroph* or devastation or disaster* or drought* or earthquake* or evacuation* or famine* or flood or floods or hurricane or cyclone* or landslide* or land slide* or mass casualt* or tsunami* or tidal wave* or volcano*) OR AB (cataclysmic or catastroph* or devastation or disaster* or drought* or earthquake* or evacuation* or famine* or flood or floods or hurricane or cyclone* or landslide* or land slide* or mass casualt* or tsunami* or tidal wave* or volcano*) (5,536)

S8 TI (genocide or armed conflict* or mass execution* or mass violence) OR AB (genocide or armed conflict* or mass execution* or mass violence) (674)

S7 TI (humanitarian NEAR3 (aid or affair* or agenc* or assistance or catastrophe* or crisis or crises or disaster* or effort* or emergenc* or evacuation* or integration or reintegration or mission or organization* or organisation* or program* or relief or setting* or support* or task force or work*)) OR AB (humanitarian NEAR3 (aid or affair* or agenc* or assistance or catastrophe* or crisis or crises or disaster* or effort* or emergenc* or evacuation* or integration or reintegration or mission or organization* or organisation* or program* or relief or setting* or support* or task force or work*)) (4,780)

S6 DE "War" (3,952)

S5 DE "Terrorism" (1,403)

S4 DE "Emotional Adjustment" (3,500)

S3 DE "Resilience (Psychology)" (4,417)

S2 DE "Refugees" (3,967)

S1 DE "Crisis Intervention" (1,419)

Key:

DE = indexing term

* = truncation

TI = terms in title field

AB = terms in abstract field

NEAR3 = terms within three words of each other (any order)

EconLit

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Date range searched: 1886 to January 19, 2023

Date searched: 20 January 2023

Records retrieved: 241

1 (humanitarian adj3 (aid or affair* or agenc* or assistance or catastrophe* or crisis or crises or disaster* or effort* or emergenc* or evacuation* or integration or reintegration or mission or organization* or organisation* or program* or relief or setting* or support* or task force or work*)).ti,ab,kw. (646)

2 (genocide or armed conflict* or mass execution* or mass violence).ti,ab,kw. (1010)

3 (cataclysmic or catastroph* or devastation or disaster* or drought* or earthquake* or evacuation* or famine* or flood or floods or hurricane or cyclone* or landslide* or land slide* or mass casualt* or tsunami* or tidal wave* or volcano*).ti,ab,kw. (12608)

4 (refugee* or forced migration or (displac* adj2 (internal or forced or mass or person* or people* or population*))).ti,ab,kw. (2118)

5 (torture* or (politic* adj2 (persecut* or prison* or imprison* or violen*))).ti,ab,kw. (856)

6 (warfare or (war adj (affected or afflicted or trauma*)) or (war and (abuse* or crime* or rape* or survivor* or victim*))).ti,ab,kw. (1249)

7 (bereav* or orphan* or widow*).ti,ab,kw. (1021)

8 or/1-7 (18671)

