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A network meta-analysis of psychosocial interventions for refugees and asylum seekers with PTSD

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ABSTRACT

Introduction Refugees and asylum seekers are vulnerable to common mental disorders, including post-traumatic stress disorder (PTSD). Using a network meta-analysis (NMA) approach, the present systematic review compared and ranked psychosocial interventions for the treatment of PTSD in adult refugees and asylum seekers.

Methods Randomised studies of psychosocial interventions for adult refugees and asylum seekers with PTSD were systematically identified. PTSD symptoms at postintervention was the primary outcome. Standardised mean differences (SMDs) and ORs were pooled using pairwise and NMA. Study quality was assessed with the Cochrane Risk of Bias (RoB) tool, and certainty of evidence was assessed through the Confidence in Network Meta-Analysis application.

Results A total of 23 studies with 2308 participants were included. Sixteen studies were conducted in high-income countries, and seven in low-income or middle-income countries. Most studies were at low risk of bias according to the Cochrane RoB tool. NMA on PTSD symptoms showed that cognitive behavioural therapy (CBT) (SMD=−1.41; 95% CI −2.43 to −0.38) and eye movement desensitisation and reprocessing (EMDR) (SMD=−1.30; 95% CI −2.40 to −0.20) were significantly more effective than waitlist (WL). CBT was also associated with a higher decrease in PTSD symptoms than treatment as usual (TAU) (SMD −1.51; 95% CI −2.67 to −0.36). For all other interventions, the difference with WL and TAU was not significant. CBT and EMDR ranked best according to the mean surface under the cumulative ranking. Regarding acceptability, no intervention had less dropouts than inactive interventions.

Conclusion CBT and EMDR appeared to have the greatest effects in reducing PTSD symptoms in asylum seekers and refugees. This evidence should be considered in guidelines and implementation packages to facilitate dissemination and uptake in refugee settings.

Key questions

What is already known?

- Research suggests that psychosocial interventions are effective in treating post-traumatic stress disorder (PTSD) and related symptoms in individuals who were exposed to traumatic events.
- Existing systematic reviews and meta-analyses using standard pairwise meta-analytical approaches do not allow comparison of each active intervention against others, making it impossible to evaluate the comparative efficacy of existing psychosocial interventions.
- This leads to uncertainty on which intervention should be considered first choice.

What are the new findings?

- This is the first a network meta-analysis that compared and ranked psychosocial interventions for the treatment of PTSD in adult asylum seekers and refugees.

What do the new findings imply?

- Cognitive behaviouraltherapy with a trauma-focused component and eye movement desensitisation and reprocessing should be made routinely available to adult asylum seekers and refugees with PTSD resettled in countries irrespective of income category.
- Current evidence should inform the development of evidence-based guidelines and implementation packages.

INTRODUCTION

The right of everyone to enjoy the highest attainable standard of physical and mental health is established in the WHO Constitution of 1946. International human rights standards and conventions exist to protect the rights of migrants and refugees, including their right to mental health, which is fundamental to contribute to the social and economic development of their communities of origin and destination, and to integrate in the host country on a personal, social, and economic level.[1]

Refugees are a subset of forcibly displaced individuals, as the term refugee is a legal definition related to the 1951 United Nations Convention on the rights of refugees.[2] Thus, not all forcibly displaced individuals are

recognised as refugees, and many may be asylum seekers or internally displaced people.[3 4]

According to the United Nations High Commissioner for Refugees (UNHCR),[5] there are currently more than 30 million refugees and asylum seekers resettled in high-income countries (HICs) and in low/middle-income countries (LMICs). Existing evidence highlights that the experience of forced migration can make this population particularly vulnerable to life stressors with a negative impact on their mental health.[6] Life stressors may be experienced before, during and after migration, and include mass violence, discrimination, unmet basic needs, uncertainty about the future, concerns for the safety of family members and long-drawn asylum procedures.[7–9] Consequently, the number of refugees and asylum seekers suffering from mental disorders, in particular post-traumatic stress disorder (PTSD), depression and anxiety, is significantly higher than in populations without a recent history of mass violence.[10–12]

Of these conditions, PTSD is 10 times more frequent in refugees and asylum seekers than in the general population, and represents a major global health problem.[10 13] Research suggests that psychosocial interventions are effective in treating PTSD and related symptoms in individuals who were exposed to traumatic events.[14 15] However, addressing mental health of refugees represents a challenge for receiving societies.[16] For many professionals, working with refugees and asylum seekers is associated with additional challenges related to cultural, language and legal barriers.[17 18] Hence, a number of randomised trials have investigated the efficacy of psychosocial interventions specifically adapted to meet the needs of adult refugees and asylum seekers with PTSD. Systematic reviews and meta-analyses of these studies generally found evidence for the benefits of cognitive behavioural therapy (CBT) with a trauma-focused component, eye movement desensitisation and reprocessing (EMDR) and narrative exposure therapy (NET).[19–23]

A major shortcoming of existing systematic reviews and meta-analyses is the use of standard pairwise meta-analytical approaches that does not allow comparison of each active intervention against others, making it impossible to evaluate the comparative efficacy of existing psychosocial interventions. This leads to uncertainty on which intervention should be considered first choice. In refugees with PTSD, providing the most appropriate psychosocial interventions is a priority that could reduce use of pharmacological strategies and hospitalisation.[24] Against this background, the present systematic review applied network meta-analysis (NMA) techniques to compare psychosocial interventions for the treatment of PTSD in adult asylum seekers and refugees, and to estimate the ranking probabilities of being at each possible rank for each intervention. Ranking treatments in a hierarchical order is a straightforward and user-friendly way to inform practitioners, policy makers, clients, and other stakeholders.[25]

METHODS

The protocol for this review was registered in the International Prospective Register of Systematic Reviews (PROSPERO), registration number: CRD42019126604.

Selection of studies

The following bibliographical databases were searched up to 21 February 2020: Cochrane Central Register of randomised trials (CENTRAL), MEDLINE, PTSDpubs PsycINFO, PubMed, CINAHL, EMBASE, Web of Science, WHO's International Clinical Trials Registry Platform and ClinicalTrials.gov. The reference lists of previously published reviews and meta-analyses, and original research articles were additionally scrutinised to identify publications not covered by the original database searches. We applied no publication or language restrictions. Details of the search strategy and screening process are reported in online supplemental material. The selection process was recorded in agreement with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines specific for NMA, and it was performed by two independent authors (GT, CR).[26]

Studies meeting the following criteria were included: (a) randomised controlled trials (RCTs); (b) including adult participants having an asylum seeker and/or a refugee status, as defined by UNHCR; (c) assessing the efficacy of a psychosocial intervention; (d) comparing psychosocial interventions with inactive interventions like treatment as usual (TAU, defined as any intervention that reflects the usual care in a given treatment setting), waiting list (WL) or any other active psychosocial interventions; (e) having at least 80% of study participants with a PTSD diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders (DSM), or the International Classification of Diseases (ICD), or with a probable diagnosis according to clinician-led structured interviews, or self-report measures validated for PTSD assessment.[2] Psychosocial interventions were defined as any psychological and/or social or rehabilitation effort aimed at improving PTSD symptoms, without the use of psychopharmacological agents,[27–29] that is, the term as it is commonly applied in biomedical literature—as opposed to its use by humanitarian practitioners. Studies in which concomitant use of medications was allowed were not excluded.

Outcome measures

PTSD symptoms measured on continuous rating scales or structured interviews at postintervention were the primary outcome. Data were extracted from the Clinician-Administered PTSD Scale (CAPS)[30] or, if this scale was not available, from the Harvard Trauma Questionnaire (HTQ)[31] or from any other PTSD rating scale, based on DSM or ICD criteria. Secondary outcomes included depressive symptoms, anxiety symptoms, global functioning, well-being or quality of life, measured with the relative rating scales at postintervention, as well as treatment acceptability, measured as the number of participants who dropped out by any cause at study end-point.

Data extraction and quality assessment

Two review authors (GT, CR) independently assessed titles, abstracts and full-texts of potentially relevant articles, and extracted data following the recommendations of the Cochrane Handbook for Systematic Reviews of Interventions.[32] Two review authors (GT, CR) assessed the methodological quality of included studies using the Cochrane Risk of Bias (RoB) tool.[32] Overall, studies were classified as having a low risk of bias if three or more domains of the Cochrane RoB were at low risk; studies were classified having a high risk of bias if two or more domains were at high risk; all other cases were assumed to be unclear. Disagreements were resolved by discussion and consensus with a third review author (CB). Details on the quality assessment process and RoB tables are provided in online supplemental material.

For continuous outcomes, we extracted the mean scores and SD at postintervention or, if it was neither available nor inferable from the information available, the mean change from baseline, the SD of these values and the number of participants included in these analyses. For dichotomous outcomes, we extracted the number of participants undergoing the randomisation procedure, and the number of participants leaving the study early for any reason.

Data synthesis

We performed a standard pair-wise meta-analysis for every comparison and, for each outcome, an NMA in a frequentist framework. The Stata *mvmeta* package was used to perform the analyses (Stata/SE 16.1).[33] This allowed us to include multi-arm trials in the analysis by considering the correlation between the effect sizes of each of their pairwise comparisons.[34] For continuous outcomes, we pooled the standardised mean differences (SMDs) between treatment arms at postintervention as the included studies measured the outcomes using different rating scales. For dichotomous outcomes, we calculated and pooled ORs with 95% CIs. Intervention groups that met criteria for the same intervention classification were combined together into a single node following standard approaches.[35 36] Moreover, studies that compared two or more formats of similar psychosocial interventions with an inactive treatment were included in meta-analysis by combining the respective group arms into a single group.[32]

For any outcome we estimated the ranking probabilities for all treatments of being at each possible rank for each intervention. We obtained a treatment hierarchy using the surface under the cumulative ranking curve (SUCRA) and mean ranks. SUCRA was expressed as a percentage and is interpreted as the percentage of efficacy or safety a treatment achieves in relation to a treatment that would be ranked first without uncertainty.[25]

We asked trial authors to supply data when there was missing or unclear information. When SDs were not reported and not supplied by authors on request, we calculated them based on other measures reported in the study, for example, SEs, t-statistics or p values, according to Altman and Bland.[37]

For pairwise meta-analyses, we assessed heterogeneity using the I^2 statistics, following the interpretation suggested by the Cochrane handbook: 0%–40%: might not be important; 30%–60%: may represent moderate heterogeneity; 50%–90%: may represent substantial heterogeneity; 75%–100%: considerable heterogeneity.[32] For the NMA, common heterogeneity across all comparisons was assumed and estimated in each network.[38]

As the assumption of transitivity requires effect modifiers to be equally distributed across the comparisons, we evaluated this assumption by extracting key study characteristics judged to be potential effect modifiers, namely: number of participants included; income level (HIC or LMIC); number of sessions of the intervention. We compared their distribution across interventions in the network, using the Kruskal-Wallis test for continuous variables, and the Fisher's exact test for binary variables. Meta-regressions were additionally performed to evaluate their association with the primary outcome results. For effect modifiers showing evidence that the transitivity assumption might not be met, subgroup analyses were conducted.

Coherence (also known as consistency in NMAs) in a network of treatments refers to the agreement between direct and indirect evidence on the same comparisons. We first checked for any erroneous data abstraction. We then evaluated the presence of incoherence by comparing direct and indirect evidence within each closed loop of nodes,[39 40] and comparing the goodness of fit for an NMA model that assumes consistency with a model that allows for incoherence in a 'design by treatment interaction model' framework,[41–43] using the Stata commands *mvmeta*[44] and *ifplot*[45] in the Stata network suite.[46] We also investigated possible incoherence further using a side-splitting approach between comparisons (ie, splitting the total evidence between its direct and indirect component, and comparing them).[46]

We performed a likelihood-ratio test to the consistency model. In case of statistical significance, we implemented random-effects pairwise and network meta-analyses, otherwise we implemented fixed-effects pairwise and network meta-analyses.

Publication bias was assessed for each pairwise comparison only if at least 10 studies provided data for the primary outcome.[47] A global funnel plot analysis was also conducted by evaluating, for the primary outcome, active vs inactive interventions and head-to-head comparisons. We visually inspected the funnel plot, and conducted a test for asymmetry with the Egger's regression test.[48] For fixed-effects model, we produced contour enhanced funnel plots to help distinguish publication bias from other types of asymmetry.[49]

For the primary outcome, certainty of evidence was assessed through the Confidence in Network Meta-Analysis application (http://cinema.ispm.ch/), an adaptation of the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach for NMAs.[50 51]

A priori subgroup analyses by country income (HICs vs LMICs) and level of intervention (individual vs group intervention) were conducted. Sensitivity analyses excluding trials with high risk of bias and excluding

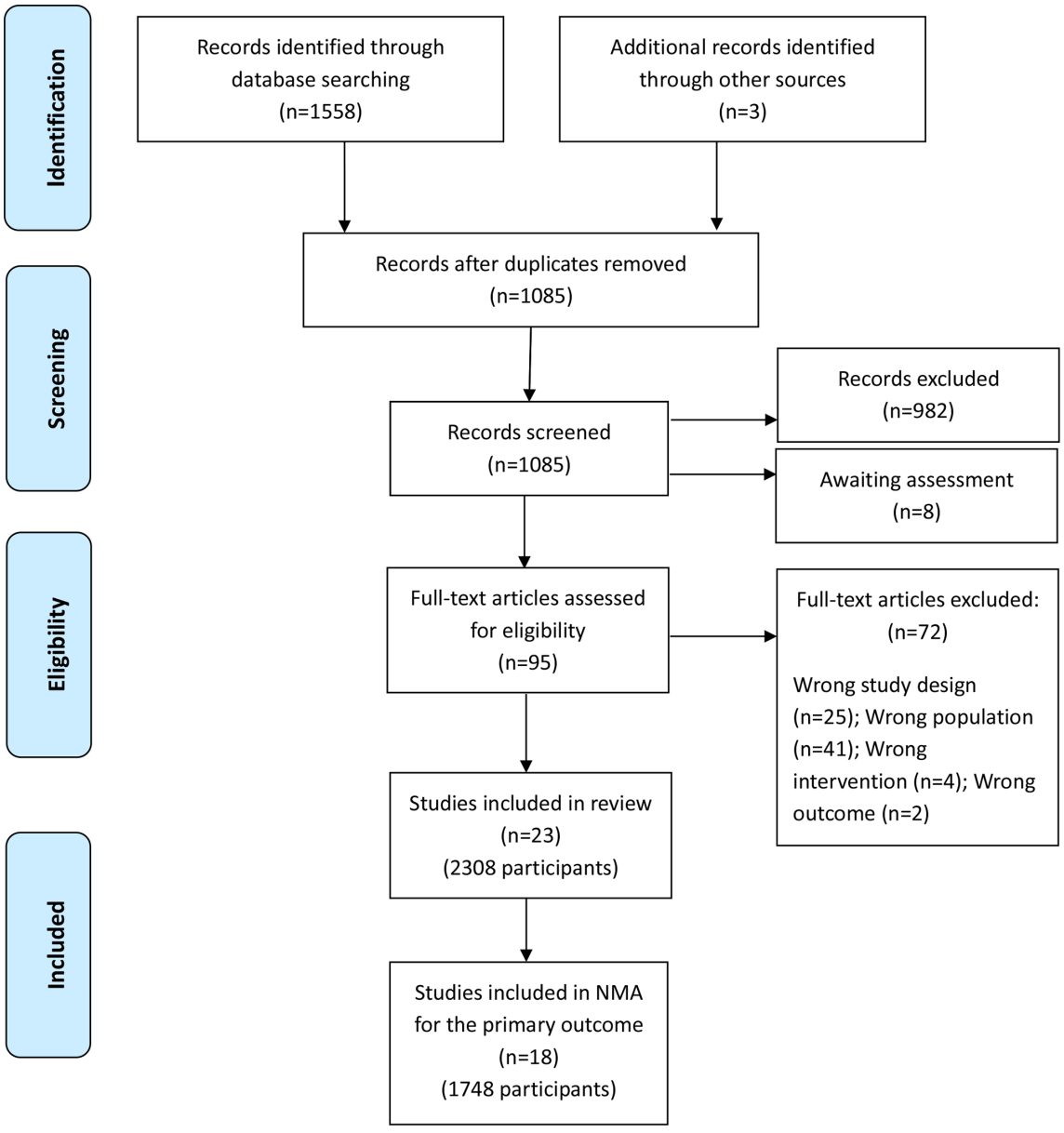

Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow-chart diagram. NMA, network meta-analysis.

studies without a formal PTSD diagnosis were carried out.

Patient and public involvement

Patient and public involvement was not conducted as part of this review.

RESULTS

Characteristics of included studies

The electronic search yielded a total number of 1085 records (after removal of duplicates). After title and abstract screening, 95 full text papers were considered for inclusion, of which 23 studies, including 2308 participants, fulfilled the eligibility criteria and were included in the systematic review[52–74] (figure 1). References of excluded studies and reasons for exclusion are reported in online supplemental material.

Eleven studies employed a WL as a control condition, nine compared a psychosocial intervention with TAU or no treatment and seven studies compared psychosocial interventions head-to-head. In 11 studies, participants received concomitant psychopharmacological medication. The study sample sizes ranged from 10 to 694. Sixteen studies were conducted in HICs, and seven in LMICs. Eleven studies recruited participants that were homogeneous in terms of nationality, three did not specify the participants' country of origin, while in the remaining studies a range of different nationalities were included. Nineteen studies recruited participants with a formal PTSD diagnosis using the following diagnostic tools: MINI International Neuropsychiatric

Interview, the Composite International Diagnostic Interview, the Structured Clinical Interview for DSM-IV, the CAPS, the Post-Traumatic Stress Diagnostic scale, the ICD-10 Classification of Mental and Behavioural Disorders (ICD) and the DSM; and four studies recruited participants with a probable PTSD diagnosis using validated self-report instruments including the HTQ, the PTSD Checklist-Civilian six-item version and the Impact of Event Scale-Revised scales (online supplemental material).

Thirteen studies were conducted in healthcare settings, six in community settings in refugee camps, two in social-care settings, one in a place of worship and one in the community. The mean age of included participants was 36.2 years (range from included studies: 30.9–51.8). Three studies included only women, while in the remaining studies the mean proportion of included women was 64% (range: 15%–77%) (online supplemental material).

The following interventions were included: coffee and family education and support (one study); CBT and related adapted protocols with a trauma component (eight studies); cognitive restructuring (one study); EMDR and related protocols (five studies); exposure therapy (one study); NET (seven studies); self-help plus (SH+) (one study); stress inoculation training (one study); stabilisation therapy (two studies); stress management (one study); supportive counselling (one studies); trauma counselling (one study). Psychosocial interventions belonging to the same theoretical model were brought together into a single node (online supplemental material).

Five of 23 studies were at high risk of bias on two or more items of the Cochrane RoB tool, fifteen were at low risk of bias, and three were unclear (online supplemental material).

PTSD symptoms and overall acceptability

Eighteen studies contributed to the analysis on PTSD symptoms at postintervention, while five did not have data suitable for reanalysis.[54 63 64 67 73] Figure 2 shows the network plot of interventions for this outcome, while table 1 reports the results of the NMA. Both CBT (SMD=−1.41; 95% CI −2.43 to −0.38) and EMDR (SMD=−1.30; 95% CI −2.40 to −0.20) were significantly more effective than WL (figure 3).

CBT was also associated with higher decrease in PTSD symptoms as compared with TAU (SMD −1.51; 95% CI −2.67 to −0.36) (table 1). For the other interventions, the difference with WL and TAU was not significant, and no differences between active interventions emerged. Generally, no relevant heterogeneity emerged for pairwise comparisons, except for two comparisons: EMDR versus WL (I^2=79.4) and CBT versus WL (I^2=93.3). Intraloop incoherence emerged for one loop, involving TAU, NET, SSM and CBT. The test for overall network heterogeneity was significant (estimated between-study SD 1.34, p value <0.001 in the inconsistency model; SD 1.04, p value <0.001 in the consistency model), while the design-by-treatment test did not reveal incoherence (p value 0.97). Results of the NMA were consistent with results from pairwise meta-analysis, except for the comparisons SH+ versus TAU (significant in the direct estimate only) and CBT versus WL (significant in the mixed estimate only). By splitting direct and indirect evidence for each comparison, we found no evidence for disagreement between these two pieces of evidence for any of the comparisons. We found no clear evidence of violations of the transitivity assumption when comparing characteristics of studies across interventions, with the exception of income level, which was not equally distributed across interventions (online supplemental material). Global funnel plot analysis for the primary outcome showed no

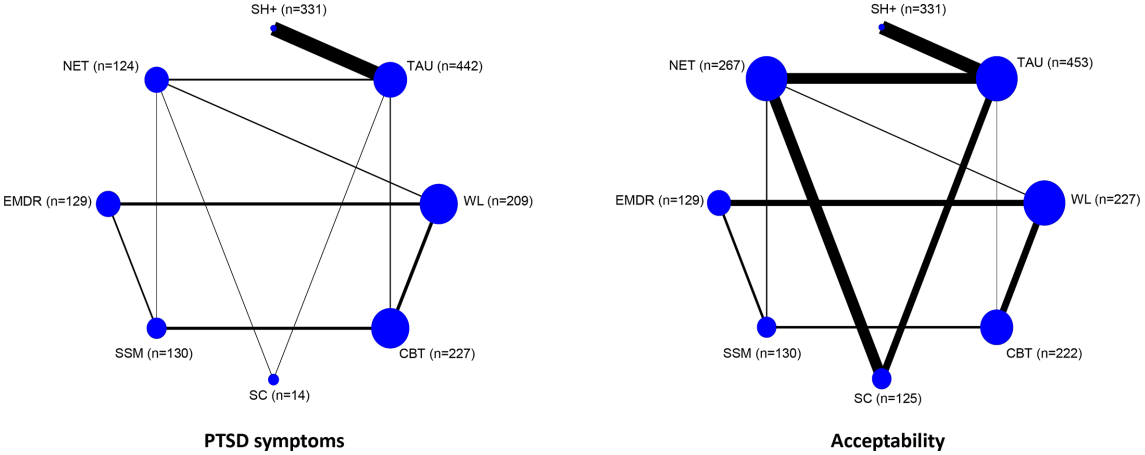

Figure 2 Network plot of evidence for PTSD symptoms and acceptability. The thickness of edges is proportional to the precision of each direct estimate (inverse of the variance), and the size of nodes is proportional to the number of studies including that intervention. CBT, cognitive behavioural therapy; EMDR, eye movement desensitisation and reprocessing; n, number of participants allocated to intervention; NET, narrative exposure therapy; PTSD, post-traumaticstress disorder; SC, supportive/trauma counselling; SH+, self-help plus; SSM, stabilisation/stress management; TAU, treatment as usual; WL, waitlist.