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

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9 ((Africa? or Asia? or Arab* or Caribbean or West Indi* or South America? or Latin America? or Central America? or Afghan* or Albania? or Algeria? or Angola? or Antigu* or Barbuda? or Argentin* or Armenia or Armenian or Aruba? or Azerbaijan? or Bahrain* or Bangladesh? or Barbados or Barbadian? or Bajan* or Benin* or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Beliz* or Bhutan* or Bolivia? or Bosnia? or Herzegovina? or Hercegovin* or Botswana? or Brasil* or Brazil* or Bulgaria? or Burkina Faso or Burkina Fasso or Upper Volta or Burundi? or Urundi* or Cambodia? or Khmer Republic* or Kampuchea? or Cameroon* or Cameroons or Cameron* or Camerons or Cape Verde* or Central Africa* or Chad* or Chile* or China or Chinese or Colombia? or Comoros or Comoro Island* or Comores or Comoran or Mayotte* or Congo* or Zaire* or Costa Rica? or Cote d'Ivoire or Ivory Coast or Croatia? or Cuba? or Cyprus or Cyprian or Czechoslovakia? or Czech Republic* or Slovakia? or Slovak Republic or Djibouti* or French Somaliland or Dominica? or Dominican Republic or East Timor* or East Timur* or Timor Leste* or Timorese or Ecuador* or Egypt* or United Arab Republic or El Salvador* or Eritrea? or Estonia? or Ethiopia? or Fiji* or Gabon or Gabonese or Gambia? or Gaza? or Georgia or Georgian or Ghana or Ghanaian or Gold Coast or Greece or Greek or Grenada or Grenadian or Guatemala? or Guinea? or Guam* or Guiana or Guyana? or Haiti* or Hondura? or Hungary or Hungarian or India? or Maldives or Maldivian? or Indonesia? or Iran* or Iraq? or Isle of Man or Jamaica? or Jordan* or Kazakhstan or Kazakh or Kenya? or Kiribati* or Korea? or Kosov* or Kyrgyzstan or Kirghizia or Kyrgyz or Kirghiz or Kirgizstan or Lao PDR or Lao? or Latvia? or Lebanon or Lebanese or Lesotho* or Basutoland or Liberia? or Libya? or Lithuania? or Macedonia? or Madagasca? or Malagasy Republic or Malaysia or Malay? or Sabah* or Sarawak* or Malawi* or Nyasaland or Mali or Malta or Maltese or Marshall Island* or Mauritania? or Mauritius or Mauritian or Agalega Islands* or Mexico or Mexican or Micronesia or Middle East* or Moldova or Moldovia or Moldovian or Mongolia? or Montenegro or Morocc* or Ifni or Mozambique or Myanmar or Myanma or Burma or Burmese or Namibia? or Nepal* or Netherlands Antilles or New Caledonia? or Nicaragua? or Niger or Nigeria? or Northern Mariana Island*s or Oman* or Muscat or Pakistan? or Palau or Palestin* or Panama or Paraguay or Peru or Peruvian or Philippin* or Philipin* or Phillipin* or Phillippin* or Poland or Polish or Portugal or Portuguese or Puerto Ric* or Romania? or Rumania? or Roumania? or Russia or Russian or Rwanda? or Ruanda? or Saint Kitts or St Kitts or Nevis or Saint Lucia? or St Lucia? or Saint Vincent or St Vincent or Grenadines or Samoa? or Samoan Island* or Navigator Island* or Sao Tom* or Saudi Arabia? or Senegal* or Serbia? or Montenegr* or Seychell* or Sierra Leon* or Slovenia? or Slovak* or Sri Lanka? or Ceylon or Solomon Island* or Somali* or Sudan* or Surinam* or Swaziland* or Syria? or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania? or Thailand or Thai or Togo or Togolese or Tonga? or Trinidad* or Tobag* or Tunisia? or Turkey or Turkish or Turkmenistan? or Turkmen or Uganda? or Ukrain* or Uruguay* or USSR? or Soviet Union? or Union of Soviet Socialist Republics or Uzbekistan? or Uzbek? or Vanuat* or New Hebride* or Venezuel* or Vietnam* or Viet Nam* or West Bank or Yemen? or Yugoslavia? or Zambia? or Zimbabwe* or Rhodesia?) adj3 (combatant? or ex-combatant? or soldier? or ((conflict or terroris* or war) adj2 (affected or afflicted or trauma*)) or refugee? or survivor? or victim? or orphan* or widow*)).ti,ab,kw. (645)

10 ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj3 (countr* or nation* or population* or world)).ti,ab,kw. (51198)

11 ((developing or less* developed or under developed or underdeveloped or middle income or low* income) adj1 (economy or economies)).ti,ab,kw. (5539)

12 (low* adj1 (GDP or GNP or gross domestic or gross national)).ti,ab,kw. (257)

13 (low adj3 middle adj3 countr*).ti,ab,kw. (1487)

14 (LMIC or LMICs or third world or LAMI country or LAMI countries).ti,ab,kw. (1992)

15 (transitional country or transitional countries).ti,ab,kw. (235)

16 (Africa or Asia or Caribbean or West Indies or South America or Latin America or Central America or Afghanistan or Albania or Algeria or Angola or Antigua or Barbuda or Argentina or Armenia or Armenian or Aruba or Azerbaijan or Bahrain or Bangladesh or Barbados or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brasil or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or Chile or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Croatia or Cuba or Cyprus or Czechoslovakia or Czech Republic or Slovakia or Slovak Republic or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timur or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Estonia or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia or Georgian or Ghana or Gold Coast or Greece or Grenada or Guatemala or Guinea or Guam or Guiana or Guyana or Haiti or Honduras or Hungary or India or Maldives or Indonesia or Iran or Iraq or Isle of Man or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Latvia or Lebanon or Lesotho or Basutoland or Liberia or Libya or Lithuania or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Nyasaland or Mali or Malta or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldovia or Moldovian or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or New Caledonia or Nicaragua or Niger or Nigeria or Northern Mariana Islands or Oman or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Poland or Portugal or Puerto Rico or Romania or Rumania or Roumania or Russia or Russian or Rwanda or Ruanda or Saint Kitts or St Kitts or Nevis or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Saudi Arabia or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Slovenia or Sri Lanka or Ceylon or Solomon Islands or Somalia or

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Sudan or Suriname or Surinam or Swaziland or Syria or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese Republic or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uruguay or USSR or Soviet Union or Union of Soviet Socialist Republics or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Yugoslavia or Zambia or Zimbabwe or Rhodesia).ti,ab,kw. (293159)

17 or/10-16 (328290)

18 (mental or psychiatri* or psycho* or affective disorder* or affective symptom* or mood or depressi* or depressed or MDD).ti,ab,kw. (23265)

19 (anxi* or phobi* or agrophobi* or PTSD or post-trauma* or posttrauma or post trauma* or (combat adj3 disorder*) or panic* or OCD or obsess* or compulsi* or GAD or stress disorder* or stress reaction* or acute stress or neurosis or neuroses or neurotic or psychoneuro*).ti,ab,kw. (3306)

20 (substance use* or substance abuse* or SUD or addict*).ti,ab,kw. (1832)

21 (somatiz* or somatis* or hysteri* or briquet or multisomat* or multi somat* or MUPs or medically unexplained).ti,ab,kw. (57)

22 ((dissociative adj3 (disorder* or reaction*)) or dissociation).ti,ab,kw. (80)

23 or/18-22 (27581)

24 8 and 17 and 23 (231)

25 9 and 23 (33)

26 24 or 25 (242)

27 remove duplicates from 26 (241)

Key:

? = optional wild card character - stands for zero or one letters

* = truncation

ti,ab,kw = terms in either title, abstract, or keyword field

adj3 = terms within three words of each other (any order)

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All Content (excluding Images)

= 2 hits

1. **Keyword:** humanitarian (Item Title)

OR Second Keyword: refugee (Item Title)

AND Third Keyword: anxiety (Item Title)

All Content

= 3 hits

1. **Keyword:** humanitarian (Item Title)

OR Second Keyword: refugee (Item Title)

AND Third Keyword: stress (Item Title)

All Content

= 9 hits

1. **Keyword:** humanitarian (Item Title)

OR Second Keyword: refugee (Item Title)

AND Third Keyword: PTSD (Item Title)

All Content

= 1 hits

1. **Keyword:** humanitarian (Item Title)

OR Second Keyword: refugee (Item Title)

AND Third Keyword: mental health (Item Title)

All Content

= 46 hits (excluding Images)

Campbell Collaboration

via https://www.campbellcollaboration.org/better-evidence.html

Date searched: 20 January 2023

Records retrieved: 3

1. **Keyword:** humanitarian

Type of Document: Review; Policy Breif; Evidence and Gap Map

= 1 hits

1. **Keyword:** refugee

Type of Document: Review; Policy Breif; Evidence and Gap Map

= 2 hits

Campbell Systematic Reviews Journal

via https://onlinelibrary.wiley.com/search/advanced?publication=18911803&text1=

Date searched: 20 January 2023

Records retrieved: 3

1. **Title:** humanitarian

= 1 hit

1. **Title:** refugee

= 2 hits

ClinicalTrials.gov

via https://clinicaltrials.gov/

Date searched: 20 January 2023

Psychological and social interventions for the promotion of mental health in people living in low- and middle-income countries affected by humanitarian crises (Review)

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Records retrieved: 195

Advanced search screen used. 2 separate searches were used, retrieving 195 records in total, which were imported into EndNote 20 and deduplicated.