Table 1 Net league table

CBT	1.98 (0.88,4.50)	1.00 (0.32,3.13)	0.81 (0.23,2.79)	1.61 (0.44,5.95)	1.31 (0.57,3.02)	0.95 (0.28,3.22)	1.11 (0.60,2.04)
−0.10 (−1.47 to 1.26)	**EMDR**	0.50 (0.15,1.66)	0.41 (0.11,1.47)	0.81 (0.21,3.15)	0.66 (0.28,1.54)	0.48 (0.13,1.71)	0.56 (0.29,1.06)
−0.93 (−2.29 to 0.44)	−0.82 (−2.41 to 0.77)	**NET**	0.81 (0.49,1.34)	1.61 (0.80,3.25)	1.31 (0.44,3.94)	0.95 (0.56,1.60)	1.11 (0.37,3.33)
−1.19 (−3.36 to 0.99)	−1.08 (−3.48 to 1.31)	−0.26 (−2.24 to 1.72)	**SC**	1.99 (0.93,4.27)	1.62 (0.49,5.42)	1.18 (0.65,2.14)	1.38 (0.41,4.58)
−0.95 (−3.29 to 1.39)	−0.85 (−3.46 to 1.77)	−0.02 (−2.42 to 2.37)	0.24 (−2.61 to 3.08)	**SHplus**	0.81 (0.23,2.94)	**0.59 (0.37,0.94)**	0.69 (0.19,2.47)
−0.50 (−1.87 to 0.86)	−0.40 (−1.68 to 0.89)	0.43 (−1.07 to 1.92)	0.68 (−1.67 to 3.04)	0.45 (−2.14 to 3.04)	**SSM**	0.72 (0.22,2.39)	0.85 (0.36,1.98)
−1.51 (−2.67 to −0.36)	−1.41 (−3.05 to 0.23)	−0.58 (−1.84 to 0.67)	−0.33 (−2.31 to 1.66)	−0.56 (−2.60 to 1.47)	−1.01 (−2.61 to 0.59)	**TAU**	1.17 (0.36,3.83)
−1.41 (−2.43 to −0.38)	**−1.30 (−2.40 to −0.20)**	−0.48 (−1.85 to 0.90)	−0.22 (−2.47 to 2.03)	−0.46 (−2.93 to 2.01)	−0.91 (−2.26 to 0.45)	0.11 (−1.29 to 1.50)	**WL**

Head-to-head comparisons for PTSD symptoms (lower left part of the table) and acceptability (upper right part of the table). Statisticallysignificant results are in bold and underscored. Relative treatments effects are measured by standardise mean difference (SMD) for PTSD symptoms and odds ratio (OR) for study dropout along with 95% confidence intervals (95% CIs). SMDs lower than 0 and ORs lower than 1 favour the column defining treatment.
CBT, cognitive behavioural therapy; EMDR, eye movement desensitisation and reprocessing; NET, narrative exposure therapy; SC, supportive/trauma counselling; SH+, selfhelp plus; SSM, stabilisation/stress management; TAU, treatment as usual; WL, waitlist.

evidence of publication bias (p=0.178) (online supplemental material).

CBT and EMDR ranked best according to the mean SUCRA. Compared with TAU, the certainty of evidence was 'moderate' for CBT, while it was 'low' for the comparisons CBT and EMDR versus WL, due to high heterogeneity. For most of the other comparisons the certainty of evidence was "low' or 'very low' mainly due to imprecision of results and heterogeneity (online supplemental material).

Regarding acceptability, no intervention had less dropouts than inactive interventions, and no differences between active interventions emerged (table 1). The network did not show significant overall incoherence (design-by-treatment test, p value 0.954) nor heterogeneity (estimated between-studies SD 0.50, p value 0.201 in the inconsistency model; SD 0.13, p value 0.462 in the consistency model). No intra-loop incoherence emerged, and results of the NMA were consistent with results from pairwise meta-analyses (online supplemental material).

Results of sensitivity analyses generally confirmed a better performance of CBT and EMDR in comparison with inactive intervention, and their best ranking according to the mean SUCRA. The overall heterogeneity remained significant in both sensitivity analyses. The intra-loop incoherence of the loop TAU–NET–SSM–CBT became marginally statistically non-significant when studies with high risk of bias were excluded, while it emerged for another loop involving TAU, NET, SSM and SC, when studies without a formal PTSD diagnosis were excluded. Nevertheless, no overall incoherence emerged, and statistical agreement between direct and indirect estimates was confirmed (online supplemental material).

Subgroup analysis by country income level revealed that most studies with data on PTSD outcome were conducted in HICs (12 studies), with only 6 studies conducted in LMICs. For LMICs, incoherence could not be assessed due to unavailability of pairs of treatments with both direct and indirect comparisons. CBT, NET and SSM were significantly more effective than TAU in HICs, and CBT and EMDR were associated with higher decrease in PTSD symptoms than WL in LMICs, with a better performance of CBT. Substantial heterogeneity was detected for some pairwise comparisons involving CBT and EMDR versus WL, but the overall heterogeneity, although significant, decreased and, for studies in HICs, no overall incoherence and intra-loop incoherence emerged. Statistical agreement between direct and indirect estimates was found for all comparisons. Subgroup analysis by level of intervention revealed that in most studies with the primary outcome available, the interventions were delivered individually (14 studies). In this subgroup, heterogeneity was found in the only comparison (CBT vs WL) with three studies available, and a significant overall incoherence emerged. However, results from pairwise comparisons were consistent with those from the primary analysis. In terms of group interventions, tests for heterogeneity and

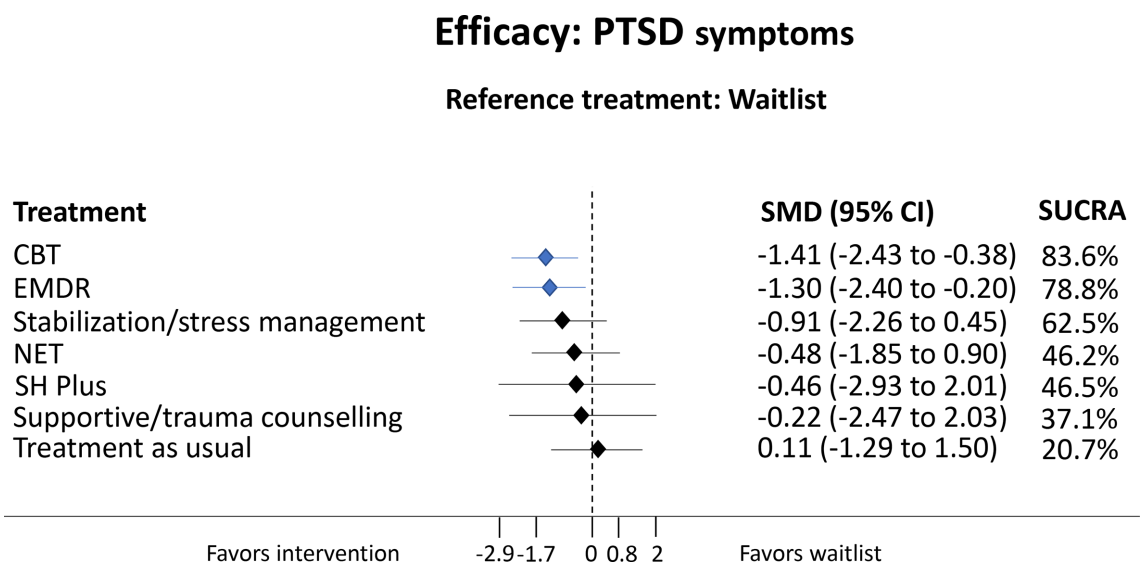

Figure 3 Forest plots comparing each treatment with waitlist for PTSD symptoms with the corresponding ranking probability (SUCRA) for each intervention. Statistically significant results are coloured in blue. CBT, cognitive behavioural therapy; CI, confidence interval; EMDR, eye movement desensitisation and reprocessing; NET, narrative exposure therapy; PTSD, post-traumaticstress disorder; SH+, self-help plus; SMD, standardised mean difference; SUCRA, surface under the cumulative ranking.

incoherence were not possible due to the limited available data (four studies) (online supplemental material).

Secondary outcomes

Results for depression and anxiety are reported in online supplemental material, with 13 studies contributing to the analysis on depressive symptoms and 11 studies on anxiety symptoms. CBT was associated with a higher reduction of depressive symptoms compared with WL, and with higher reduction of anxiety symptoms compared with TAU and WL. No significant differences emerged between active interventions. A significant overall heterogeneity (p value <0.001) emerged for both depression (SD 1.88, in the inconsistency model; SD 1.65, in the consistency model) and anxiety (SD 1.86, in the inconsistency model; SD 1.70, in the consistency model) and substantial heterogeneity was detected for some pairwise comparisons involving mostly CBT and WL (I^2 95.2% and 88.0% for depression; 92.2% and 86.0% for anxiety). However, for these outcomes no overall incoherence (design-by-treatment test, depression p value 0.631 and anxiety p value 0.694) and intra-loop incoherence emerged, and generally, results of the NMA were consistent with results from pairwise meta-analyses. There was statistical agreement between direct and indirect estimates (online supplemental material).

For the analyses on functioning, quality of life and well-being, the interpretation is limited due to restricted number of studies available. For functioning, only one indirect comparison between SSM versus WL was computed, which did not reveal any significant difference. For quality of life and well-being, results from the net league table showed that SH+ was significantly more effective than TAU (SMD 0.41; 95% CI 0.25 to 0.57), consistently with the results from pairwise meta-analysis. Tests for heterogeneity and incoherence were not possible due to the limited available data (online supplemental material).

DISCUSSION

The present NMA estimated the relative treatment effects of various psychosocial interventions for asylum seekers and refugees with PTSD in both HICs and LMICs. Notably, the probability of the ranking order for each intervention was calculated, allowing to rank interventions even when direct head-to-head studies were not available.

A total of 23 studies and 2308 participants were included in this review. CBT, NET and EMDR were the most represented interventions in terms of included studies. CBT and EMDR appeared to have the greatest effects in reducing PTSD symptoms, with the highest probability of being at the top of the hierarchy, as shown by the cumulative probability plots. No significant evidence of efficacy for other interventions was found, probably due to the limited number of the included studies. Results of sensitivity analyses generally confirmed a better performance for CBT and EMDR, while interpretation of subgroup analyses was heavily limited by the low number of studies available in each subgroup. However, results were consistent with the primary analyses.

Previous meta-analyses were able to show the benefit of trauma-focused interventions for refugees and asylum seekers with PTSD, and suggested a promising role for EMDR and NET.[19–23] However, the comparative and relative efficacy of these interventions could not be ascertained. In the present review, we showed that, among all interventions, those based on CBT with a trauma-focused component were the most effective, followed by EMDR.

In contrast with Kip and colleagues,[19] who highlighted that NET was effective at follow-up assessments, we failed to show a significant effect of NET for PTSD symptoms at postintervention. However, NET appeared more effective than TAU in the subgroup of studies conducted in HICs, consistently with Nosè and colleagues.[20] Given that only two studies on the efficacy of NET were conducted in LMICs, we argue that current evidence base on NET in low resources settings needs to be expanded before drawing firm conclusions on its overall beneficial effects.

The finding that CBT and EMDR are effective treatments for PTSD is in line with the literature on the efficacy of psychosocial interventions for PTSD in general.[14 15] However, the current findings should be interpreted bearing in mind some limitations. First, the overall number of included studies was relatively low, with a limited total number of participants contributing to the primary analysis, and with relatively few direct comparisons between active interventions. Therefore, most of our evidence was based on indirect treatment comparisons, which are more susceptible to bias. In addition, some secondary outcomes like functioning, well-being and quality of life, which play a relevant role in this particular population, were poorly reported by the original studies, leading to poorly populated and connected networks. Second, we included interventions which did not target PTSD as primary outcome, leading to potential differences on effect. Moreover, the included studies were heterogeneous in terms of a number of clinical and methodological aspects, such as participants' background and country of resettlement, time since resettlement, outcome measures, diagnostic criteria, treatment content and modalities of delivering the interventions. These aspects likely contributed to the high level of statistical heterogeneity that was detected, and that was not fully explained by subgroup and sensitivity analyses. Heterogeneity, together with imprecision of CIs around the treatment estimates, was responsible for an overall judgement of low confidence according to the GRADE approach. We note, however, that the overall coherence, which is a key aspect to consider in NMA,[75] appeared to be well preserved for most analyses. Third, we made the a priori choice of analysing data at postintervention only, as we anticipated that in a relevant number of studies long term data were lacking and networks could have been poorly connected, leaving uncertainty on the long-term effect of psychosocial interventions. Moreover, 11 studies included participants that received concomitant psychopharmacological medications. Although dosages remained stable throughout the intervention period, and no differences between treatment groups were found with respect to medication exposure, we cannot exclude that having received pharmacological treatment could have represented a source of variability, with a potential impact on study outcomes. Fourth, as no comparison included more than 10 studies, visual inspection of funnel plots for single comparisons was not conducted, leaving a potential risk of publication bias. However, a global funnel plot analysis for the primary outcome showed no evidence of publication bias. Finally, we found no clear evidence of violations of the transitivity assumption when comparing characteristics of studies across interventions. However, in some outcomes, the number of studies per comparison was small and the case of intransitivity cannot be completely excluded.

All these limitations should be considered within the scope of the challenging context within which many studies have been undertaken and the complex needs of the target populations.[76] Personal narratives, vulnerabilities, barriers to access health services, cultural perspectives on mental illness and help-seeking, and variation in cultural concepts of distress have been recognised as key variables influencing efficacy of interventions with refugees and asylum seekers.[7] Furthermore, many mental health professionals may have reservations to work with refugees as this work is often perceived as more challenging due to anticipated language, cultural and legal difficulties.[18] This, in turn, may influence treatment efficacy. In addition, refugees and asylum seekers may be less willing to engage in psychosocial intervention studies because of the stigma associated with psychological problems and the lack of knowledge about reasons for being offered a psychosocial intervention.[77–79] Language is another obstacle for both participants and investigators, and instrument translation and involvement of native speakers for conducting the assessments is generally required.[80] Moreover, tools used for identifying groups who need mental health attention may not be adequate for different cultural groups, with a potential negative influence in trust on study outcomes.

A number of implications for research, policy, and practice can be drawn from our findings. Larger and higher quality studies with long-term assessments of intervention efficacy are needed to consolidate findings and to enhance our understanding of the sustainability of the effects of psychosocial interventions. Further direct comparisons between active interventions are needed to determine comparative efficacy in a more accurate way, and the present NMA would suggest that CBT with a trauma-focused component may be employed as effective reference standard. Moreover, research is needed to determine whether effective interventions for regular PTSD are also effective for the ICD11 complex PTSD diagnosis, as a subset of refugees might meet criteria for that specific diagnosis.[81] Future studies should further examine common therapeutic factors that are purportedly beneficial, and that could be considered to adapt the interventions based on specific needs of the refugee population. It has been argued that evidence-based treatments that are culturally adapted may be more effective for members of the cultural group for which the treatment was adapted.[82] This adaptation process may facilitate engagement of refugees and asylum seekers with services, and may optimise intervention acceptability and appropriateness.[83] Engagement of refugees with services may additionally be facilitated by improving interpreter

and facilitator services which can, in turn, improve the implementation and outcome of psychosocial interventions.[84] Based on these considerations, a new generation of studies have recently been designed to demonstrate the effectiveness of culturally adapted psychosocial interventions delivered by non-specialist trained facilitators, or lay counsellors, sharing the same cultural background of the target refugee population.[85–89] An added value of employing trained non-specialist facilitators includes lower healthcare costs, which may be particularly relevant in low-resource settings.[90 91] Finally, future studies should additionally investigate the efficacy, feasibility and sustainability of psychosocial interventions delivered through the use of synchronous and asynchronous online communication devices.[84 92 93] Evidence on virtual delivery of psychotherapies highlighted that they can be as effective as in-person delivery, but with the added value of reducing stigma, costs, and also interpersonal contacts that, in reference to the current COVID-19 pandemic, are potentially risky.[94 95] This aspect may be particularly important for asylum seekers and refugees who may be subject to isolation measures often after traumatic separations, physical distancing with complete loss of social networks, and restriction of movement for relatively long periods.[96]

CONCLUSION

Altogether, the current findings suggest that CBT with a trauma-focused component and EMDR are effective in treating PTSD. More research is needed with regard to other treatment forms. Accordingly, and given the pressing mental health needs of asylum seekers and refugees, these psychosocial interventions should be made routinely available to adult asylum seekers and refugees with PTSD resettled in countries irrespective of income category. Current and future evidence should inform the development of evidence-based guidelines and implementation packages,[76] aiming to guarantee that all people have equitable access to high-quality mental healthcare.

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REFERENCES

1 Abubakar I, Aldridge RW, Devakumar D, *et al*. The UCL-Lancet Commission on migration and health: the health of a world on the move. *Lancet* 2018;392:2606–54.
2 General Assembly UN. UNHCR - Protocol Relating to the Status of Refugees, 1951. Available: http://www.unhcr.org/3b66c2aa10.html [Accessed 8 Jun 2020].
3 IOM International Organization for Migration. Glossary on migration, International migration law series No. 25, 2011. Available: https://publications.iom.int/system/files/pdf/iml25_1.pdf [Accessed 8 Jun 2020].
4 IOM International Organization for Migration. World migration report 2020, 2020. Available: https://publications.iom.int/system/files/pdf/wmr_2020.pdf [Accessed 8 Jun 2020].
5 UNHCR. Global trends: forced displacement in 2019, 2020. Available: https://www.unhcr.org/5ee200e37.pdf [Accessed 8 Jun 2020].
6 Lund C, Brooke-Sumner C, Baingana F, *et al*. Social determinants of mental disorders and the sustainable development goals: a systematic review of reviews. *Lancet Psychiatry* 2018;5:357–69.
7 Chaplin L, Ng L, Katona C. Refugee mental health research: challenges and policy implications. *BJPsych Open* 2020;6:e102.
8 Giacco D. Identifying the critical time points for mental health of asylum seekers and refugees in high-income countries. *Epidemiol Psychiatr Sci* 2019;29:e61.
9 Henkelmann J-R, de Best S, Deckers C, *et al*. Anxiety, depression and post-traumatic stress disorder in refugees resettling in high-income countries: systematic review and meta-analysis. *BJPsych Open* 2020;6:e68.
10 Blackmore R, Boyle JA, Fazel M, *et al*. The prevalence of mental illness in refugees and asylum seekers: a systematic review and meta-analysis. *PLoS Med* 2020;17:e1003337.
11 Priebe S, Giacco D, El-Nagib R. *Public health aspects of mental health among migrants and refugees: a review of the evidence on mental health care for refugees, asylum seekers and irregular migrants in the who European region*. Copenhagen: WHO Regional Office for Europe, 2016.
12 Turrini G, Purgato M, Ballette F, *et al*. Common mental disorders in asylum seekers and refugees: umbrella review of prevalence and intervention studies. *Int J Ment Health Syst* 2017;11:51.
13 Fazel M, Wheeler J, Danesh J. Prevalence of serious mental disorder in 7000 refugees resettled in Western countries: a systematic review. *Lancet* 2005;365:1309–14.