Search strategies:

26 studies found for:

1. **Condition or disease:** (mental OR psychological OR depression OR anxiety OR phobia OR PTSD OR panic OR OCD OR stress OR neurosis)

Other terms: humanitarian

169 studies found for:

1. **Condition or disease:** (mental OR psychological OR depression OR anxiety OR phobia OR PTSD OR panic OR OCD OR stress OR neurosis)

Other terms: (refugee OR migrant OR immigrant OR forced migration OR asylum)

World Health Organization International Clinical Trials Registry Platform

via https://trialsearch.who.int/AdvSearch.aspx

Date searched: 20 January 2023

Records retrieved: 93

Advanced search screen used. 2 separate searches were used, retrieving 93 records in total, which were imported into EndNote 20 and deduplicated.

Search strategies:

1. **Title:** humanitarian

Condition: (mental OR psychological OR depression OR anxiety OR phobia OR PTSD OR panic OR OCD OR stress OR neurosis)

Recruitment Status: ALL (9 records for 9 trials found)

1. **Title:** (refugee OR migrant OR immigrant OR forced migration OR asylum)

Condition: (mental OR psychological OR depression OR anxiety OR phobia OR PTSD OR panic OR OCD OR stress OR neurosis)

Recruitment Status: ALL (84 records for 84 trials found)

Appendix 2. Correspondence with study authors

Data provided by Dr Catherine Panter-Brick (Papola 2023 [pers comm])

These unpublished data were kindly provided by Dr Panter-Brick at the request of the review authors.

Prosocial behaviour (SDQ Prosocial)

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	Baseline			T2			T3		
	Mean	SD	n	Mean	SD	n	Mean	SD	n
Advancing adolescence	8.20	1.72	462	8.48	1.62	299	8.24	1.59	160
Waiting list	8.17	1.77	354	8.36	1.64	233	8.52	1.44	140

Resilience resources (adapted CYRM)

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Library

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Cochrane Database of Systematic Reviews

	Baseline			T2			T3		
	Mean	SD	n	Mean	SD	n	Mean	SD	n
Advancing adolescence	50.23	6.82	286	50.11	6.28	187	51.07	6.14	159
Waiting list	50.37	6.62	307	50.74	5.66	200	51.14	6.69	140

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CYRM: Child and Youth Resilience Measure; n: number of participants; SD: standard deviation; SDQ: Strength and Difficulties Questionnaire; T: timepoint.

HISTORY

Protocol first published: Issue 4, 2022

CONTRIBUTIONS OF AUTHORS

Conception of the review: DP, CB, WAT, MvO, MP

Design of the review: DP, CB, MP

Co-ordination of the review: DP, CB, MP

Search and selection of studies for inclusion in the review: DP, EP, CCec, CCad, MCF, CG

Collection of data for the review: DP, EP, CCed, CCad, MCF

Assessment of the risk of bias in the included studies: DP, EP, CCad

Analysis of data: DP, MP

Assessment of the certainty of evidence: DP, CG

Interpretation of data: DP, CB, WAT, MvO, MP

Writing of the review: DP

Guarantor for the review: MP

DECLARATIONS OF INTEREST

DP: declares a grant from the European Commission HORIZON-MSCA-2021-PF-01 research programme (grant agreement No 101061648) to the University of Verona, which has control over it. The funder had no role in the design, conduct or decision to publish the review.

EP: none.

CCec: works for SOS Children's Villages Italy.

CCad: none.

CG: none.

MCF: Public Health Medical Resident at the Public Health Unit in Portugal.

WAT: none.

MvO: works for the WHO.

CB: works as a psychiatrist at the University of Verona and is affiliated with the WHO. He is the Co-ordinator for Cochrane Global Mental Health and Editor with Cochrane Common Mental Disorders. He was not involved in the editorial process for this review.

MP: none.

The review authors alone are responsible for the views expressed in this article, which do not necessarily represent the views, decisions or policies of the institutions with which they are affiliated.

SOURCES OF SUPPORT

Internal sources

- University of Verona, Italy

  Author support: DP, CG, CCec, CCad, EP, CB, MP

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External sources

- This project has received funding from the European Union's HORIZON-MSCA-2021-PF-01 research programme (grant agreement No 101061648), Other

Author support: DP

DIFFERENCES BETWEEN PROTOCOL AND REVIEW

Types of outcome measures: secondary outcome

We clarified that the number of participants who drop out of the trial for any reason reflects 'acceptability'.