14 Cusack K, Jonas DE, Forneris CA, *et al*. Psychological treatments for adults with posttraumatic stress disorder: a systematic review and meta-analysis. *Clin Psychol Rev* 2016;43:128–41.
15 Hoppen TH, Morina N. Is high-quality of trials associated with lower treatment efficacy? A meta-analysis on the association between study quality and effect sizes of psychological interventions for pediatric PTSD. *Clin Psychol Rev* 2020;78:101855.
16 Echterhoff G, Hellmann JH, Back MD, *et al*. Psychological antecedents of refugee integration (PARI). *Perspectives on Psychological Science* 2020;15:856–79.
17 Salami B, Salma J, Hegadoren K. Access and utilization of mental health services for immigrants and refugees: perspectives of immigrant service providers. *Int J Ment Health Nurs* 2019;28:152–61.
18 Schlechter P, Hellmann JH, Wingbermühle P. Which psychological characteristics influence therapists' readiness to work with refugees? *Clin Psychol Psychother* 2020.
19 Kip A, Priebe S, Holling H, *et al*. Psychological interventions for posttraumatic stress disorder and depression in refugees: a meta-analysis of randomized controlled trials. *Clin Psychol Psychother* 2020;27:489–503.
20 Nosè M, Ballette F, Bighelli I, *et al*. Psychosocial interventions for post-traumatic stress disorder in refugees and asylum seekers resettled in high-income countries: systematic review and meta-analysis. *PLoS One* 2017;12:e0171030.
21 Thompson CT, Vidgen A, Roberts NP. Psychological interventions for post-traumatic stress disorder in refugees and asylum seekers: a systematic review and meta-analysis. *Clin Psychol Rev* 2018;63:66–79.
22 Uphoff E, Robertson L, Cabieses B, *et al*. An overview of systematic reviews on mental health promotion, prevention, and treatment of common mental disorders for refugees, asylum seekers, and internally displaced persons. *Cochrane Database Syst Rev* 2020;9:CD013458.
23 Turrini G, Purgato M, Acarturk C, *et al*. Efficacy and acceptability of psychosocial interventions in asylum seekers and refugees: systematic review and meta-analysis. *Epidemiol Psychiatr Sci* 2019;28:376–88.
24 Murray KE, Davidson GR, Schweitzer RD. Review of refugee mental health interventions following resettlement: best practices and recommendations. *Am J Orthopsychiatry* 2010;80:576–85.
25 Salanti G, Ades AE, Ioannidis JPA. Graphical methods and numerical summaries for presenting results from multiple-treatment meta-analysis: an overview and tutorial. *J Clin Epidemiol* 2011;64:163–71.
26 Hutton B, Salanti G, Caldwell DM, *et al*. The PRISMA extension statement for reporting of systematic reviews incorporating network meta-analyses of health care interventions: checklist and explanations. *Ann Intern Med* 2015;162:777–84.
27 Inter-Agency Standing Committee (IASC). IASC guidelines on mental health and psychosocial support in emergency settings, 2007. Available: https://www.who.int/mental_health/emergencies/guidelines_iasc_mental_health_psychosocial_june_2007.pdf [Accessed 1 Jul 2020].
28 Tol WA, Purgato M, Bass JK, *et al*. Mental health and psychosocial support in humanitarian settings: a public mental health perspective. *Epidemiol Psychiatr Sci* 2015;24:484–94.
29 Tol WA, Barbui C, Galappatti A, *et al*. Mental health and psychosocial support in humanitarian settings: linking practice and research. *Lancet* 2011;378:1581–91.
30 Blake DD, Weathers FW, Nagy LM, *et al*. The development of a Clinician-Administered PTSD scale. *J Trauma Stress* 1995;8:75–90.
31 Mollica RF, Caspi-Yavin Y, Bollini P, *et al*. The Harvard trauma questionnaire. validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *J Nerv Ment Dis* 1992;180:111–6.
32 Higgins JPT, Thomas J, Chandler J, eds. *Cochrane. Cochrane Handbook for Systematic Reviews of Interventions version 6.1 (updated September 2020). Cochrane*, 2020.
33 White IR. Multivariate Random-effects meta-analysis. *Stata J* 2009;9:40–56.
34 White IR. Multivariate Random-effects meta-regression: updates to Mvmeta. *Stata J* 2011;11:255–70.
35 Shi C, Westby M, Norman G, *et al*. Node-making processes in network meta-analysis of nonpharmacological interventions should be well planned and reported. *J Clin Epidemiol* 2018;101:124–5.
36 Ter Veer E, van Oijen MGH, van Laarhoven HWM. The use of (network) meta-analysis in clinical oncology. *Front Oncol* 2019;9:822.
37 Altman DG, Bland JM. Detecting skewness from summary information. *BMJ* 1996;313:1200.
38 Lu G, Ades AE. Combination of direct and indirect evidence in mixed treatment comparisons. *Stat Med* 2004;23:3105–24.
39 Bucher HC, Guyatt GH, Griffith LE, *et al*. The results of direct and indirect treatment comparisons in meta-analysis of randomized controlled trials. *J Clin Epidemiol* 1997;50:683–91.
40 Krahn U, Binder H, König J. A graphical tool for locating inconsistency in network meta-analyses. *BMC Med Res Methodol* 2013;13:35.
41 Higgins JPT, Jackson D, Barrett JK, *et al*. Consistency and inconsistency in network meta-analysis: concepts and models for multi-arm studies. *Res Synth Methods* 2012;3:98–110.
42 Jackson D, Barrett JK, Rice S, *et al*. A design-by-treatment interaction model for network meta-analysis with random inconsistency effects. *Stat Med* 2014;33:3639–54.
43 Veroniki AA, Vasiliadis HS, Higgins JPT, *et al*. Evaluation of inconsistency in networks of interventions. *Int J Epidemiol* 2013;42:332–45.
44 White IR. Network meta-analysis. *Stata J* 2015;15:951–85.
45 Chaimani A, Higgins JPT, Mavridis D, *et al*. Graphical tools for network meta-analysis in STATA. *PLoS One* 2013;8:e76654.
46 White IR. Network meta-analysis. Palmer T, Sterne J, eds. *Meta-Analysis in Stata: an updated collection from the Stata Journal*. 2. College Station, TX: Stata Press, 2016.
47 Sterne JAC, Sutton AJ, Ioannidis JPA, *et al*. Recommendations for examining and interpreting funnel plot asymmetry in meta-analyses of randomised controlled trials. *BMJ* 2011;343:d4002.
48 Egger M, Davey Smith G, Schneider M, *et al*. Bias in meta-analysis detected by a simple, graphical test. *BMJ* 1997;315:629–34.
49 Peters JL, Sutton AJ, Jones DR, *et al*. Contour-enhanced meta-analysis funnel plots help distinguish publication bias from other causes of asymmetry. *J Clin Epidemiol* 2008;61:991–6.
50 Nikolakopoulou A, Higgins JPT, Papakonstantinou T, *et al*. Cinema: an approach for assessing confidence in the results of a network meta-analysis. *PLoS Med* 2020;17:e1003082.
51 Salanti G, Del Giovane C, Chaimani A, *et al*. Evaluating the quality of evidence from a network meta-analysis. *PLoS One* 2014;9:e99682.
52 Acarturk C, Konuk E, Cetinkaya M, *et al*. The efficacy of eye movement desensitization and reprocessing for post-traumatic stress disorder and depression among Syrian refugees: results of a randomized controlled trial. *Psychol Med* 2016;46:2583–93.
53 Acarturk C, Konuk E, Cetinkaya M, *et al*. EMDR for Syrian refugees with posttraumatic stress disorder symptoms: results of a pilot randomized controlled trial. *Eur J Psychotraumatol* 2015;6:27414.
54 Adenauer H, Catani C, Gola H, *et al*. Narrative exposure therapy for PTSD increases top-down processing of aversive stimuli--evidence from a randomized controlled treatment trial. *BMC Neurosci* 2011;12:127.
55 Buhmann CB, Nordentoft M, Ekstroem M, *et al*. The effect of flexible cognitive-behavioural therapy and medical treatment, including antidepressants on post-traumatic stress disorder and depression in traumatised refugees: pragmatic randomised controlled clinical trial. *Br J Psychiatry* 2016;208:252–9.
56 Carlsson J, Sonne C, Vindbjerg E, *et al*. Stress management versus cognitive restructuring in trauma-affected refugees-A pragmatic randomised study. *Psychiatry Res* 2018;266:116–23.
57 Hensel-Dittmann D, Schauer M, Ruf M, *et al*. Treatment of traumatized victims of war and torture: a randomized controlled comparison of narrative exposure therapy and stress inoculation training. *Psychother Psychosom* 2011;80:345–52.
58 Hijazi AM, Lumley MA, Ziadni MS, *et al*. Brief narrative exposure therapy for posttraumatic stress in Iraqi refugees: a preliminary randomized clinical trial. *J Trauma Stress* 2014;27:314–22.
59 Hinton DE, Chhean D, Pich V, *et al*. A randomized controlled trial of cognitive-behavior therapy for Cambodian refugees with treatment-resistant PTSD and panic attacks: a cross-over design. *J Trauma Stress* 2005;18:617–29.
60 Hinton DE, Hofmann SG, Pollack MH, *et al*. Mechanisms of efficacy of CBT for Cambodian refugees with PTSD: improvement in emotion regulation and orthostatic blood pressure response. *CNS Neurosci Ther* 2009;15:255–63.
61 Hinton DE, Pham T, Tran M, *et al*. Cbt for Vietnamese refugees with treatment-resistant PTSD and panic attacks: a pilot study. *J Trauma Stress* 2004;17:429–33.
62 Liedl A, Müller J, Morina N, *et al*. *Retracted* : Physical Activity within a CBT Intervention Improves Coping with Pain in Traumatized Refugees: Results of a Randomized Controlled Design. *Pain Medicine* 2011;12:234–45.
63 Neuner F, Kurreck S, Ruf M, *et al*. Can asylum-seekers with posttraumatic stress disorder be successfully treated? A randomized controlled pilot study. *Cogn Behav Ther* 2010;39:81–91.
64 Neuner F, Onyut PL, Ertl V, *et al*. Treatment of posttraumatic stress disorder by trained lay counselors in an African refugee settlement: a randomized controlled trial. *J Consult Clin Psychol* 2008;76:686–94.

65 Neuner F, Schauer M, Klaschik C, *et al*. A comparison of narrative exposure therapy, supportive counseling, and psychoeducation for treating posttraumatic stress disorder in an African refugee settlement. *J Consult Clin Psychol* 2004;72:579–87.
66 Otto MW, Hinton D, Korbly NB, *et al*. Treatment of pharmacotherapy-refractory posttraumatic stress disorder among Cambodian refugees: a pilot study of combination treatment with cognitive-behavior therapy vs sertraline alone. *Behav Res Ther* 2003;41:1271–6.
67 Paunovic N, Ost LG. Cognitive-behavior therapy vs exposure therapy in the treatment of PTSD in refugees. *Behav Res Ther* 2001;39:1183–97.
68 Shaw SA, Ward KP, Pillai V, *et al*. A group mental health randomized controlled trial for female refugees in Malaysia. *Am J Orthopsychiatry* 2019;89:665–74.
69 Stenmark H, Catani C, Neuner F, *et al*. Treating PTSD in refugees and asylum seekers within the general health care system. A randomized controlled multicenter study. *Behav Res Ther* 2013;51:641–7.
70 Ter Heide FJJ, Mooren TM, Kleijn W, *et al*. EMDR versus stabilisation in traumatised asylum seekers and refugees: results of a pilot study. *Eur J Psychotraumatol* 2011;2. doi:10.3402/ejpt.v2i0.5881. [Epub ahead of print: 16 08 2011].
71 Ter Heide FJJ, Mooren TM, van de Schoot R, *et al*. Eye movement desensitisation and reprocessing therapy V. stabilisation as usual for refugees: randomised controlled trial. *Br J Psychiatry* 2016;209:311–8.
72 Tol WA, Leku MR, Lakin DP, *et al*. Guided self-help to reduce psychological distress in South Sudanese female refugees in Uganda: a cluster randomised trial. *Lancet Glob Health* 2020;8:e254–63.
73 Weine S, Kulauzovic Y, Klebic A, *et al*. Evaluating a multiple-family group access intervention for refugees with PTSD. *J Marital Fam Ther* 2008;34:149–64.
74 Yurtsever A, Konuk E, Akyüz T, *et al*. An eye movement desensitization and reprocessing (EMDR) group intervention for Syrian refugees with post-traumatic stress symptoms: results of a randomized controlled trial. *Front Psychol* 2018;9:493.
75 Tonin FS, Rotta I, Mendes AM, *et al*. Network meta-analysis: a technique to gather evidence from direct and indirect comparisons. *Pharm Pract* 2017;15:943.
76 Purgato M, Cuijpers P, Barbui C. Regulatory requirements for psychological interventions. *Lancet Psychiatry* 2021;8:174–6.
77 Byrow Y, Pajak R, Specker P, *et al*. Perceptions of mental health and perceived barriers to mental health help-seeking amongst refugees: a systematic review. *Clin Psychol Rev* 2020;75:101812.
78 Due C, Green E, Ziersch A. Psychological trauma and access to primary healthcare for people from refugee and asylum-seeker backgrounds: a mixed methods systematic review. *Int J Ment Health Syst* 2020;14:71.
79 Nosè M, Turrini G, Barbui C. Access to mental health services and psychotropic drug use in refugees and asylum seekers hosted in high-income countries. *Epidemiol Psychiatr Sci* 2015;24:379–81.
80 Sijbrandij M. Expanding the evidence: key priorities for research on mental health interventions for refugees in high-income countries. *Epidemiol Psychiatr Sci* 2018;27:105–8.
81 Karatzias T, Murphy P, Cloitre M, *et al*. Psychological interventions for ICD-11 complex PTSD symptoms: systematic review and meta-analysis. *Psychol Med* 2019;49:1761–75.
82 Wampold BE. How important are the common factors in psychotherapy? an update. *World Psychiatry* 2015;14:270–7.
83 Clay J, Eaton J, Gronholm PC, *et al*. Core components of mental health stigma reduction interventions in low- and middle-income countries: a systematic review. *Epidemiol Psychiatr Sci* 2020;29:e164.
84 Giacco D, Priebe S. Mental health care for adult refugees in high-income countries. *Epidemiol Psychiatr Sci* 2018;27:109–16.
85 Bryant RA, Schafer A, Dawson KS, *et al*. Effectiveness of a brief behavioural intervention on psychological distress among women with a history of gender-based violence in urban Kenya: a randomised clinical trial. *PLoS Med* 2017;14:e1002371.
86 de Graaff AM, Cuijpers P, Acarturk C, *et al*. Effectiveness of a peer-refugee delivered psychological intervention to reduce psychological distress among adult Syrian refugees in the Netherlands: study protocol. *Eur J Psychotraumatol* 2020;11:1694347.
87 Purgato M, Carswell K, Acarturk C, *et al*. Effectiveness and cost-effectiveness of self-help plus (SH+) for preventing mental disorders in refugees and asylum seekers in Europe and turkey: study protocols for two randomised controlled trials. *BMJ Open* 2019;9:e030259.
88 Rahman A, Riaz N, Dawson KS, *et al*. Problem management plus (PM+): pilot trial of a who transdiagnostic psychological intervention in conflict-affected Pakistan. *World Psychiatry* 2016;15:182–3.
89 Sangraula M, Turner EL, Luitel NP. Feasibility of group problem management plus (PM+) to improve mental health and functioning of adults in earthquake-affected communities in Nepal. *Epidemiol Psychiatr Sci* 2020;29:e130.
90 Barbui C, Purgato M, Abdulmalik J, *et al*. Efficacy of psychosocial interventions for mental health outcomes in low-income and middle-income countries: an umbrella review. *Lancet Psychiatry* 2020;7:162–72.
91 Hamdani SU, Huma Z-E-, Rahman A, *et al*. Cost-Effectiveness of who problem management plus for adults with mood and anxiety disorders in a post-conflict area of Pakistan: randomised controlled trial. *Br J Psychiatry* 2020;217:623–9.
92 Giacco D, Matanov A, Priebe S. Providing mental healthcare to immigrants: current challenges and new strategies. *Curr Opin Psychiatry* 2014;27:282–8.
93 Gillespie M, Ampofo L, Cheesman M. Mapping refugee media journeys Smartphones and social media networks, 2016. Available: https://www.statewatch.org/media/documents/news/2016/may/ou-mapping-refugee-media-journeys.pdf [Accessed 11 Sep 2020].
94 Etzelmueller A, Vis C, Karyotaki E, *et al*. Effects of Internet-based cognitive behavioral therapy in routine care for adults in treatment for depression and anxiety: systematic review and meta-analysis. *J Med Internet Res* 2020;22:e18100.
95 Jones C, Miguel-Cruz A, Smith-MacDonald L, *et al*. Virtual Trauma-Focused therapy for military members, Veterans, and public safety personnel with posttraumatic stress injury: systematic scoping review. *JMIR Mhealth Uhealth* 2020;8:e22079.
96 Bjertrup PJ, Bouhenia M, Mayaud P, *et al*. A life in waiting: refugees' mental health and narratives of social suffering after European Union border closures in March 2016. *Soc Sci Med* 2018;215:53–60.

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Search strategy

PUBMED

#10 Search (#4 and #7 and #9)

#9 Search (((randomized controlled trial[pt]) OR (controlled clinical trial[pt]) OR (randomized[tiab]) OR (randomly[tiab]) OR (trial[tiab]) OR (groups[tiab])) NOT (animals[mh] NOT humans[mh]))

#8 Search (#5 or #6)

#7 Search (abreaction[Title/Abstract] OR "acceptance[Title/Abstract] AND commitment therapy"[Title/Abstract] OR "acting out"[Title/Abstract] OR adlerian[Title/Abstract] OR "analytical psychotherapy"[Title/Abstract] OR "analytical psychotherapies"[Title/Abstract] OR "anger control"[Title/Abstract] OR "anger management"[Title/Abstract] OR "animal therapy"[Title/Abstract] OR "animal therapies"[Title/Abstract] OR "art therapy"[Title/Abstract] OR "art therapies"[Title/Abstract] OR "assertive training"[Title/Abstract] OR "assertiveness training"[Title/Abstract] OR "attention training technique"[Title/Abstract] OR "autogenic training"[Title/Abstract] OR autosuggestion[Title/Abstract] OR "aversion therapy"[Title/Abstract] OR "aversion therapies"[Title/Abstract] OR "balint group"[Title/Abstract] OR befriending[Title/Abstract] OR "behavior contracting"[Title/Abstract] OR "behavior modification"[Title/Abstract] OR "behavior regulation"[Title/Abstract] OR "behavior therapy"[Title/Abstract] OR "behavior therapies"[Title/Abstract] OR "behaviour contracting"[Title/Abstract] OR "behaviour modification"[Title/Abstract] OR "behaviour regulation"[Title/Abstract] OR "behaviour therapy"[Title/Abstract] OR "behaviour therapies"[Title/Abstract] OR bibliotherapy[Title/Abstract] OR bibliotherapies[Title/Abstract] OR biofeedback[Title/Abstract] OR "body psychotherapy"[Title/Abstract] OR "body psychotherapies"[Title/Abstract] OR "brief psychotherapy"[Title/Abstract] OR "brief psychotherapies"[Title/Abstract] OR "caregiver support"[Title/Abstract] OR cbt[Title/Abstract] OR "client centre"[Title/Abstract] OR "client center"[Title/Abstract] OR "cognitive behavior"[Title/Abstract] OR "cognitive behaviorial"[Title/Abstract] OR "cognitive intervention"[Title/Abstract] OR "cognitive interventions"[Title/Abstract] OR "cognitive rehabilitation"[Title/Abstract] OR "cognitive remediation"[Title/Abstract] OR "cognitive technique"[Title/Abstract] OR "cognitive techniques"[Title/Abstract] OR "cognitive therapy"[Title/Abstract] OR "cognitive therapies"[Title/Abstract] OR "cognitive treatment"[Title/Abstract] OR "cognitive treatments"[Title/Abstract] OR "color therapy"[Title/Abstract] OR "color therapies"[Title/Abstract] OR "colour therapy"[Title/Abstract] OR "colour therapies"[Title/Abstract] OR "compassionate mind training"[Title/Abstract] OR "conjoint therapy"[Title/Abstract] OR "conjoint therapies"[Title/Abstract] OR "contingency management"[Title/Abstract] OR "conversational therapy"[Title/Abstract] OR "conversational therapies"[Title/Abstract] OR "conversion therapy"[Title/Abstract] OR "conversion therapies"[Title/Abstract] OR "coping skills"[Title/Abstract] OR counseling[Title/Abstract] OR counselling[Title/Abstract] OR countertransference[Title/Abstract] OR "couples therapy"[Title/Abstract] OR "couples therapies"[Title/Abstract] OR "covert sensitization"[Title/Abstract] OR "covert sensitisation"[Title/Abstract] OR "crisis intervention"[Title/Abstract] OR "dance therapy"[Title/Abstract] OR "dance therapies"[Title/Abstract] OR dialectic[Title/Abstract] OR dialectical[Title/Abstract] OR "dream analysis"[Title/Abstract] OR eclectic[Title/Abstract] OR "emotion focused"[Title/Abstract] OR "emotionally focused"[Title/Abstract] OR "emotional freedom technique"[Title/Abstract] OR "encounter group therapy"[Title/Abstract] OR "encounter group therapies"[Title/Abstract] OR "existential therapy"[Title/Abstract] OR "existential therapies"[Title/Abstract] OR "experiential

psychotherapy"[Title/Abstract] OR "experiential psychotherapies"[Title/Abstract] OR "exposure therapy"[Title/Abstract] OR "exposure therapies"[Title/Abstract] OR "expressive psychotherapy"[Title/Abstract] OR "expressive psychotherapies"[Title/Abstract] OR "eye movement desensitization"[Title/Abstract] OR "eye movement desensitisation"[Title/Abstract] OR "family intervention"[Title/Abstract] OR "family interventions"[Title/Abstract] OR "family therapy"[Title/Abstract] OR "family therapies"[Title/Abstract] OR "feminist therapy"[Title/Abstract] OR "feminist therapies"[Title/Abstract] OR "free association"[Title/Abstract] OR freudian[Title/Abstract] OR "geriatric psychotherapy"[Title/Abstract] OR "geriatric psychotherapies"[Title/Abstract] OR "gestalt therapy"[Title/Abstract] OR "gestalt therapies"[Title/Abstract] OR griefwork[Title/Abstract] OR "group intervention"[Title/Abstract] OR "group interventions"[Title/Abstract] OR "group psychotherapy"[Title/Abstract] OR "group psychotherapies"[Title/Abstract] OR "group therapy"[Title/Abstract] OR "group therapies"[Title/Abstract] OR "guided imagery"[Title/Abstract] OR "holistic psychotherapy"[Title/Abstract] OR "holistic psychotherapies"[Title/Abstract] OR "humanistic psychotherapy"[Title/Abstract] OR "humanistic psychotherapies"[Title/Abstract] OR hypnosis[Title/Abstract] OR hypnotherapy[Title/Abstract] OR hypnotherapies[Title/Abstract] OR hypnotizability[Title/Abstract] OR hypnotisability[Title/Abstract] OR imagery[Title/Abstract] OR "implosive therapy"[Title/Abstract] OR "implosive therapies"[Title/Abstract] OR "individual psychotherapy"[Title/Abstract] OR "individual psychotherapies"[Title/Abstract] OR "insight therapy"[Title/Abstract] OR "insight therapies"[Title/Abstract] OR "integrated psychological therapy"[Title/Abstract] OR "integrative psychotherapy"[Title/Abstract] OR "integrative psychotherapies"[Title/Abstract] OR "integrative therapy"[Title/Abstract] OR "integrative therapies"[Title/Abstract] OR interpersonal[Title/Abstract] OR jungian[Title/Abstract] OR kleinian[Title/Abstract] OR logotherapy[Title/Abstract] OR logotherapies[Title/Abstract] OR "marathon group therapy"[Title/Abstract] OR "marathon group therapies"[Title/Abstract] OR "marital therapy"[Title/Abstract] OR "marital therapies"[Title/Abstract] OR meditation[Title/Abstract] OR "mental healing"[Title/Abstract] OR "metacognitive therapy"[Title/Abstract] OR "metacognitive therapies"[Title/Abstract] OR "metacognitive training"[Title/Abstract] OR "milieu therapy"[Title/Abstract] OR "milieu therapies"[Title/Abstract] OR mindfulness[Title/Abstract] OR "morita therapy"[Title/Abstract] OR "morita therapies"[Title/Abstract] OR multimodal[Title/Abstract] OR "music therapy"[Title/Abstract] OR "music therapies"[Title/Abstract] OR "narrative therapy"[Title/Abstract] OR "narrative therapies"[Title/Abstract] OR "nondirective therapy"[Title/Abstract] OR "nondirective therapies"[Title/Abstract] OR "object relations"[Title/Abstract] OR "person centred therapy"[Title/Abstract] OR "person centred therapies"[Title/Abstract] OR "person centered therapy"[Title/Abstract] OR "person centered therapies"[Title/Abstract] OR "personal construct therapy"[Title/Abstract] OR "personal construct therapies"[Title/Abstract] OR "persuasion therapy"[Title/Abstract] OR "persuasion therapies"[Title/Abstract] OR "pet therapy"[Title/Abstract] OR "pet therapies"[Title/Abstract] OR "play therapy"[Title/Abstract] OR "play therapies"[Title/Abstract] OR "primal therapy"[Title/Abstract] OR "primal therapies"[Title/Abstract] OR "problem solving"[Title/Abstract] OR psychoanalyse[Title/Abstract] OR psychoanalysed[Title/Abstract] OR psychoanalysis[Title/Abstract] OR psychoanalytic[Title/Abstract] OR psychodrama[Title/Abstract] OR psychodynamic[Title/Abstract] OR psychoeducate[Title/Abstract] OR psychoeducation[Title/Abstract] OR psychoeducating[Title/Abstract] OR psychologic[Title/Abstract] OR psychological[Title/Abstract] OR psychologically[Title/Abstract] OR "psychological therapy"[Title/Abstract] OR "psychological

therapies"[Title/Abstract] OR "psychosocial treatment"[Title/Abstract] OR "psychosocial treatments"[Title/Abstract] OR psychotherapy[Title/Abstract] OR psychotherapies[Title/Abstract] OR "psychotherapeutic counsel"[Title/Abstract] OR "psychotherapeutic counseling"[Title/Abstract] OR "psychotherapeutic counselling"[Title/Abstract] OR "psychotherapeutic processes"[Title/Abstract] OR "psychotherapeutic training"[Title/Abstract] OR "psychotherapeutic treatment"[Title/Abstract] OR "psychotherapeutic treatments"[Title/Abstract] OR "rational emotive"[Title/Abstract] OR "reality therapy"[Title/Abstract] OR "reality therapies"[Title/Abstract] OR "reciprocal inhibition"[Title/Abstract] OR rehabilitation[Title/Abstract] OR rehabilitating[Title/Abstract] OR "relationship therapy"[Title/Abstract] OR "relationship therapies"[Title/Abstract] OR relaxation[Title/Abstract] OR "reminiscence therapy"[Title/Abstract] OR "reminiscence therapies"[Title/Abstract] OR rogerian[Title/Abstract] OR "role play"[Title/Abstract] OR "role plays"[Title/Abstract] OR "role playing"[Title/Abstract] OR "self analysis"[Title/Abstract] OR "self analysing"[Title/Abstract] OR "self esteem"[Title/Abstract] OR "sensitivity training"[Title/Abstract] OR "sex therapy"[Title/Abstract] OR "sex therapies"[Title/Abstract] OR "sleep phase chronotherapy"[Title/Abstract] OR "sleep phase chronotherapies"[Title/Abstract] OR "social skills education"[Title/Abstract] OR "social skills training"[Title/Abstract] OR "socioenvironmental therapy"[Title/Abstract] OR "socioenvironmental therapies"[Title/Abstract] OR sociotherapy[Title/Abstract] OR sociotherapies[Title/Abstract] OR "solution focused"[Title/Abstract] OR "stress management"[Title/Abstract] OR "support group"[Title/Abstract] OR "support groups"[Title/Abstract] OR "supportive therapy"[Title/Abstract] OR "supportive therapies"[Title/Abstract] OR "systematic desensitization"[Title/Abstract] OR "systematic desensitisation"[Title/Abstract] OR "systemic therapy"[Title/Abstract] OR "systemic therapies"[Title/Abstract] OR "therapeutic community"[Title/Abstract] OR "therapeutic communities"[Title/Abstract] OR "transactional analysis"[Title/Abstract] OR transference[Title/Abstract] OR transtheoretical[Title/Abstract] OR "validation therapy"[Title/Abstract] OR "validation therapies"[Title/Abstract])

#6 Serach ("Psychotherapy"[Mesh] or "Behavior Therapy"[Mesh] or "Cognitive Therapy"[Mesh] or "Complementary Therapies"[Mesh] or "Psychoanalysis"[Mesh] or "Counseling"[Mesh] or "Hypnosis"[Mesh] or "Association"[Mesh] or "Association Learning"[Mesh])

#5 Search (#1 or #2 and #3 or #4)

#4 Search (refugee*[Title/Abstract] OR asylum seeker*[Title/Abstract])

#3 Search ("Refugees"[Mesh])

#2 Search “Stress Disorders, Post-Traumatic”[Mesh]

#1 Search "Mental Disorders"[Mesh]

MEDLINE OVID

1 exp Post Traumatic Stress Disorder/

2 exp mental disorders/

3 exp refugee/

4 exp asylum seeker/

5 1 OR 2

6 3 OR 4

7 5 AND 6

8 exp Psychotherapy/ or exp Behavior Therapy/ or exp Cognitive Therapy/ or exp Complementary Therapies/ or exp Psychoanalysis/ or exp Counseling/ or exp Hypnosis/ or Association/ or Association learning/

9 (abreaction or "acceptance and commitment therapy" or acting out or adlerian or analytical psychotherap$ or anger control or anger management or animal therap$ or art therap$ or assertive$ training or attention training technique or autogenic training or autosuggestion or aversion therap$ or balint group or befriending or behavio?r contracting or behavio?r modification or behavio?r regulation or behavio?r therap$ or bibliotherap$ or biofeedback or body psychotherap$ or brief psychotherap$ or caregiver support or cbt or client cent$ or cognitive behavio?r$ or cognitive intervention$ or cognitive rehabilit$ or cognitive remediation or cognitive technique$ or cognitive therap$ or cognitive treatment$ or colo?r therap$ or compassionate mind training or conjoint therap$ or contingency management or conversational therap$ or conversion therap$ or coping skills or counsel?ing or countertransference or couples therap$ or covert sensitization or crisis intervention or dance therap$ or dialectic$ or eclectic or emotion$ focus$ or emotional freedom technique or encounter group therap$ or existential therap$ or experiential psychotherap$ or exposure therap$ or expressive psychotherap$ or eye movement desensiti?ation or family intervention$ or family therap$ or feminist therap$ or free association or freudian or geriatric psychotherap$ or gestalt therap$ or griefwork or group intervention$ or group psychotherap$ or group therap$ or guided image$ or holistic psychotherap$ or humanistic psychotherap$ or hypnosis or hypnotherap$ or hypnoti?zability or imagery or implosive therap$ or individual psychotherap$ or insight therap$ or integrated psychological therapy or integrative psychotherap$ or integrative therap$ or interpersonal or jungian or kleinian or logotherap$ or marathon group therap$ or marital therap$ or meditation or mental healing or metacognitive therap$ or metacognitive training or milieu therap$ or mindfulness or morita therap$ or multimodal or music therap$ or narrative therap$ or nondirective therap$ or object relations or person cent$ therap$ or personal construct therap$ or persuasion therap$ or pet therap$ or play therap$ or primal therap$ or problem solving or psychoanaly$ or psychodrama or psychodynamic or psychoeducat$ or psychologic$ or psychological therap$ or psychosocial treatment or psychotherap$ or psychotherapeutic counsel$ or psychotherapeutic processes or psychotherapeutic training or psychotherapeutic treatment$ or rational emotive or reality therap$ or reciprocal inhibition or rehabilitat$ or relationship therap$ or relaxation or reminiscence therap$ or rogerian or role play$ or self analys$ or self esteem or sensitivity training or sex therap$ or sleep phase chronotherap$ or social skills education or social skills training or socioenvironmental therap$ or sociotherap$ or solution focused or stress management or support group$ or supportive therap$ or systematic desensiti?ation or systemic therap$ or therapeutic communit$ or transactional analysis or transference or transtheoretical or validation therap$ or (dream$ adj3 analys$) or (support adj3 psycho$)).mp.
10 8 OR 9
11 exp clinical trial/
12 exp randomized controlled trials/
13 exp cross-over studies/
14 randomized controlled trial.pt.
15 clinical trial.pt.
16 (random$ adj5 control$ adj5 trial$).mp.
17(crossover or cross-over).mp.
18 randomi$.mp.
19 (random$ adj5 (assign$ or allocat$ or assort$ or reciev$)).mp.
11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR 18 OR 19
7 AND 10 AND 11

PSYCINFO

S1 asylum seeker* OR refugee* NOT migrant*
S2 mental health OR mental disorders OR mental illness OR post traumatic stress disorder OR ptsd
S3 randomized controlled trials OR randomized control trial OR randomized OR random*
S4 psychosocial interventions OR psychological OR treatment OR psychotherapy OR counseling
S5 (psychosocial interventions OR psychological OR treatment OR psychotherapy OR counseling) AND (S1 AND S2 AND S3 AND S4)

WEB OF SCIENCE

4 #3 AND #2 AND #1
3 TS=(psychother* OR psychological OR psychosocial OR therapy OR intervent* OR treatment OR counsel* OR support* OR mental)
2 TS=(refugee* OR asylum seeker* OR migrant* OR immigrant)
1 TS=(randomized controlled trial OR randomized) AND TS=(controlled AND trial)

COCHRANE CENTRAL REGISTER OF CONTROLLED TRIALS (CENTRAL)

#1 MeSH descriptor: [Refugees] explode all trees
#2 MeSH descriptor: [Psychotherapy] explode all trees
#3 MeSH descriptor: [Counseling] explode all trees
#4 MeSH descriptor: [Therapeutics] explode all trees
#5 MeSH descriptor: [Cognitive Behavioral Therapy] explode all trees
#6 MeSH descriptor: [Complementary Therapies] explode all trees
#7 #2 OR #3 OR #4 OR #5 OR #6
#8 #1 AND #7 in *Trials*

PILOTS PTSDpubs

S1 AB,TI(refugee* OR asylum seeker*)
S2 AB,TI(psychological)
S3 AB,TI(psychotherapy)
S4AB,TI(psychosocial)
S5 AB,TI(random* control trial OR trial or controlled)
S6 AB,TI(psychological) OR AB,TI(psychotherapy) OR AB,TI(psychosocial)
S7 AB,TI(refugee* OR asylum seeker*) AND (AB,TI(psychological) OR AB,TI(psychotherapy) OR AB,TI(psychosocial)) AND ((random control trial) OR AB,TI(random* control trial OR trial or controlled))

CINAHL

S1 asylum seeker* OR refugee* NOT migrant*
S2 mental health OR mental disorders OR mental illness OR post traumatic stress disorder OR ptsd
S3 randomized controlled trials OR randomized control trial OR randomized OR random*
S4 psychosocial interventions OR psychological OR treatment OR psychotherapy OR counselling
S5 (psychosocial interventions OR psychological OR treatment OR psychotherapy OR counseling) AND (S1 AND S2 AND S3 AND S4)

EMBASE

#1 asylum seeker*:ab,ti OR refugee*:ab,ti NOT migrant*:ab,ti

#2 mental health:ab,ti OR mental disorders:ab,ti OR mental illness:ab,ti OR post traumatic stress disorder:ab,ti OR ptsd:ab,ti

#3 randomized AND controlled AND trial:ab,ti OR controlled AND clinical AND trial:ab,ti OR random*:ab,ti

#4 psychosocial intervention*:ab,ti OR psychological:ab,ti OR treatment:ab,ti OR psychotherapy:ab,ti OR counselling:ab,ti

#5 #1 AND #2 AND #3 AND #4

Description of included intervention and belonging node

Legend:
CBT: cognitive behavioural therapy
EMDR: eye movement desensitization and reprocessing
NET: narrative exposure therapy
SC: supportive/trauma counselling
SH+: self-help plus
SSM: stabilization/stress management

Intervention	Description	Node
Coffee and Family Education and Support Intervention (CAFES)	A community-based, family-focused program that is aimed at improving access to mental health services by impacting family processes. CAFES was based upon family strength and resilience approaches which emphasized the roles of family processes in facilitating adjustment, recovery, and development. Phase I: Joining Engagement Session 1 Families in transition Phase II: Defining the family Session 2 Family as a system Session 3 Family in the life cycle Session 4 Family beliefs Phase III: Working together in the family Session 5 Strengthening family identity Session 6 Family communication (Part 1) Session 7 Family communication (Part 2) Phase IV: Using resources outside of the family Session 8 Families to organizations Session 9 Families to families	Not included (no suitable data)
Cognitive Behavioural Therapy (CBT)	A goal-oriented treatment that focuses on how cognitions affect emotions and and behaviour and teaches coping skills for dealing with present problems. CBT can be culturally adapted and the core elements of the intervention are: psychoeducation about the nature of PTSD; training on relaxation techniques; cognitive restructuring; emotional regulation; exposure; homework to practice skills. Another approach is a biofeedback-based cognitive behavioural intervention (CBT-BF) treatment for pain management in traumatized refugees. This intervention focuses on hyperarousal as the key factor in the chronification of PTSD and pain and facilitates the development of strategies for coping with pain and PTSD symptoms. The manualized CBT-BF protocol consists of 10 weekly 90-minute sessions covering psychoeducation, relaxation strategies, and cognitive restructuring.	CBT
Cognitive Restructuring (CR)	The CR manual consisted mainly of psychoeducation and cognitive restructuring of negative thoughts resulting from traumatic experience, and exposure. The structure of the CR manual was based on a number of themes for the therapist to select from, based on clinical evaluation and the capabilities and needs of the patient. Each theme consisted of psychoeducation, suggestions for interventions as well as suggestions for homework assignments.	CBT
Exposure Therapy (ET)	In this intervention patient is gradually confronted with anxiety-provoking trauma-related images and situations with the help of the therapist. Each step is completed when the patient successfully habituated to the trauma cues.	CBT

	Exposure is initially conducted imaginally, and later in trauma-related, but harmless in vivo situations. If it was difficult to activate the trauma-related responses through imaginal exposure, and/or if in vivo exposure was not feasible, exposure to trauma cues it could be conducted with the help of traumatic video movie scenes.	
Eye Movement Desensitization and Reprocessing (EMDR)	Eye Movement Desensitization and Reprocessing (EMDR) is a psychotherapy treatment that was originally designed to alleviate the distress associated with traumatic memories. During EMDR therapy the client attends to emotionally disturbing material in brief sequential doses while simultaneously focusing on an external stimulus. Therapist directed lateral eye movements are the most commonly used external stimulus but a variety of other stimuli including hand-tapping and audio stimulation are often used. EMDR therapy facilitates the accessing of the traumatic memory network, so that information processing is enhanced, with new associations forged between the traumatic memory and more adaptive memories or information. These new associations are thought to result in complete information processing, new learning, elimination of emotional distress, and development of cognitive insights.	EMDR
Narrative Exposure Therapy (NET)	It is a treatment for trauma-spectrum disorders in survivors of multiple and complex trauma. During the therapy sessions, the patient, assisted by the therapist, constructs a detailed chronological account of his or her own biography. The autobiography is recorded by the therapist in written form and is corrected and elaborated on each subsequent reading. The therapist writes down the biography and reads it aloud at the beginning of each following session for completion and correction. The aim of the therapy is the reorganization of the generally fragmented report of traumatic experiences into a coherent narrative. During the confrontation with the aversive life events, the therapist asks for current and past emotional, physiological, cognitive, and behavioural reactions, and probes for respective observations. During the last session, the participant receives the written report of the biography.	NET
Self Help Plus (SH+)	Self-Help Plus is based on acceptance and commitment therapy (ACT), a modern variant of cognitive behavioural therapy. ACT builds on the cognitive behavioural therapy tradition and includes some common elements (such as engagement and psychoeducation); however, ACT uses specific techniques (eg, cognitive defusion, mindfulness exercises, and values clarification exercises) to help promote psychological flexibility—the ability to contact the present moment more fully and to maintain or change behaviour so that the person behaves in a way that is consistent with their subjectively identified values. Self-Help Plus incorporates many of these factors, with a strong focus on mindful practices and grounding, values clarification, and compassion, with the latter also encouraging a social support element through the practice of acts of kindness towards others outside of sessions. ACT is a-diagnostic, in that it is not a syndrome-based or symptom-based approach. Instead it aims to support people in finding more functional ways of coping with difficult life experiences given their self-identified values.	SH+
Stress Inoculation Training (SIT)	It is a cognitive behavioural semistructured program aimed at enhancing the patient's ability to cope with stress. Techniques applied in SIT are training in breathing techniques, relaxation training, cognitive restructuring, thought stopping, guided selfdialog, covert modeling, and role play. Initially, the participant is asked to report several current stressful situations, both trauma related and of everyday stress. Subsequently, the participant is taught different coping strategies for stress and anxiety, which are practiced referring to the respective examples of stressful situations. First of all, the participant receives	SSM

	training in breathing techniques. On the cognitive level, the participant is trained in cognitive restructuring in order to reach a different view of the situations that he or she finds difficult and scary. The patient is also taught thought stopping in order to be able to stop rumination. Finally, in guided self-dialog the patient is instructed to find helpful, positive sentences in order to cope better with stressful situations. The patient is asked to write down these sentences on pleasant picture postcards. On the behavioural level, covert modeling and role play are introduced.	
Stress Management (SM)	The most common SM programme for PTSD is Stress Inoculation Training (Meichenbaum, 2007). The primary goal of the therapy is to help patients acquire and consolidate a number of coping skills. Thus, the sessions focus on learning and applying new coping skills. The SM manual usually include the following techniques: (1) relaxation, (2) attention diversion and (3) behavioural activation.	SSM
Stabilization Therapy (ST)	The aim of stabilisation is to defined as the establishment of safety in physical, cognitive-behavioural, interpersonal, and social areas of functioning. The first phase or stabilisation phase is aimed at enhancing safety, control over symptoms and socio-psychological competencies through interventions such as emotion regulation and relational skills building, stress management and cognitive restructuring; processing of traumatic memories is left until the second phase.	SSM
Supportive counseling (SC)	There is not a standardized procedure of this intervention. The main goal of supportive counseling is to explore and strengthen the participants' individual, social, and cultural resources. The focus of the treatment is on current interpersonal problems, personal decisions, and plans and hopes for the future.	SC
Trauma Counseling (TC)	It is a combination of a variety of treatment and counseling methods. It is oriented toward the psychological and social needs expressed by the individual client, in particular, the discussion of current life problems and conflicts. The principle of TC is to relate current problems to past traumatic experiences. Additional skills of TC include nondirective active listening, problem solving, the exploration of coping skills, and grief interventions.	SC