Assessment of risk of bias in included studies

To better understand the methodological validity of the included RCTs and to enable an examination of research gaps, we considered the additional items listed below in the risk of bias assessment. These items are also consistent with our recent Cochrane reviews on prevention interventions and psychotherapies in humanitarian settings in LMICs (Papola 2020; Purgato 2018).

- Intervention facilitator qualifications: to check whether the paraprofessionals involved in the study were adequately trained and supervised to deliver the interventions.
- Intervention implementation fidelity: adherence to intervention's manual, which should lead to greater consistency among therapists and clearer distinction from control conditions.
- Intervention facilitator/investigator allegiance: to state whether the paraprofessionals that delivered the interventions had beliefs and investment in benefit for the active arm of intervention over control arm(s).

Unit of analysis issues

Cross-over trials

Had we included cross-over trials, we would have used data from the first randomised stage only. However, none were eligible for inclusion; we acknowledge that this design is rarely used in psychosocial intervention studies.

Studies with multiple intervention groups

No study with multiple intervention groups was eligible for inclusion. Had we included studies with two or more formats of the same psychosocial intervention, we would have included them in meta-analyses by combining group arms into a single group, as recommended in Section 23.3.4 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2021). Conversely, we would have considered studies that included two or more different interventions without combining group arms of the study into a single group, but we would have considered each psychosocial intervention and each control group in separate meta-analyses. Had the control group been 'shared' for both interventions (i.e. multiple interventions but one single control group), we would have split the shared control group into two or more groups with smaller sample size, and included two or more (reasonably independent) comparisons. We would have followed Section 23.3.4 of the *Cochrane Handbook for Systematic Reviews of Interventions* in order to avoid including the same group of participants twice in the same meta-analysis (Higgins 2021).

Data synthesis: skewed data

We stated in the protocol that we would have reported skewed data (e.g. for medians and interquartile ranges) narratively, but none of the studies selected for inclusion reported skewed data (Papola 2022a).

Subgroup analysis

We planned the following subgroup analyses had we found sufficient studies.

- Type of intervention context (e.g. school, camp, healthcare setting). The context in which the intervention was implemented was expected to have an impact on outcomes. Where possible, we categorised the intervention contexts as school, camp, or healthcare setting.
- Type of traumatic events. We considered the following categories: bereavement; displacement; sexual and other forms of gender-based violence; torture; witnessing violence/atrocities; and other traumatic events (IASC 2007). Different types of traumatic events might influence the effectiveness of interventions as they have different consequences/impact on psychological functioning and individual response to health interventions (HHS 2014).
- Type of humanitarian crisis. We considered the following categories: protracted emergencies, such as armed conflicts and long-term food shortages, acts of terrorism, fires, and industrial accidents, major disasters with aeroplanes and trains, and disasters triggered by natural hazards such as geophysical (earthquakes, tsunamis, volcanic eruptions), hydrological (floods, avalanches), climatological (droughts), or meteorological hazards (storms, cyclones), or biological epidemics (e.g. plagues) (OCHA 2021). The type of humanitarian

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crisis is expected to have an impact on outcomes as people's needs, vulnerabilities, and capacities (including their capacity to respond to psychosocial interventions) may vary according to the different humanitarian contexts in which they live (The Sphere Project 2011).

- Type of promotion intervention (individual, group).
- Having a physical condition (yes, no). To understand if having a physical condition had an effect on the review outcomes, we planned to perform a subgroup analysis separating those studies that enrolled participants with or without a physical condition.

For random-effects meta-analyses, we used the formal Chi^2 test and the I^2 statistic for subgroup differences in Review Manager to detect subgroup differences (Review Manager 2024).

Sensitivity analyses

We planned the following sensitivity analyses had we found sufficient studies.

- Restricting analysis to studies with low risk of bias.

INDEX TERMS

Medical Subject Headings (MeSH)

Adaptation, Psychological; Altruism; Bias; *Developing Countries; Health Promotion [methods]; Mental Disorders [therapy]; *Mental Health; Psychosocial Functioning; Psychosocial Intervention [methods]; *Quality of Life; *Randomized Controlled Trials as Topic; Refugees [psychology]; Stress Disorders, Post-Traumatic [psychology] [therapy]

MeSH check words

Adolescent; Adult; Child; Female; Humans

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