Characteristics of included studies

First author, year, country	Participants' country of origin	Intervention	Intervention level - n° of sessions	Comparison	Sample size	% women	Mean age (SD or range)	PTSD diagnostic instrument	Setting	Lenght of follow-up (months)	Concomitant medication
Acarturk 2015, Turkey	Syria	EMDR	I - 7	Waiting list	29	76%	36.55 (11.28)	Impact of Event Scale-Revised - IES-R	Refugee Camp	3	No
Acarturk 2016, Turkey	Syria	EMDR- R TEP	I - 4	Waiting list	98	74%	33.68 (10.51)	M.I.N.I. Neuropsychiatric Interview - PLUS	Refugee Camp	2	No
Adenauer 2011, Germany	Middle East; Central East; The Balkans; Africa	NET	I - 12	Waiting list	34	44%	33.53 (9.93)	Clinician Administered PTSD Scale - CAPS	Health-care setting	6	Yes
Buhmann 2016, Denmark	Iraq, Iran, Lebanon, Ex Yugoslavia, Afghanistan, Other	CBT	I - 12	Waiting list	280	41%	45.00 (9.00)	The ICD-10 Classification of Mental and Behavioural Disorders	Health-care setting	6	Yes
Carlsson 2018, Denmark	Iraq, Iran, Lebanon, Ex Yugoslavia, Afghanistan, Other	Stress management	I - 16	Cognitive restructuring	140	44%	43.30 (9.50)	The ICD-10 Classification of Mental and Behavioural Disorders	Health-care setting	7	Yes
Hensel-Dittmann 2011, Germany	Unclear	NET	I - 10	SIT	28	/	/	Clinician Administered PTSD Scale - CAPS	Health-care setting	12	No

Hijazi 2014, USA	Iraq, Syria; Jordan; Turkey; Other	NET	I - 3	Waiting list	63	56%	48.20 (8.90)	Harvard Trauma Questionnaire – HTQ	Social care setting	4	No
Hinton 2004, USA	Vietnam	CBT	I - 11	Waiting list	12	50%	/	Structured Clinical Interview for DSM-IV - SCID module for PTSD	Health-care setting	6	Yes
Hinton 2005, USA	Cambodia	CBT	I - 12	TAU	40	60%	51.80 (6.78)	Clinician Administered PTSD Scale - CAPS	Health-care setting	9	Yes
Hinton 2009, USA	Cambodia	CBT	I - 12	TAU	24	60%	49.50 (8.26)	Clinician Administered PTSD Scale - CAPS	Health-care setting	9	No
Liedl et al., 2011, Germany and Switzerlan	Balkans, Turkey, other Countries	CBT-BF	I - 10	Waiting list vs. CBT-BF + physical activity	36	43%	41.66 (9.90)	M.I.N.I. Neuropsychiatric Interview	Health-care setting	5	No
Neuner et al., 2004, Uganda	Sudan	NET	I - 4	TAU vs. Supportive Counseling	43	63%	33.16 (7.00)	Composite International Diagnostic Interview - CIDI	Refugee camp	13	No
Neuner et al., 2008, Uganda	Somalia, Rwanda	NET	I - 6	No treatment vs. Trauma counseling	277	51%	34.96 (12.70)	Composite International Diagnostic Interview - CIDI	Refugee camp	6	No
Neuner et al., 2010, Germany	Turkey, Balkans, Africa	NET	I - 9	TAU	32	31%	31.35 (7.60)	Posttraumatic Stress Diagnostic Scale - PDS	Health-care setting	8	Yes
Otto et al., 2003, USA	Cambodia	CBT	G - 10	TAU	10	100%	47.20 (SD not reported)	Structured Clinical Interview for DSM-IV - SCID I	Buddhist temple	not reported	Yes

Paunovic & Ost, 2001, Sweden	Unclear	CBT	I - 18	Exposure Therapy	20	15%	37.90 (7.60)	Clinician Administered PTSD Scale - CAPS	Health-care setting	6	Yes
Shaw et al., 2018, Malaysia	Afghanistan	CA-CBT	G - 8	Waiting list	29	100%	31.86 (9.80)	Harvard Trauma Questionnaire – HTQ	Social care setting	5	No
Stenmark et al., 2013, Norway	Iraq, Afghanistan, Middle East Countries, Africa, other Countries	NET	I - 10	TAU	81	31%	35.27 (11.04)	Clinician Administered PTSD Scale - CAPS	Health-care setting	8	Yes
ter Heide et al., 2011, The Netherlands	Afghanistan, Algeria, Angola, Bosnia, Iran, Iraq, Lebanon and Turkey	EMDR	I - 11	Stabilisation therapy	20	40%	41.50 (8.55)	Structured Clinical Interview for DSM-IV - SCID I	Health-care setting	3	Yes
ter Heide et al., 2016, The Netherlands	Unclear	EMDR	I - 9	Stabilisation therapy	74	28%	41.45 (11.35)	Clinician Administered PTSD Scale - CAPS; M.I.N.I. Interview	Health-care setting	3	Yes
Tol et al., 2020, Uganda	South Sudan	SH+	G - 5	ETAU	694	100%	30.9 (10.90)	PTSD Checklist-Civilian six-item version (PCL-6)	Refugee camp	4	No
Weine et al., 2008, USA	Bosnia	CAFES	G - 9	No treatment	197	52%	37.70 (9.80)	PTSD Symptoms Scale; Diagnostic and Statistical Manual of Mental Disorders	Community	18	No
Yurtsever et al., 2018, Turkey	Syria	EMDR-G-TEP	G - 2	Waiting list	47	77%	37.45 (11.08)	M.I.N.I. Neuropsychiatric Interview	Refugee camp	1	No

Abbreviations: I: individual; G: group; CBT-BF: biofeedback-based Cognitive Behavioural Intervention; NET: Narrative Exposure Therapy; CBT: Cognitive Behavioural Therapy; CA-CBT: Culturally Adapted Cognitive Behavioural Therapy; EMDR: Eye Movement Desensitization and Reprocessing; SH+: Self-Help Plus; CAFES: Coffee and Family Education and Support; EMDR-G-TEP: Eye Movement Desensitization and Reprocessing - Group Traumatic Episode Protocol; SIT: stress inoculation training; TAU: Treatment as usual; ETAU: Enhanced treatment as usual; MINI: MINI International Neuropsychiatric Interview; PDS: Post Traumatic Stress Diagnostic scale; HTQ: Harvard Trauma questionnaire; HSCL-25: Hopkins Symptoms Checklist-25; VRS: Verbal Rating Scale; FESV: German Pain Coping Questionnaire; CIDI: Composite International Diagnostic Interview; CIDI-C: Composite International Diagnostic Interview Part C; DFMQ: The Demographic of Forced Migration Questionnaire; SRQ-20: Self-REPORTING Questionnaire 20; SF-12: 12-item version of the Medical Outcome Study Self Report Form; VCOV: Vivo-Checklist of Organised Violence; SCID: Structured Clinical Interview for DSM-IV; CAPS: Clinician Administered PTSD Scale; SCL-90: Symptom Checklist-90-R; ASI: Anxiety Sensitivity Index; HAS: Hamilton Anxiety Scale; HDS: Hamilton Depression Scale; PSS-SR: PTSD Symptom Scale - Self Report; IES-R: Impact of Event Scale-Revised; BAI: Beck Anxiety Inventory; STAI-S+T: State Trait Anxiety Inventory; BDI: Beck Depression Inventory; WAS: World Assumptions Scale; QOLI: Quality of Life Inventory; RHS-15: Refugee Health Screener-15; MOS Social support: Medical Outcomes Study; WHOQOL: World Health Organization Quality of Life Assessment-BREF version; K6: Kessler 6; PSYCHLOPS: Psychological Outcome Profiles instrument; PHQ-9: Patient Health Questionnaire-9 item; AAI-II: Acceptance and Action Questionnaire; WHODAS: WHO Disability Assessment Schedule 2·0; WHO-5: WHO-5 Wellbeing Index; CES-D: The Center for Epidemiological Studies Depression Scale; SS-VEF: steady-state visual evoked fields; VAS: visual analogue pain scales; SDS: Sheehan Disability Scale ; SIT: Stress Inoculation Training; HPASS: Headache Panic Attack Severity Scale; OPASS: Orthostatic Panic Attack Severity Scale; NPASS. Neck Panic Attack Severuty Scale; N-FSS: Neck-Panic Flashback Severity Scale; O-FSS: Orthostatic-Panic Flashback Severity Scale; ERS: Emotion Regulation Scale; O-CCSS: Orthostatic-PA Catastrophic Cognition Severity Scale.

List of studies included, excluded, awaiting assessment and ongoing

Included studies

1. Acarturk C, Konuk E, Cetinkaya M, Senay I, Sijbrandij M, Cuijpers P, Aker T (2015). EMDR for Syrian refugees with posttraumatic stress disorder symptoms: results of a pilot randomized controlled trial. European Journal of Psychotraumatology; 6:27414.
2. Acarturk C, Konuk E, Cetinkaya M, Senay I, Sijbrandij M, Gulen B, Cuijpers P (2016). The efficacy of eye movement desensitization and reprocessing for post-traumatic stress disorder and depression among Syrian refugees: results of a randomized controlled trial. Psychological Medicine; 46(12): 2583.
3. Adenauer H, Catani C, Gola H, Keil J, Ruf M, Schauer M, Neuner F (2011). Narrative exposure therapy for PTSD increases top-down processing of aversive stimuli-evidence from a randomized controlled treatment trial. BMC Neuroscience; 12(127):1–13.
4. Buhmann CB, Nordentoft M, Ekstroem M, Carlsson J, Mortensen EL (2016). The effect of flexible cognitive-behavioural therapy and medical treatment, including antidepressants on post-traumatic stress disorder and depression in traumatised refugees: pragmatic randomised controlled clinical trial. The British Journal of Psychiatry; bjp.bp.114.150961. Secondary publication: Buhmann CB, Nordentoft M, Ekstroem M, Carlsson J, Mortensen EL (2018). Long-term treatment effect of trauma-affected refugees with flexible cognitive behavioural therapy and antidepressants. Psychiatry Research; 264:217–223.
5. Carlsson J, Sonnea C, Vindbjerga E, Lykke Mortensenc E (2018). Stress management versus cognitive restructuring in trauma-affected refugees—A pragmatic randomised study. Psychiatry Res. 266:116-123.
6. Hensel-Dittmann D, Schauer M, Ruf M, Catani C, Odenwald M, Elbert T, Neuner F (2011). Treatment of traumatized victims of war and torture: a randomized controlled comparison of narrative exposure therapy and stress inoculation training. Psychotherapy and Psychosomatics; 80(6):345–52.
7. Hijazi AM, Lumley MA, Ziadni MS, Rapport LJ, Arnetz BB (2014). Brief narrative exposure therapy for posttraumatic stress in Iraqi refugees: a preliminary randomized clinical trial. Journal of Traumatic Stress; 27:314–22.
8. Hinton DE, Hofmann SG, Pollack MH, Otto MW (2009). Mechanisms of efficacy of CBT for Cambodian refugees with PTSD: Improvement in emotion regulation and orthostatic blood pressure response. CNS neuroscience & therapeutics; 15(3), 255-263.
9. Hinton DE, Chhean D, Pich V, Safren SA, Hofmann SG, Pollack MH (2005). A randomized controlled trial of cognitive-behavior therapy for Cambodian refugees with treatment-resistant PTSD and panic attacks: A cross-over design. Journal of Traumatic Stress; 18:617– 629.
10. Hinton DE, Pham T, Tran M, Safren SA, Otto MW, Pollack MH (2004). CBT for Vietnamese refugees with treatment-resistant PTSD and panic attacks: a pilot study. Journal of Traumatic Stress; 17(5): 429-33.
11. Liedl A, Muller J, Morina N, Karl A, Denke C, Knaevelsrud C (2011) Physical activity within a CBT intervention improves coping with pain in traumatized refugees: results of a randomized controlled design. Pain; 12(2): 234–45.
12. Neuner F, Kurreck S, Ruf M, Odenwald M, Elbert T, Schauer M (2010). Can asylum seekers with posttraumatic stress disorder be successfully treated? A randomized controlled pilot study. Cognitive Behaviour Therapy; 39(3):81–91. Secondary publication: Schauer M, Elbert T, Gotthardt S,

Rockstroh B, Odenwald M, Neuner F (2006). Imaginary reliving in psychotherapy modifies mind and brain. Verhaltenstherapie; 16(2):96–103.

13. Neuner F, Schauer M, Klaschik C, Karunakara U, Elbert T (2004). A comparison of narrative exposure therapy, supportive counseling, and psychoeducation for treating posttraumatic stress disorder in an african refugee settlement. Journal of consulting and clinical psychology; 72(4): 579.
14. Neuner F, Onyut PL, Ertl V, Odenwald M, Schauer E, Elbert T (2008). Treatment of posttraumatic stress disorder by trained lay counselors in an African refugee settlement: a randomized controlled trial. Journal of consulting and clinical psychology; 76(4): 686.
15. Otto MW, Hinton D, Korbly NB, Chea A, Phalnarith B, Gershuny BS, Pollack MH (2003). Treatment of pharmacotherapy-refractory posttraumatic stress disorder among Cambodian refugees: A pilot study of combination treatment with cognitive-behavior therapy vs. sertraline alone. Behaviour Research and Therapy; 41:1271–1276.
16. Paunovic N, Öst LG (2001). Cognitive-behavior therapy vs. exposure therapy in the treatment of PTSD in refugees. Behaviour Research and Therapy; 39:1183–1197.
17. Shaw SA, Ward KP, Pillai V, Hinton DE (2018). A group mental health randomized controlled trial for female refugees in Malaysia. Am J Orthopsychiatry; doi: 10.1037/ort0000346.
18. Stenmark H, Catani C, Neuner F, Elbert T, Holen A (2013). Treating PTSD in refugees and asylum seekers within the general health care system. A randomized controlled multicenter study. Behaviour Research and Therapy; 51:641–7. Secondary publication: Halvorsen JØ, Stenmark H, Neuner F, Nordahl HM (2014). Does dissociation moderate treatment outcomes of narrative exposure treatment for PTSD? A secondary analysis from a randomized controlled clinical trial. Behaviour Research and Therapy; 57:21–8.
19. Ter Heide FJ, Mooren TM, van de Schoot R, de Jongh A, Kleber RJ (2016).Eye movement desensitisation and reprocessing therapy v. stabilisation as usual for refugees: randomised controlled trial.The British Journal of Psychiatry; bjp.bp.115.167775.
20. ter Heide JJ, Mooren TM, Kleijn W, de Jongh A, Kleber RJ (2011). EMDR versus stabilisation in traumatised asylum seekers and refugees: results of a pilot study. European Journal of Psychotraumatology; 2:5881.
21. Weine S, Kulauzovic Y, Klebic A, Besic S, Mujagic A, Muzurovic J, Spahovic D, Sclove S, Pavkovic I, Feetham S, Rolland J (2008). Evaluating a multiple-family group access intervention for refugees with PTSD. Journal of Marital and Family Therapy; 34:149 –164.
22. Yurtsever A, Konuk E, Akyüz T, Zat Z, Tükel F, Çetinkaya M, Savran C, Shapiro E (2018). An Eye Movement Desensitization and Reprocessing (EMDR) Group Intervention for Syrian Refugees with Post-Traumatic Stress Symptoms: Results of a Randomized Controlled Trial. Front Psychol; 9:493.
23. Tol W, Leku MR, Lakin DP, Carswell K, Augustinavicius J, Adaku A, Au T, Brown FL, Bryant RA, C Garcia-Moreno, Musci RJ, Ventevogel P, White R, van Ommeren M (2020). Guided self-help to reduce psychological distress in South Sudanese female refugees in Uganda: a cluster randomised trial. Lancet Glob Health; 8:e254–63

Excluded studies

N	Reference	Reason
1	Ainamani HE, Elbert T, Olema DK, Hecker T (2017). PTSD symptom severity relates to cognitive and psycho-social	Wrong study design

	dysfunctioning–a study with Congolese refugees in Uganda. European journal of psychotraumatology; 8(1),1283086.	
2	Alghamdi M, Hunt N, Thomas S (2015). The effectiveness of Narrative Exposure Therapy with traumatised firefighters in Saudi Arabia: A randomized controlled study. Behaviour research and therapy; 66,64-71.	Wrong population
3	Arntz A, Sofi D, van Breukelen G (2013). Imagery Rescripting as treatment for complicated PTSD in refugees: a multiple baseline case series study. Behaviour Research and Therapy; 51(6):274-83	Wrong study design
4	Asukai N, Saito A, Tsuruta N, Kishimoto J, Nishikawa T (2010). Efficacy of exposure therapy for Japanese patients with posttraumatic stress disorder due to mixed traumatic events: A randomized controlled study. Journal of traumatic stress; 23(6),744-750.	Wrong population
5	Baker F, Jones C (2006). The effect of music therapy services on classroom behaviours of newly arrived refugee students in Australia—a pilot study. Emotional and Behavioural Difficulties; 11(4),249-260.	Wrong outcome
6	Bass J, Neugebauer R, Clougherty KF, Verdeli H, Wickramaratne P, Ndogoni L, Speelman L, Weissman M, Bolton P (2006). Group interpersonal psychotherapy for depression in rural Uganda: 6-month outcomes. The British Journal of Psychiatry; 188(6),567-573.	Wrong population
7	Bass J, Murray SM, Mohammed TA, Bunn M, Gorman W, Ahmed AM, Murray L, Bolton P. (2016). A randomized controlled trial of a trauma-informed support, skills, and psychoeducation intervention for survivors of torture and related trauma in Kurdistan, Northern Iraq. Global Health: Science and Practice; 4(3),452-466.	Wrong population
8	Beck BD, Messel C, Meyer SL, Cordtz TO, Søgaard U, Simonsen E, Moe T (2018). Feasibility of trauma-focused Guided Imagery and Music with adult refugees diagnosed with PTSD: A pilot study. Nordic Journal of Music Therapy; 27(1),67–86.	Wrong study design
9	Betancourt TS, Newnham EA, Brennan RT, Verdeli H, Borisova I, Neugebauer R, Bass J, Bolton P (2012). Moderators of treatment effectiveness for war-affected youth with depression in northern Uganda. Journal of Adolescent Health; 51(6),544-550.	Wrong population
10	Bichescu D, Neuner F, Schauer M, Elbert T (2007). Narrative exposure therapy for political imprisonment-related chronic	Wrong population

	posttraumatic stress disorder and depression. Behaviour research and therapy; 45(9),2212-2220.	
11	Birman D, Beehler S, Harris EM, Everson ML, Batia K, Liautaud J, Frazier S, Atkins M, Blanton S, Buwalda J, Fogg L, Cappella E (2008). International Family, Adult, and Child Enhancement Services (FACES): a community-based comprehensive services model for refugee children in resettlement. American Journal of Orthopsychiatry; 78(1),121.	Wrong study design
12	Bolton P, Bass J, Neugebauer R, Verdeli H, Clougherty KF, Wickramaratne P, Speelman L, Ndogoni L, Weissman M (2003). Group interpersonal psychotherapy for depression in rural Uganda: a randomized controlled trial. Jama; 289(23),3117-3124.	Wrong population
13	Bolton P, Bass JK, Zangana GA, Kamal T, Murray SM6, Kaysen D, Lejuez CW, Lindgren K, Pagoto S, Murray LK, Van Wyk SS, Ahmed AM, Amin NM, Rosenblum M. (2014). A randomized controlled trial of mental health interventions for survivors of systematic violence in Kurdistan, Northern Iraq. BMC psychiatry;14(1), 360.	Wrong population
14	Bolton P, Lee C, Haroz EE, Murray L, Dorsey S, Robinson C, Ugueto AM, Bass J (2014). A transdiagnostic community-based mental health treatment for comorbid disorders: development and outcomes of a randomized controlled trial among Burmese refugees in Thailand. PLoS Medicine; 11(11):e1001757.	Wrong population
15	Böttche M, Kuwert P, Pietrzak RH, Knaevelsrud C (2016). Predictors of outcome of an Internet-based cognitive-behavioural therapy for post-traumatic stress disorder in older adults. Psychology and Psychotherapy: Theory, Research and Practice; 89(1),82-96.	Wrong population
16	Bryant RA, Schafer A, Dawson KS, Anjuri D, Mulili C, Ndogoni L, Koyiet P, Sijbrandij M, Ulate J, Harper Shehadeh M, Hadzi-Pavlovic D, van Ommeren M (2017). Effectiveness of a brief behavioural intervention on psychological distress among women with a history of gender-based violence in urban Kenya: A randomised clinical trial. PLoS Med; 14(8):e1002371.	Wrong population
17	Catani C, Kohiladevy M, Ruf M, Schauer E, Elbert T, Neuner F (2009). Treating children traumatized by war and Tsunami: a comparison between exposure therapy and meditation-relaxation in North-East Sri Lanka. BMC psychiatry; 9(1),22.	Wrong population
18	Dajani R, Hadfield K, van Uum S, Greff M, Panter-Brick C (2017). Hair cortisol concentrations in war-affected adolescents: A	Wrong population

	prospective intervention trial. Psychoneuroendocrinology; 89:138-146.	
19	Dawson KS, Schafer A, Anjuri D, Ndogoni L, Musyoki C, Sijbrandij M, van Ommeren M, Bryant RA (2016). Feasibility trial of a scalable psychological intervention for women affected by urban adversity and gender-based violence in Nairobi. BMC Psychiatry; 16(1):410.	Wrong study design
20	Drozdek B (1997). Follow-up study of concentration camp survivors from Bosnia-Herzegovina: three years later. The Journal of nervous and mental disease; 185(11), 690-694.	Wrong study design
21	Drožđek B, Bolwerk N (2010). Evaluation of group therapy with traumatized asylum seekers and refugees—The Den Bosch Model. Traumatology; 16(4),117.	Wrong study design
22	Droždek B, Kamperman AM, Bolwerk N, Tol WA, Kleber RJ. (2012). Group therapy with male asylum seekers and refugees with posttraumatic stress disorder: A controlled comparison cohort study of three day-treatment programs. The Journal of nervous and mental disease; 200(9),758-765.	Wrong population
23	Ertl V, Pfeiffer A, Schauer E, Elbert T, Neuner F (2011). Community-implemented trauma therapy for former child soldiers in Northern Uganda: a randomized controlled trial. Jama; 306(5),503-512.	Wrong population
24	Esala JJ, Taing S (2017). Testimony Therapy With Ritual: A Pilot Randomized Controlled Trial. Journal of traumatic stress; 30(1),94-98.	Wrong population
25	Goodkind JR, Amer S, Christian C, Hess JM, Bybee D, Isakson BL, Baca B, Ndayisenga M, Greene RN, Shantzek C (2017). Challenges and Innovations in a Community-Based Participatory Randomized Controlled Trial. Health Educ Behav; 44(1):123-130.	Wrong population
26	Gordon JS, Staples JK, Blyta A, Bytyqi M, Wilson AT (2008). Treatment of posttraumatic stress disorder in postwar Kosovar adolescents using mind-body skills groups: a randomized controlled trial. The Journal of clinical psychiatry; 69(9):1469-76.	Wrong study design
27	Halvorsen JØ, Stenmark H (2010). Narrative exposure therapy for posttraumatic stress disorder in tortured refugees: a preliminary uncontrolled trial. Scandinavian Journal of Psychology; 51(6):495-502.	Wrong study design

28	Hijazi AM (2012). Narrative exposure therapy to treat traumatic stress in middle eastern refugees: a clinical trial (Doctoral dissertation, Wayne State University).	Wrong study design
29	Jespersen KV, Vuust P (2012). The effect of relaxation music listening on sleep quality in traumatized refugees: A pilot study. Journal of music therapy, 49(2),205-229.	Wrong population
30	Kalantari M, Yule W, Dyregrov A, Neshatdoost H, Ahmadi SJ (2012). Efficacy of writing for recovery on traumatic grief symptoms of Afghani refugee bereaved adolescents: A randomized control trial. OMEGA-Journal of death and dying; 65(2):139-150	Wrong study design
31	Kananian S, Ayoughi S, Farugie A, Hinton D, Stangier U (2017). Transdiagnostic culturally adapted CBT with Farsi-speaking refugees: a pilot study. Eur J Psychotraumatol; 8(sup2):1390362.	Wrong study design
32	Kangaslampi S, Garoff F, Peltonen K (2015). Narrative exposure therapy for immigrant children traumatized by war: study protocol for a randomized controlled trial of effectiveness and mechanisms of change. BMC psychiatry; 15(1),127.	Wrong population
33	Khan MN, Hamdani SU, Chiumento A, Dawson K, Bryant RA, Sijbrandij M, Nazir H, Akhtar P, Masood A, Wang D, Wang E, Uddin I, Ommeren MV, Rahman A (2017). Evaluating feasibility and acceptability of a group WHO trans-diagnostic intervention for women with common mental disorders in rural Pakistan: a cluster randomised controlled feasibility trial. Epidemiol Psychiatr Sci; 10:1-11.	Wrong population
34	Knaevelsrud C, Brand J, Lange A, Ruwaard J, Wagner B (2015). Web-based psychotherapy for posttraumatic stress disorder in war-traumatized Arab patients: randomized controlled trial. J Med Internet Res;17(3):e71.	Wrong population
35	Knaevelsrud C, Liedl A, Maercker A (2010). Posttraumatic growth, optimism and openness as outcomes of a cognitive-behavioural intervention for posttraumatic stress reactions. Journal of health psychology; 15(7):1030-8.	Wrong population
36	Knaevelsrud C, Maercker A (2007). Internet-based treatment for PTSD reduces distress and facilitates the development of a strong therapeutic alliance: a randomized controlled clinical trial. BMC Psychiatry; 7,13.	Wrong study design

37	Kruse J, Joksimovic L, Cavka M, Wöller W, Schmitz N (2009). Effects of trauma-focused psychotherapy upon war refugees. Journal of Traumatic Stress; 22(6),585-592.	Wrong intervention
38	Kulwicki A, Ballout S (2015). Post Traumatic Stress Disorder (PTSD) in Arab American refugee and recent immigrant women. Journal of Cultural Diversity, 22(1).	Wrong study design
39	Lehnung M, Shapiro E, Schreiber M, Hofmann A (2017). Evaluating the EMDR Group Traumatic Episode Protocol With Refugees: A Field Study. Journal of EMDR Practice and Research; 11(3):129-138.	Wrong population
40	McMullen J, O'callaghan P, Shannon C, Black A, Eakin J (2013). Group trauma-focused cognitive-behavioural therapy with former child soldiers and other war-affected boys in the DR Congo: A randomised controlled trial. Journal of Child Psychology and Psychiatry; 54(11),1231-1241.	Wrong study design
41	Meffert SM, Abdo AO, Alla OAA, Elmakki YOM, Omer AA, Yousif S, Metzle TJ, Marmar CR (2014). A pilot randomized controlled trial of interpersonal psychotherapy for Sudanese refugees in Cairo, Egypt. Psychological Trauma: Theory, Research, Practice, and Policy; 6(3):240.	Wrong study design
42	Morath J, Gola H, Sommershof A, Hamuni G, Kolassa S, Catani C, Adenauer H, Ruf-Leuschner M, Schauer M, Elbert T, Groettrup M, Kolassa IT (2014). The effect of trauma-focused therapy on the altered T cell distribution in individuals with PTSD: evidence from a randomized controlled trial. Journal of Psychiatric Research; 54:1–10.	Wrong population
43	Muller J, Karl A, Denke C, Mathier F, Dittmann J, Rohleder N, Knaevelsrud C (2009). Biofeedback for pain management in traumatised refugees. Cogn Behav Ther; 38(3):184-90.	Wrong study design
44	Neuner F, Catani C, Ruf M, Schauer E, Schauer M, Elbert T (2008). Narrative exposure therapy for the treatment of traumatized children and adolescents (KidNET): from neurocognitive theory to field intervention. Child and adolescent psychiatric clinics of North America; 17(3),641-664.	Wrong population
45	Nickerson A, Byrow Y, Pajak R, McMahon T, Bryant RA, Christensen H, Liddell BJ (2019). 'Tell Your Story': a randomized controlled trial of an online intervention to reduce mental health stigma and increase help-seeking in refugee men with posttraumatic stress. Psychol Med; 1-12.	Wrong study design

46	Nordbrandt MS, Carlsson J, Lindberg LG, Sandahl H, Mortensen EL (2015). Treatment of traumatised refugees with basic body awareness therapy versus mixed physical activity as add-on treatment: Study protocol of a randomised controlled trial. Trials; 16(1),477.	Wrong population
47	Northwood AK, Vukovich MM, Beckman A, Walter JP, Josiah N, Hudak L, O'Donnell Burrows K, Letts JP, Danner CC. Intensive psychotherapy and case management for Karen refugees with major depression in primary care: a pragmatic randomized control trial. BMC Fam Pract. 2020 Jan 28;21(1):17.	Wrong population
48	Onyut LP, Neuner F, Schauer E, Ertl V, Odenwald M, Schauer M, Elbert T (2004). The Nakivale Camp Mental Health Project: Building local competency for psychological assistance to traumatised refugees. Intervention; 2(2),90-107.	Wrong population
49	Ooi CS, Rooney RM, Roberts C, Kane RT, Wright B, Chatzisarantis N (2016). The efficacy of a group cognitive behavioral therapy for war affected young migrants living in Australia: A cluster randomized controlled trial. Front Psychol ; 7:1641.	Wrong study design
50	Palic S, Elklit A (2009). An explorative outcome study of CBT-based multidisciplinary treatment in a diverse group of refugees from a Danish treatment centre for rehabilitation of traumatized refugees. Torture; 19(3):248-70.	Wrong population
51	Panter-Brick C, Dajani R, Eggerman M, Hermosilla S, Sancilio A, Ager A (2017). Insecurity, distress and mental health: experimental and randomized controlled trials of a psychosocial intervention for youth affected by the Syrian crisis. J Child Psychol Psychiatry; doi: 10.1111/jcpp.12832.	Wrong study design
52	Peltonen K, Kangaslampi S (2019). Treating children and adolescents with multiple traumas: a randomized clinical trial of narrative exposure therapy. Eur J Psychotraumatol;10(1):1558708.	Wrong study design
53	Pfeiffer E, Sachser C, Rohlmann F, Goldbeck L (2018). Effectiveness of a trauma-focused group intervention for young refugees: a randomized controlled trial. J Child Psychol Psychiatry;59(11):1171-1179.	Wrong population
54	Quinlan R, Schweitzer RD, Khawaja N, Griffin J (2016). Evaluation of a school-based creative arts therapy program for adolescents from refugee backgrounds. The Arts in Psychotherapy; 47,72-78.	Wrong population

55	Rahman A, Hamdani SU, Awan NR, Bryant RA, Dawson KS, Khan MF, Azeemi MM, Akhtar P, Nazir H, Chiumento A, Sijbrandij M, Wang D, Farooq S, van Ommeren M (2016). Effect of a Multicomponent Behavioral Intervention in Adults Impaired by Psychological Distress in a Conflict Affected Area of Pakistan: A Randomized Clinical Trial. JAMA; 316(24):2609-2617.	Wrong population
56	Rees B, Travis F, Shapiro D, Chant R (2013). Reduction in posttraumatic stress symptoms in Congolese refugees practicing transcendental meditation. Journal of traumatic stress; 26(2),295-298.	Wrong population
57	Renner W (2009). The effectiveness of psychotherapy with refugees and asylum seekers: preliminary results from an Austrian study. Journal of Immigrant and Minority Health; 11(1):41-5.	Wrong population
58	Renner W, Bänninger-Huber E, Peltzer K (2011). Culture-Sensitive and Resource Oriented Peer (CROP)- Groups as a community based intervention for trauma survivors: A randomized controlled pilot study with refugees and asylum seekers from Chechnya. Australasian Journal of Disaster and Trauma Studies; 1:1–13	Wrong intervention
59	Rousseau C, Benoit M, Gauthier MF, Lacroix L, Alain N, Rojas MV, Moran A, Bourassa D (2007). Classroom drama therapy program for immigrant and refugee adolescents: A pilot study. Clinical child psychology and psychiatry; 12(3),451-465.	Wrong intervention
60	Rousseau C, Beauregard C, Daignault K, Petrakos H4, Thombs BD, Steele R, Vasiliadis HM, Hechtman L (2014). A cluster randomized-controlled trial of a classroom-based drama workshop program to improve mental health outcomes among immigrant and refugee youth in special classes. PloS on; 9(8),e104704.	Wrong population
61	Ruf M, Schauer M, Neuner F, Catani C, Schauer E, Elbert T (2010). Narrative exposure therapy for 7-to 16-year-olds: A randomized controlled trial with traumatized refugee children. Journal of traumatic stress; 23(4):437-445.	Wrong population
62	Schaal S, Elbert T, Neuner F (2009). Narrative exposure therapy versus interpersonal psychotherapy. Psychotherapy and psychosomatics; 78(5),298-306.	Wrong study design
63	Schottelkorb AA, Doumas DM, Garcia R (2012). Treatment for childhood refugee trauma: A randomized, controlled trial. International Journal of Play Therapy; 21(2),57.	Wrong study design

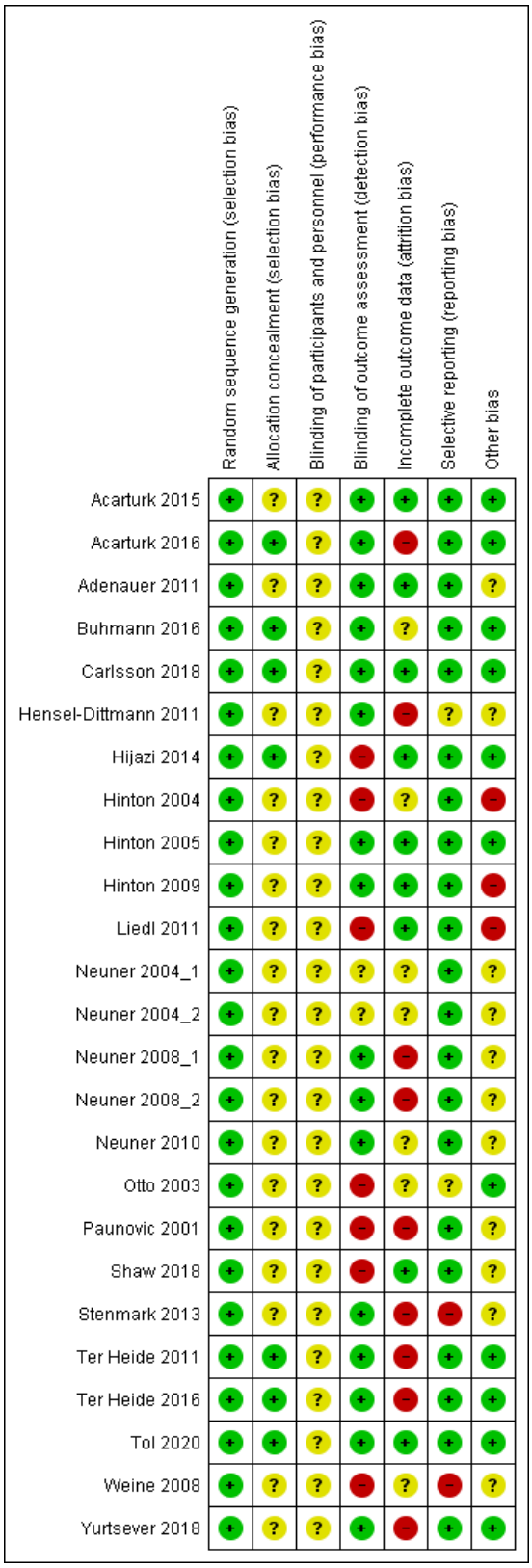
64	Smajkić A, Weine S, Durić-Bijedić Z, Boskailo E, Lewis J, Pavković I (2001). Sertralilne, paroxetine and venlafaxine in refugee post traumatic stress disorder with depression symptoms. Medicinski arhiv; 55(1 Suppl 1).	Wrong intervention
65	Sonne C, Carlsson J, Bech P, Elklit A, Mortensen EL (2016). Treatment of trauma-affected refugees with venlafaxine versus sertraline combined with psychotherapy-a randomised study. BMC psychiatry; 16(1), 383.	Wrong population
66	Stein BD, Jaycox LH, Kataoka SH, Wong M, Tu W, Elliott MN, Fink A (2003). A mental health intervention for schoolchildren exposed to violence: A randomized controlled trial. Jama; 290(5),603-611.	Wrong population
67	Steinert C, Bumke PJ, Hollekamp RL, Larisch A, Leichsenring F, Mattheß H, Sek S, Sodemann U, Stingl M, Ret T, Vojtová H, Wöller W, Kruse J (2017). Resource activation for treating post-traumatic stress disorder, co-morbid symptoms and impaired functioning: a randomized controlled trial in Cambodia. Psychological medicine; 47(3), 553-564.	Wrong study design
68	Stenmark H, Catani C, Elbert T, Gøtestam KG (2008). Narrative Exposure Therapy compared to treatment as usual for refugees with PTSD-Preliminary results from a randomized controlled trial. European Psychiatry; 23, S90.	Wrong population
69	Vijayakumar L, Mohanraj R, Kumar S, Jeyaseelan V, Sriram S, Shanmugam M (2017). CASP - An intervention by community volunteers to reduce suicidal behaviour among refugees. Int J Soc Psychiatry; 63(7):589-597.	Wrong study design
70	Weinstein N, Khabbaz F, Legate N. Enhancing need satisfaction to reduce psychological distress in Syrian refugees (2016). J Consult Clin Psychol; 84(7):645-50.	Wrong population
71	Weiss WM, Murray LK, Zangana GA, Mahmooth Z, Kaysen D, Dorsey S, Lindgren K, Gross A, Murray SM, Bass JK, Bolton P (2015). Community-based mental health treatments for survivors of torture and militant attacks in Southern Iraq: a randomized control trial. BMC psychiatry; 15(1),249.	Wrong outcome
72	Yeomans PD, Forman EM, Herbert JD, Yuen E (2010). A randomized trial of a reconciliation workshop with and without PTSD psychoeducation in Burundian sample. Journal of traumatic stress; 23(3),305-312.	Wrong population

Studies awaiting assessment and ongoing

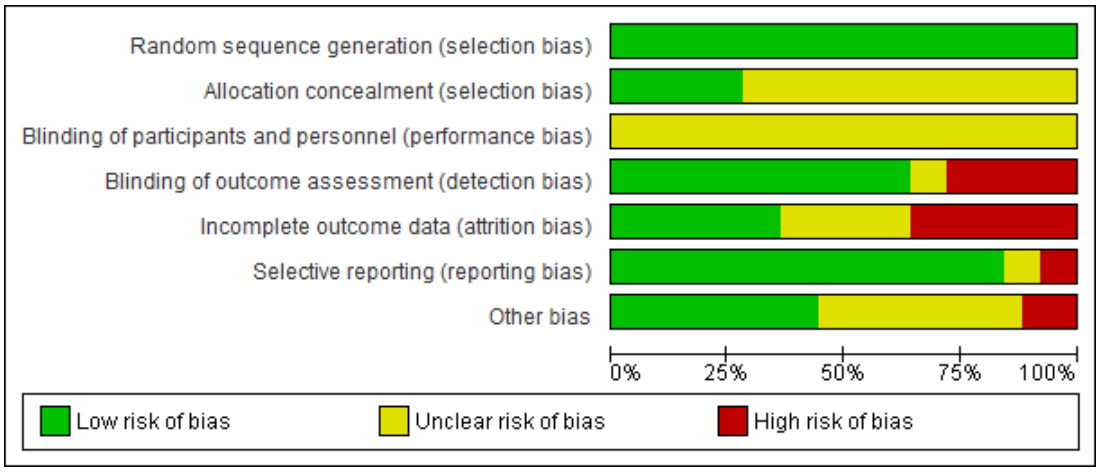
1. Beck BD, Lund ST, Søgaard U, Simonsen E, Tellier TC, Cordtz TO, Laier GH, Moe T (2018). Music therapy versus treatment as usual for refugees diagnosed with posttraumatic stress disorder (PTSD): study protocol for a randomized controlled trial. Trials; 19(1):301.
2. Golchert J, Roehr S, Berg F, Grochtdreis T, Hoffmann R, Jung F, Nagl M, Plexnies A, Renner A, König HH, Kersting A, Riedel-Heller SG (2019). HELP@APP: development and evaluation of a self-help app for traumatized Syrian refugees in Germany – a study protocol of a randomized controlled trial. BMC Psychiatry; 19(1):131.
3. Hasha W, Fadnes LT, Igland J, Vårdal R, Giusti LM, Strømme EM, Haj-Younes J, Heltne U, Kumar BN, Diaz E (2019). Two interventions to treat pain disorders and post-traumatic symptoms among Syrian refugees: protocol for a randomized controlled trial. Trials; 20(1):784.
4. Knefel M, Kantor V, Nicholson AA, Schiess-Jokanovic J, Weindl D, Schäfer I, Lueger-Schuster B (2020). A brief transdiagnostic psychological intervention for Afghan asylum seekers and refugees in Austria: a randomized controlled trial. Trials;21(1):57.
5. Purgato M, Carswell K, Acarturk C, Au T, Akbai S, Anttila M, Baumgartner J, Bailey D, Biondi M, Bird M, Churchill R, Eskici S, Hansen LJ, Heron P, Ilkkursun Z, Kilian R, Koesters M, Lantta T, Nose M, Ostuzzi G, Papola D, Popa M, Sijbrandij M, Tarsitani L, Tedeschi F, Turrini G, Uygun E, Valimaki MA, Wancata J, White R, Zanini E, Cuijpers P, Barbui C, Van Ommeren M (2019). Effectiveness and cost-effectiveness of self-help plus (SH+) for preventing mental disorders in refugees and asylum seekers in Europe and Turkey: study protocols for two randomised controlled trials. BMJ open; 9(5):e030259.
6. Sandahl H, Jennum P, Baandrup L, Poschmann IS, Carlsson J (2017). Treatment of sleep disturbances in trauma-affected refugees: Study protocol for a randomised controlled trial. Trials; 18(1):520
7. Sijbrandij M, Acarturk C, Bird M, Bryant RA, Burchert S, Carswell K, de Jong J, Dinesen C, Dawson KS, El Chammay R, van Ittersum L, Jordans M, Knaevelsrud C, McDaid D, Miller K, Morina N, Park AL, Roberts B, van Son Y, Sondorp E, Pfaltz MC, Ruttenberg L, Schick M, Schnyder U, van Ommeren M, Ventevogel P, Weissbecker I, Weitz E, Wiedemann N, Whitney C, Cuijpers P (2017). Strengthening mental health care systems for Syrian refugees in Europe and the Middle East: integrating scalable psychological interventions in eight countries. Eur J Psychotraumatol;8(sup2):1388102.
8. de Graaff AM, Cuijpers P, Acarturk C, Bryant R, Burchert S, Fuhr DC, Huizink AC, de Jong J, Kieft B, Knaevelsrud C, McDaid D, Morina N, Park AL, Uppendahl J, Ventevogel P, Whitney C, Wiedemann N, Woodward A, Sijbrandij M (2020). Effectiveness of a peer-refugee delivered psychological intervention to reduce psychological distress among adult Syrian refugees in the Netherlands: study protocol. Eur J Psychotraumatol;11(1):1694347.
9. ISRCTN15214107. Pilot trial of an evidence-based low intensity psychosocial intervention delivered by lay therapists for asylum seekers and refugees. https://doi.org/10.1186/ISRCTN15214107
10. NCT03830008. Scaling-up Psychological Interventions With Syrian Refugees in Switzerland. https://clinicaltrials.gov/show/NCT03830008

Risk of bias of included studies

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



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



Risk of bias tables

Acarturk 2015

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "The selection was conducted by using a computer-generated random number list. [...] Participants were randomly assigned on a 1:1 basis to the EMDR or wait-list group". Difference in the average baseline value across treatment arms: ratio above 1.1.
Allocation concealment (selection bias)	Unclear risk	No details provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "[...] the outcome assessors were kept blind to the allocation".
Incomplete outcome data (attrition bias)	Low risk	All randomised patients completed the study and there were no missing data. Results were reported for all randomised patients.
Selective reporting (reporting bias)	Low risk	Protocol is not available, however all expected outcomes were clearly reported at post-treatment and follow-up.
Other bias	Low risk	All participants were Syrian and all interviews were carried out in the local language, with the help of Syrian interpreters. The measures were translated into Arabic. Sponsorship bias is unlikely to have occurred.

Acarturk 2016

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "Participants were randomly assigned on a 1:1 basis to the EMDR or wait-list group".
Allocation concealment (selection bias)	Low risk	QUOTE: "After including the participants, another researcher, not involved in the current study, used a computergenerated random-number list for the allocation of participants to different treatment groups".

Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "[...] the outcome assessors were kept blind to the allocation".
Incomplete outcome data (attrition bias)	High risk	Dropouts were high in the two groups: 18/49 (36.73%) in EMDR group and 16/49 (32.65%) in WL group. An intent-to-treat was performed, quote: "provide a robust test of the efficacy of the treatment, and to follow the intention-to-treat principles of data analysis, the missing data points in the ÷2 analyses were replaced with values that would indicate that drop-outs retained the diagnosis of trauma after the intervention." Analysis were apparently performed on all randomized patients and authors stated that the completers' analyses of the measures produced the same results.
Selective reporting (reporting bias)	Low risk	All outcomes were clearly pre-specified in the protocol and were well reported at post-treatment and follow-up.
Other bias	Low risk	All participants were Syrian and all interviews were carried out in the local language, with the help of Syrian interpreters. The measures were translated into Arabic. Sponsorship bias is unlikely to have occurred.

Adenauer 2011

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "participants... were randomised using a computer-generated list of random numbers". Difference in the average baseline value across treatment arms: ratio above 1.1.
Allocation concealment (selection bias)	Unclear risk	No details provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	Post test were carried out by interviewers who were blind to treatament condition.
Incomplete outcome data (attrition bias)	Low risk	Analysis carried out only on completers; however, the number of dropout is very low, balanced across intervention groups with similar reasons for missing data across groups, that are not related to the outcome (patients moved for deportation).
Selective reporting (reporting bias)	Low risk	All outcomes were clearly pre-specified in the protocol and were clearly reported in the paper.
Other bias	Unclear risk	NET was carried out with the help of interpreters if necessary. Two of the authors of the paper are authors of the NET manual. Sponsorship bias cannot be ruled out.

Buhmann 2016

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "the randomisation sequence was computer generated by the Department of Biostatistics at University of Copenagen, which was not otherwise involved in the research project. Randomisation was stratified by gender and total score on HTQ, so that patients with equal illness severity were allocated to all groups".
Allocation concealment (selection bias)	Low risk	QUOTE: "allocation was concealed by using sequentially numbered sealed envelopes. The envelopes were kept in an office phisically separate from the clinic and were administred by secretaries who were not associated with the reasearch project. When a patient had been included in the trial, the physician telephoned the office administering the randomisation envelopes and patients were subsequently assigned to a treatment group."
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible

Blinding of outcome assessment (detection bias)	High risk	QUOTE: "A masked outcome measure was obtained by rating all patients with HRSD and HRSA at baseline and follow-up. No similar observer-rating existed for PTSD".
Incomplete outcome data (attrition bias)	Unclear risk	Missing data have been imputed using appropriated method (full information maximum likelihood- FIML); however, number of patients included in the analyses correspondes to completers only. Data on drop out rates are unclear.
Selective reporting (reporting bias)	Low risk	All expected outcomes were clearly pre-specified in the protocol and well reported in the paper.
Other bias	Low risk	QUOTE: "All self-report questionnaires were available in the six most common languages at the clinic, which included the languages of 92% of patients. If no translation was available, an interpreter translated the official version into the language of the patient." The trial was funded by the capital region of Copenaghen. Sponsorship bias is unlikely to have occurred.

Carlsson 2018

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "A computer-generated randomisation sequence was obtained from the Department of Biostatistics at the University of Copenhagen".
Allocation concealment (selection bias)	Low risk	QUOTE: "Allocation was concealed by using sequentially numbered sealed envelopes".
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "The measures were all self-report [...] the HAM-D and HAM-A, which were completed by raters blinded to the time of the interview. [...] If the participants did not understand any of the above mentioned languages, the questionnaires were translated by an interpreter during the session. If the participants were illiterate, an interpreter assisted with reading the questionnaires".
Incomplete outcome data (attrition bias)	Low risk	Missing outcome data were low and balanced in numbers across intervention groups.The analysis were intent-to-treat: QUOTE: "To conduct intention-to-treat analyses the regression analyses were conducted using Full Information Maximum Likelihood".
Selective reporting (reporting bias)	Low risk	All expected outcomes were clearly pre-specified in the protocol and well reported in the paper.
Other bias	Low risk	QUOTE: "All self-administered questionnaires were available in 5 languages: If the participants did not understand any of the above mentioned languages, the questionnaires were translated by an interpreter during the session. If the participants were illiterate, an interpreter assisted with reading the questionnaires". The study was funded by TrygFonden (J.nr. 7-10-1002). Sponsorship bias is unlikely to have occurred.

Hensel-Dittmann 2011

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "Subjects were randomly assigned to either NET or SIT. Participants were matched pairwise according to gender, age, and region of origin and were then allocated to NET or SIT by flipping a coin." Difference in the average baseline value across treatment arms: ratio above 1.1.
Allocation concealment (selection bias)	Unclear risk	No information provided
Blinding of participants and personnel (performance bias)	Unclear risk	Personnel cannot be blind for this type of treatment. QUOTE: "In order to avoid any therapist effects, each therapist was involved in NET and SIT treatments. Treatment was usually carried out by 1 therapist, with 1 trainee therapist observing and assisting in the sessions".
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "We aimed to keep the assessors blind to the treatment conditions of the subjects; however, occasionally the treatment condition was revealed to the rater by responses from the patient".

Incomplete outcome data (attrition bias)	High risk	QUOTE: "Aiming at an intention-to-treat analysis, all subjects who were randomized were included in the outcome analysis. [...] we used mixed effects models".High dropout rate at the end of the study: 8/15 in NET group and 7/13 in SIT group.
Selective reporting (reporting bias)	Unclear risk	Protocol is not available. All expected outcomes were clearly reported at post-treatment and follow-up. Socio-demographic information were not reported.
Other bias	Unclear risk	QUOTE: "In 17 cases, we conducted the treatment with the aid of trained interpreters [...]" Two of the authors of the paper are authors of the NET manual. Sponsorship bias cannot be ruled out. Study was supported by the European Refugee Fund and the Deutsche Forschungsgemeinschaft.

Hijazi 2014

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "the computerized scheme was stratified by recruitment site (agency) and assistance, and randomised the two conditions in blocks of six in a 2:1 ratio".
Allocation concealment (selection bias)	Low risk	QUOTE: "the assistant (heretofore blind to condition assignement) opened a sealed envelope and informed the participants when he or she would be getting the treatment".
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	High risk	Self-report measures were mailed to participants who completed independently without interpreters. QUOTE: "all participants were mailed follow up assessment measure and returned envelopes 2 and 4 months after measure".
Incomplete outcome data (attrition bias)	Low risk	QUOTE: "our primary analyses were intent-to-treat, meaning that we retained all 36 participants, regardless of how many intervention or follow-up assessment sessions they completed. Any missing follow-up data were replaced using the multiple imputation preocedure in SPSS."
Selective reporting (reporting bias)	Low risk	All expected outcomes were clearly pre-specified in the protocol and well reported in the paper at all FUs.
Other bias	Low risk	The personnel were Arabic-speaking as the participants and the measures were translated into Arabic and most of the translated versions were validated. This research was supported by the Blue Cross Blue Shield of Michigan Foundation and award RO1 057808 from the National Institute of Arthritis, Musculoskeletal, and Skin Diseases. Sponsorship bias is unlikely to have occurred.

Hinton 2004

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "the patients were randomly assigned to two cohorts of 6 each". No further details provided.
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	High risk	Measures were self administered by the patients.
Incomplete outcome data (attrition bias)	Unclear risk	Data are provided for all randomised patients. No details provided on drop-out and eventual methods to impute missing data.
Selective reporting (reporting bias)	Low risk	Protocol is not available, however all expected outcomes were clearly reported at all follow-up.
Other bias	High risk	The first author led the CBT sessions. Vietnamese social workers and staff provided translation and cultural consultation; all patients were Vietnamese; the measures were translated and validated for Vietnamese population.

Hinton 2005

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "patients... were stratified by gender, with random allocation to either the Initial treatment, or the Delayed Treatment Groups decided by a coin toss".
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "blind to treatment condition, all assessments were made by a Cambodian bicultural worker".
Incomplete outcome data (attrition bias)	Low risk	Data are provided for all randomised patients; all randomised patients completed the study and there were no missing data.
Selective reporting (reporting bias)	Low risk	Protocol is not available, however all expected outcomes were clearly reported at all follow-up.
Other bias	High risk	All patients were Cambodian and CBT sessions were conducted by the first author because fluent in Cambodian; all measures were translated and then back-translated.

Hinton 2009

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "Eligible patients who agreed to participate were stratified by gender, with random allocation to either initial or delayed treatment decided by a coin toss".
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "Blind to treatment condition, all assessments were made by a Cambodian bicultural worker".
Incomplete outcome data (attrition bias)	Low risk	Data are provided for all randomised patients; all randomised patients completed the study and there were no missing data.
Selective reporting (reporting bias)	Low risk	Protocol is not available. All expected outcomes were clearly reported at all time points.
Other bias	High risk	The first author, who is fluent in Cambodian, conducted or co-led the intervention. No information provided about the sponsorship.

Liedl 2011

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "...were randomly assigned to one of the three conditions". Difference in the average baseline value across treatment arms: ratio above 1.1.
Allocation concealment (selection bias)	Unclear risk	No information provided.

Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	High risk	QUOTE: "The questionnaire were administered using multilingual computer assisted self interview [...]"
Incomplete outcome data (attrition bias)	Low risk	Only completers data were analysed; missing outcome data were low and balanced in numbers across intervention groups, with similar reasons for missing data across groups.
Selective reporting (reporting bias)	Low risk	Protocol is not available. All expected outcomes were clearly reported.
Other bias	High risk	QUOTE: "wherever possible, we used validated version of the questionnaire in the partecipants native languages". Paper was retracted and the reasons are unknown.

Neuner 2004

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "Each participant was randomly assigned (using a dice) to one of three treatment groups: narrative exposure therapy, supportive counseling, or psychoeducation only". Difference in the average baseline value across treatment arms: ratio above 1.1.
Allocation concealment (selection bias)	Unclear risk	No details provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "The local and expert interviewers who carried out the posttests, as well as the follow-up tests, were blind for the individual participant's treatment condition. The respondents were instructed not to inform the interviewers or the trained researchers about the type of treatment or the number of sessions they had received".
Incomplete outcome data (attrition bias)	Low risk	QUOTE: "To maximize use of information in this study with a small sample size, missing data were estimated with a restricted maximum likelihood procedure" ... "All participant were included in analyses".
Selective reporting (reporting bias)	Low risk	Protocol is not available, however all expected outcomes were clearly reported at post-test and at follow-up.
Other bias	Unclear risk	QUOTE: "Self-report instruments were translated into the Arabic dialect spoken by the refugees in Imvepi (Juba-Arabic)". The authors of the paper are authors of the NET manual. Sponsorship bias cannot be ruled out. Research was funded by the Deutsche Forschungsgemeinschaft.

Neuner 2008

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "The list of participants was ordered randomly; the first 4 were consecutively assigned to the NET, TC, NET, and TC groups; and the fifth was assigned to the MG (monitoring) group. This procedure was repeated until all 277 participants were assigned."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	Interviewers were blind with respect to the particular treatment condition.
Incomplete outcome data (attrition bias)	High risk	More than 20% of patients abandoned the study prematurely. Study endopoint: 50/111 missing from NET group; 52/111 missing from TC group. QUOTE: "Aiming at an intention-to-treat analysis, we included in the outcome analysis all participants who were

		randomized.....we chose to apply mixed-effects models that allow the inclusion of all available data without the arbitrary replacement or imputation of missing values".
Selective reporting (reporting bias)	Low risk	Protocol is not available. All expected outcomes were clearly reported.
Other bias	Unclear risk	The authors of the paper are authors of the NET manual. Sponsorship bias cannot be ruled out.

Neuner 2010

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "participants were randomised into the two groups using a block permutation procedure with blocks of four patients".
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "we aimed at keeping interviewers blind to each partecipant's condition. However, occasionally, the participants revealed their condition to the interviewer, despite instruction not to do so".
Incomplete outcome data (attrition bias)	Unclear risk	QUOTE: "we chose to apply mixed effects models that allow the inclusion all available data....". However results are reported at post treatment only for completers. Only two patients dropped out from the NET group, one for reasons related to the treatment.
Selective reporting (reporting bias)	Low risk	Protocol is not available, however all expected outcomes were clearly reported at endpoint.
Other bias	Unclear risk	Patients were heterogeneous in terms of country of origin. QUOTE: "All instruments were assessed in the form of structured interviews. NET treatment was carried out according to the manual by therapists from the University of Konstanz with the help of trained interpreters". Two of the authors of the paper are authors of the NET manual; Study was funded by European Refugee Fund. Sponsorship bias cannot be ruled out.

Otto 2003

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "five patients were randomly assigned to sertraline treatment, and five to sertraline treatment plus ten sessions of CBT". No information provided about the sequence generation process. Difference in the average baseline value across treatment arms: ratio above 1.1.
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	High risk	No details are provided on how the outcomes were assessed
Incomplete outcome data (attrition bias)	Unclear risk	Drop-out data are not reported.
Selective reporting (reporting bias)	Low risk	Protocol is not available. All expected outcomes were reported, even if the total score of primay outcome is not reported.
Other bias	Low risk	All participants were Cambodian (Khmer-speaking); treatment services were provided in Khmer; most of the scales have been validated for Khmer population. Sponsorship bias is unlikely to have occurred.

Paunovic 2001

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "The patients were randomly assigned to two treatments, CBT or E, with the provision that no more than two consecutive patients could be randomized to the same condition."
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	High risk	QUOTE: "an independent assessor was not used; the first author was both the assessor and the therapist". Some self-report instruments were used without interpreters according to inclusion criterion.
Incomplete outcome data (attrition bias)	High risk	High attrition rate in the treatment group with 3 participants (30%) excluded. This compared with 1 (10%) in the comparison group. No indication that excluded participants' outcomes were included in the analyses.
Selective reporting (reporting bias)	Low risk	Protocol is not available. All expected outcomes were reported.
Other bias	Unclear risk	Treatment was conducted by the first author. Sponsorship bias cannot be ruled out.

Shaw 2018

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "random assignment was done through online software. Participants were randomized either to an initial treatment group [...] or to a waiting list control group"
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	High risk	QUOTE: "the research assistant was not blind to group assignment"
Incomplete outcome data (attrition bias)	Low risk	QUOTE: "An intention-to-treat approach was utilized". Missing data were very few [...] with no missing data in the waitlist control group for all measurements, and no more than three participants missing in the treatment group at post tretament and 3 month follow-up".
Selective reporting (reporting bias)	Low risk	Protocol is not available. All expected outcomes were reported.
Other bias	Unclear risk	All Afghan participants. Intervention groups were facilitated jointly by the first authory. Some support received form Carefugees in Malaysia.

Stenmark 2013

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "Participants were randomized to the treatment conditions by drawing ball from a bag with an a-priori 2/3 chance of receiving NET and 1/3 chance of receiving TAU".

Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	Single blind: outcomes assessor. QUOTE: "assessor had no access to information about what therapy the patients' had been assigned to and the therapists were instructed not to reveal the type of treatment their patients were given. The aim was to make the assessor as blind as possible to the patients' treatments."
Incomplete outcome data (attrition bias)	High risk	Drop-out were high in both arms (36% and 30% respectively) with similar reasons across groups. Authors state that intention-to-treat analyses were conducted and that results did not differ from treatment completers. However only completers results are reported.
Selective reporting (reporting bias)	High risk	Protocol is available and all prespecified outcomes were reported however data in the paper are reported only in graphs.
Other bias	Unclear risk	There were differences in the background training of the therapists. Patients were heterogeneous in terms of country of origin. QUOTE: "assessment tools were not validated to the language and culture of each participant". Two of the authors of the paper are authors of the NET manual.

ter Heide 2011

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "Participants were assigned to their experimental group using simple randomisation through flipping a coin". Difference in the average baseline value across treatment arms: ratio above 1.1.
Allocation concealment (selection bias)	Low risk	QUOTE: "An independent research associate performed randomisation".
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "The interview was administered in Dutch by trained, blind assessors. Blindness was maintained in 33 out of 44 assessments (70%)".
Incomplete outcome data (attrition bias)	High risk	Drop-out were high in both arms (50%) with similar reasons across groups. Authors stated that no significant differences were found between completers and drop-outs. Primary and secondary outcomes were provided for completers only.
Selective reporting (reporting bias)	Low risk	Protocol is not available, however all outcome were reported in the paper.
Other bias	Low risk	Patients were heterogeneous in terms of country of origin. QUOTE: "Self-report questionnaires were administered in the patient's native language if possible; interpreters were used when necessary [...] This study was partially funded by ZonMW, the Netherlands organisation for health research and development". Sponsorship bias is unlikely to have occurred.

ter Heide 2016

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "A two-arm design was used in which participants were randomly assigned to either 12 h (9 session) of EMDR therapy or 12h (12 sessions) of stabilisation as usual. [...] Participants were assigned to their experimental gropu through flipping a coin".
Allocation concealment (selection bias)	Low risk	QUOTE: "An indipendet research associated who was not otherwise involved in the inclusion process performed randomization".
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible

Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "Interviews were administered by trained Master's students in psychology who were kept masked to treatment condition by having limited access to participant data and by asking participants not to reveal treatment content".
Incomplete outcome data (attrition bias)	High risk	Drop-out rates were high in both arms (32.4% in EMDR group [12/37] and 37.8% in stabilisation group [14/37]) with similar reasons across groups. Authors stated that an intent-to-treat analyses for primary outcomes was performed (tab 3): quote "Bayesian analysis enables full intent-to-treat analysis as missing data are automatically imputed".
Selective reporting (reporting bias)	Low risk	Protocol is not available, however all outcome were reported in the paper.
Other bias	Low risk	QUOTE: "Interpreters were used whenever the participant did not speak Dutch and the instrument was not available in the participant's native language. This study was jointly funded by ZonMW, The Netherlands organisation for health research and development, and Foundation Centrum '45 [...]". Sponsorship bias is unlikely to have occurred.

Tol 2020

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "Randomisation was done by an independent epidemiologist at Johns Hopkins University (Baltimore, MD, USA). A simple random allocation sequence was generated using Stata 14 and villages were allocated to intervention with enhanced usual care or enhanced usual care alone. [...] households were randomly selected by spinning a bottle [...] If there were multiple eligible women we randomly selected one by drawing slips".
Allocation concealment (selection bias)	Low risk	See above
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "The allocation sequence was hidden from assessors. [...] To maintain masking, assessors worked in a separate office and visited the settlement on different days from Self-Help Plus facilitators, who were instructed not to disclose allocation".
Incomplete outcome data (attrition bias)	Low risk	Low attrition rates. QUOTE: "Most of these participants were lost to follow-up because they moved location. Participants lost to follow-up were similar in number across study groups, and attrition was not significantly related to study condition, marital status, work status, or education.[...] For participants lost at follow-up, we used listwise deletion (or complete case analysis), an acceptable approach when the level of missing data is minimal
Selective reporting (reporting bias)	Low risk	QUOTE: "The trial protocol was published previously, and no changes were made to design after the trial started". All outcome were reported in the paper
Other bias	Low risk	Participatns were all south Sudanese female refugees. Measures were translated in Juba Arabic and reviewed by an independent South Sudanese mental health expert to assess translations for clinical validity. Project funded by the Research for Health in Humanitarian Crises (R2HC) Programme, managed by ELRHA. Sponsorship bias is unlikely to have occurred.

Weine 2008

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "subjects were randomly assigned to one of the two conditions". No information provided about the sequence generation process.
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible

Blinding of outcome assessment (detection bias)	High risk	No details are provided on how the outcomes were assessed.
Incomplete outcome data (attrition bias)	Unclear risk	QUOTE: "The attrition rates for assessments of the control and intervention groups, respectively, were as follows: 14% and 17% (6 months); 10% and 6% (12 months); 1% and 4% (18 months)". Authors did not reported sufficient information (number randomized not stated, no reasons for missing data provided).
Selective reporting (reporting bias)	High risk	Protocol is not available. Most of the outcomes were not reported as raw data but only as random effects model.
Other bias	Low risk	All partecipants were Bosnian. QUOTE: "all instruments were translated into Bosnian by the research team. Back translations were used to improve the word selection and to verify that questions were understandable to the refugees." The work was supported by the National Institute of Mental Health. Sponsorship bias is unlikely to have occurred.

Yurtsever 2018

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	QUOTE: "Participants who had an IES-R score of equal or above 33 were randomly assigned by a computer program to the experimental group (EMDR GTEP= 31) and the EMDR control group (control group =32)".
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding patients and therapists in psychotherapy is not possible
Blinding of outcome assessment (detection bias)	Low risk	QUOTE: "None of the therapists who ran the groups took a role in conducting the surveys of the participants or saw the results".
Incomplete outcome data (attrition bias)	High risk	QUOTE: “Ten people from the experimental group were unable to attend two sessions of G-TEP and so were also excluded from the study (n = 21).” Analysis carried out only on completers.
Selective reporting (reporting bias)	Low risk	Protocol is not available, however all outcome were reported in the paper.
Other bias	Low risk	QUOTE: "the ethical approval was given by the EMDR Turkey Research Committee". Syrian arabic version of instruments has been used. The testers spoke Arabic and Turkish fluently. Sponsorship bias is unlikely to have occurred.

PRISMA NMA checklist

Section/Topic	Item #	Checklist Item	Reported on Page #
TITLE			
Title	1	Identify the report as a systematic review *incorporating a network meta-analysis (or related form of meta-analysis).*	***1***
ABSTRACT			***3***
Structured summary	2	Provide a structured summary including, as applicable: **Background:** main objectives **Methods:** data sources; study eligibility criteria, participants, and interventions; study appraisal; and *synthesis methods, such as network meta-analysis.* **Results:** number of studies and participants identified; summary estimates with corresponding confidence/credible intervals; *treatment rankings may also be discussed. Authors may choose to summarize pairwise comparisons against a chosen treatment included in their analyses for brevity.* **Discussion/Conclusions:** limitations; conclusions and implications of findings. **Other:** primary source of funding; systematic review registration number with registry name.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known*, including mention of why a network meta-analysis has been conducted.*	6
Objectives	4	Provide an explicit statement of questions being addressed, with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	6
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists and if and where it can be accessed (e.g., Web address); and, if available, provide registration information, including registration number.	6
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale. *Clearly describe eligible treatments included in the treatment network, and note whether any have been clustered or merged into the same node (with justification).*	***7***
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Not reported
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	7
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	8
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	8
Geometry of the network	**S1**	Describe methods used to explore the geometry of the treatment network under study and potential biases related to it. This should include how the evidence base has been graphically summarized for presentation, and what characteristics were compiled and used to describe the evidence base to readers.	9,10,11
Risk of bias within individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	8
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means). *Also describe the use of additional summary measures assessed, such as treatment rankings and surface under the cumulative ranking curve (SUCRA) values, as well as modified approaches used to present summary findings from meta-analyses.*	9,10
Planned methods of analysis	14	Describe the methods of handling data and combining results of studies for each network meta-analysis. This should include, but not be limited to: • *Handling of multi-arm trials;* • *Selection of variance structure;* • *Selection of prior distributions in Bayesian analyses; and*	9,10

		• *Assessment of model fit.*	
Assessment of Inconsistency	**S2**	Describe the statistical methods used to evaluate the agreement of direct and indirect evidence in the treatment network(s) studied. Describe efforts taken to address its presence when found.	10
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	10
Additional analyses	16	Describe methods of additional analyses if done, indicating which were pre-specified. This may include, but not be limited to, the following: • Sensitivity or subgroup analyses; • Meta-regression analyses; • *Alternative formulations of the treatment network; and* • *Use of alternative prior distributions for Bayesian analyses (if applicable).*	11
RESULTS†			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	11
Presentation of network structure	**S3**	Provide a network graph of the included studies to enable visualization of the geometry of the treatment network.	Figure 2
Summary of network geometry	**S4**	Provide a brief overview of characteristics of the treatment network. This may include commentary on the abundance of trials and randomized patients for the different interventions and pairwise comparisons in the network, gaps of evidence in the treatment network, and potential biases reflected by the network structure.	
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	11
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment.	12
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: 1) simple summary data for each intervention group, and 2) effect estimates and confidence intervals. *Modified approaches may be needed to deal with information from larger networks.*	12-17
Synthesis of results	21	Present results of each meta-analysis done, including confidence/credible intervals. *In larger networks, authors may focus on comparisons versus a particular comparator (e.g. placebo or standard care), with full findings presented in an appendix. League tables and forest plots may be considered to summarize pairwise comparisons.* If additional summary measures were explored (such as treatment rankings), these should also be presented.	12-17
Exploration for inconsistency	**S5**	Describe results from investigations of inconsistency. This may include such information as measures of model fit to compare consistency and inconsistency models, *P* values from statistical tests, or summary of inconsistency estimates from different parts of the treatment network.	12-17
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies for the evidence base being studied.	16
Results of additional analyses	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression analyses*, alternative network geometries studied, alternative choice of prior distributions for Bayesian analyses,* and so forth).	15-16
DISCUSSION			
Summary of evidence	24	Summarize the main findings, including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy-makers).	17,18
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review level (e.g., incomplete retrieval of identified research, reporting bias). *Comment on the validity of the assumptions, such as transitivity and consistency. Comment on any concerns regarding network geometry (e.g., avoidance of certain comparisons).*	18,19
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	19,20,21
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review. This should also include information regarding whether funding has been received from manufacturers of treatments in the network and/or whether some of the authors are content experts with professional conflicts of interest that could affect use of treatments in the network.	22

PICOS = population, intervention, comparators, outcomes, study design.

* Text in italics indicates wording specific to reporting of network meta-analyses that has been added to guidance from the PRISMA statement.

† Authors may wish to plan for use of appendices to present all relevant information in full detail for items in this section.

Abbreviations:

WL = waitlist

TAU = treatment as usual

SH+ = self-help plus

NET = narrative exposure therapy

EMDR = eye movement desensitization and reprocessing

SSM = stabilization/stress management (SM: stress management; ST: stabilization therapy; SIT: stress inoculation training)

SC = supportive/trauma counselling

CBT = cognitive behavioural therapy

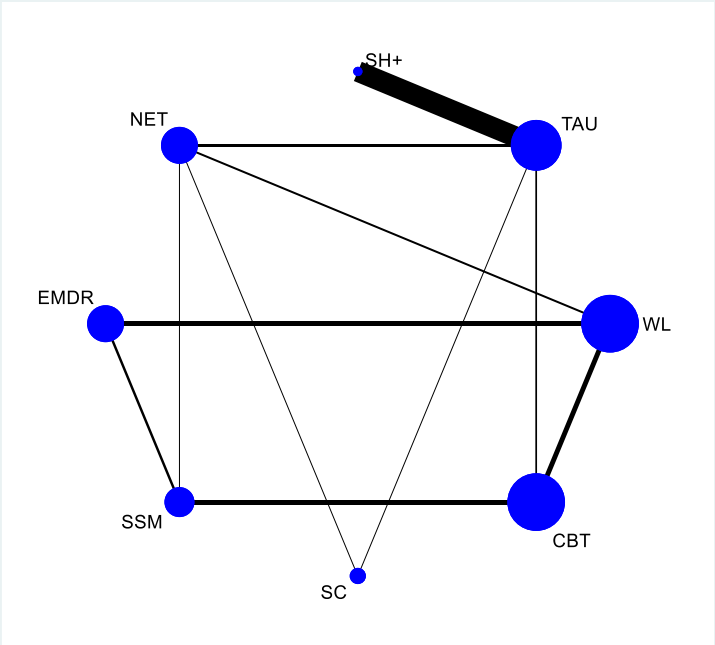
Primary outcome: PTSD symptoms

Intervention codes:

Waiting List	1
Treatment as Usual	2
Self-Help Plus	3
Narrative Exposure Therapy	4
EMDR	5
Stabilization/Stress Management	6
Supportive Counseling	7
Cognitive- Behavioural Therapy	8

Studies contributing to the analysis n= 18

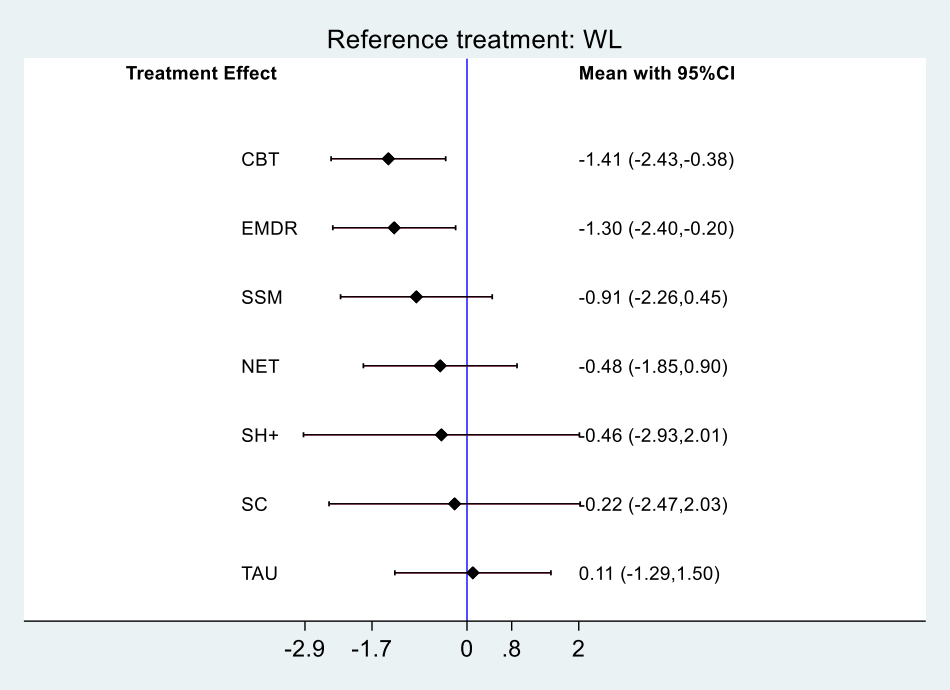
Network map



Net league table

CBT	0.10 (-1.26,1.47)	0.93 (-0.44,2.29)	1.19 (-0.99,3.36)	0.95 (-1.39,3.29)	0.50 (-0.86,1.87)	1.51 (0.36,2.67)	1.41 (0.38,2.43)
-0.10 (-1.47,1.26)	**EMDR**	0.82 (-0.77,2.41)	1.08 (-1.31,3.48)	0.85 (-1.77,3.46)	0.40 (-0.89,1.68)	1.41 (-0.23,3.05)	1.30 (0.20,2.40)
-0.93 (-2.29,0.44)	-0.82 (-2.41,0.77)	**NET**	0.26 (-1.72,2.24)	0.02 (-2.37,2.42)	-0.43 (-1.92,1.07)	0.58 (-0.67,1.84)	0.48 (-0.90,1.85)
-1.19 (-3.36,0.99)	-1.08 (-3.48,1.31)	-0.26 (-2.24,1.72)	**SC**	-0.24 (-3.08,2.61)	-0.68 (-3.04,1.67)	0.33 (-1.66,2.31)	0.22 (-2.03,2.47)
-0.95 (-3.29,1.39)	-0.85 (-3.46,1.77)	-0.02 (-2.42,2.37)	0.24 (-2.61,3.08)	**SHplus**	-0.45 (-3.04,2.14)	0.56 (-1.47,2.60)	0.46 (-2.01,2.93)
-0.50 (-1.87,0.86)	-0.40 (-1.68,0.89)	0.43 (-1.07,1.92)	0.68 (-1.67,3.04)	0.45 (-2.14,3.04)	**SSM**	1.01 (-0.59,2.61)	0.91 (-0.45,2.26)
-1.51 (-2.67,-0.36)	-1.41 (-3.05,0.23)	-0.58 (-1.84,0.67)	-0.33 (-2.31,1.66)	-0.56 (-2.60,1.47)	-1.01 (-2.61,0.59)	**TAU**	-0.11 (-1.50,1.29)
-1.41 (-2.43,-0.38)	**-1.30 (-2.40,-0.20)**	-0.48 (-1.85,0.90)	-0.22 (-2.47,2.03)	-0.46 (-2.93,2.01)	-0.91 (-2.26,0.45)	0.11 (-1.29,1.50)	**WL**

Interval Plot



Pairwise meta-analysis

Study	ES	[95% Conf.	Interval]
5 - 1			
0	-1.651	-2.510	-0.792
1	-1.810	-2.283	-1.337
18	-0.616	-1.219	-0.014
Sub-total			
D+L pooled ES	-1.355	-2.154	-0.556
8 - 1			
3	0.162	-0.231	0.555
6	-2.213	-3.768	-0.658
19	-0.111	-0.871	0.649
21	-4.915	-6.482	-3.348
Sub-total			
D+L pooled ES	-1.608	-3.314	0.098
8 - 6			
4	-0.067	-0.416	0.283
Sub-total			
D+L pooled ES	-0.067	-0.416	0.283
6 - 4			
5	0.244	-0.616	1.105
Sub-total			
D+L pooled ES	0.244	-0.616	1.105
8 - 2			
7	-2.121	-2.915	-1.328
8	-1.904	-2.905	-0.903
12	-0.825	-2.161	0.511
Sub-total			
D+L pooled ES	-1.775	-2.450	-1.100
4 - 2			
9	-0.190	-0.951	0.570
14	-0.566	-1.124	-0.007
Sub-total			
D+L pooled ES	-0.434	-0.884	0.016

7 - 2			
9	-0.127	-0.912	0.658
Sub-total			
D+L pooled ES	-0.127	-0.912	0.658
7 - 4			
9	0.063	-0.679	0.806
Sub-total			
D+L pooled ES	0.063	-0.679	0.806
6 - 5			
15	0.641	-0.657	1.940
16	0.058	-0.444	0.561
Sub-total			
D+L pooled ES	0.134	-0.334	0.603
4 - 1			
20	-0.262	-0.782	0.259
Sub-total			
D+L pooled ES	-0.262	-0.782	0.259
3 - 2			
22	-0.563	-0.725	-0.401
Sub-total			
D+L pooled ES	-0.563	-0.725	-0.401

Test(s) of heterogeneity:

	Heterogeneity statistic	degrees of freedom	P	I-squared**	Tau-squared
5 - 1	9.72	2	0.008	79.4%	0.3900
8 - 1	44.50	3	0.000	93.3%	2.6905
8 - 6	0.00	0	.	.%	0.0000
6 - 4	0.00	0	.	.%	0.0000
8 - 2	2.71	2	0.257	26.3%	0.0963
4 - 2	0.61	1	0.436	0.0%	0.0000
7 - 2	0.00	0	.	.%	0.0000
7 - 4	0.00	0	.	.%	0.0000
6 - 5	0.67	1	0.412	0.0%	0.0000
4 - 1	0.00	0	.	.%	0.0000
3 - 2	0.00	0	.	.%	0.0000

** I-squared: the variation in ES attributable to heterogeneity

Evaluation of heterogeneity and incoherence

Overall heterogeneity in the inconsistency model
Estimated between-studies SD: 1.336

Overall heterogeneity in the consistency model
Estimated between-studies SD: 1.036

Overall incoherence
Design-by-treatment test: P=0.974

Loop-specific heterogeneity

* 1 triangular loops found
 * 5 quadratic loops found

Note: Heterogeneity of loop TAU-NET-SC cannot be estimated due to insufficient observations - set equal to 0

Evaluation of inconsistency using loop-specific heterogeneity estimates:

Loop	IF	seIF	z_value	p_value	CI_95	Loop_Heterog_tau2

TAU-NET-SSM-CBT	1.561	0.655	2.382	0.017	(0.28,2.85)	0.020
WL-NET-SSM-CBT	1.524	4.026	0.379	0.705	(0.00,9.42)	2.690
WL-NET-EMDR-SSM	1.084	1.130	0.960	0.337	(0.00,3.30)	0.311
TAU-NET-SC	0.375	0.621	0.605	0.545	(0.00,1.59)	0.000
WL-EMDR-SSM-CBT	0.353	2.261	0.156	0.876	(0.00,4.78)	1.248
WL-TAU-NET-CBT	0.060	2.277	0.026	0.979	(0.00,4.52)	1.329

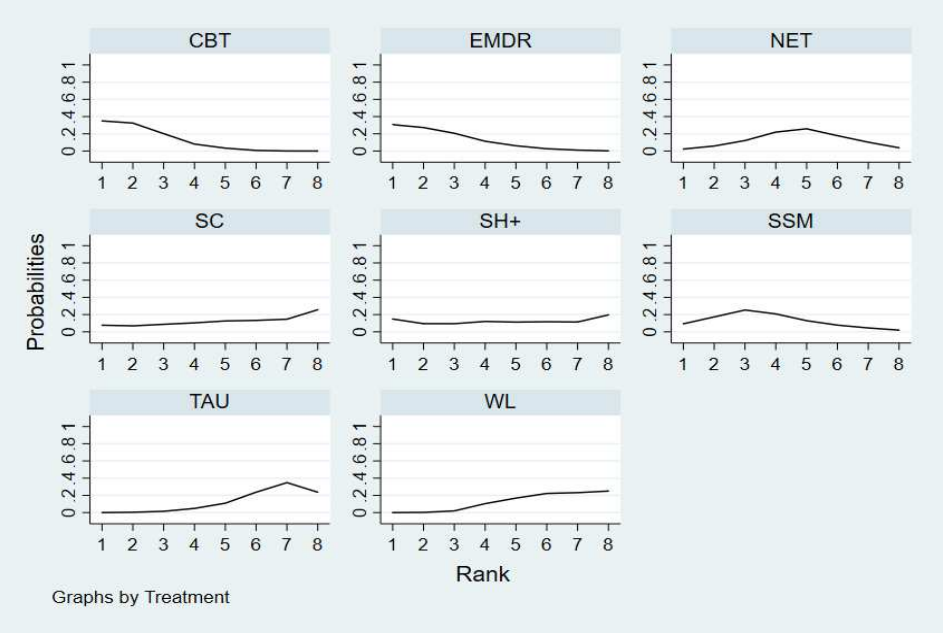
Consistency between direct and indirect estimates

Side		Direct		Indirect		Difference			tau
		Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	P>|z|	
1	4	-.2615775	1.139177	-.6653683	.9826878	.4037908	1.50446	0.788	1.107837
1	5	-1.356682	.6648954	-1.115961	1.310464	-.240721	1.469424	0.870	1.101687
1	8	-1.459607	.6361259	-1.347551	1.10832	-.1120557	1.278076	0.930	1.109184
2	3 *	-.5629431	1.038896	-.7744389	632.01	.2114958	632.0108	1.000	1.035607
2	4 *	-.3830952	.8017167	-1.022998	1.209345	.6399027	1.450746	0.659	1.081929
2	7 *	-.1269145	1.161561	-1.298772	2.593752	1.171857	2.844386	0.680	1.09029
2	8	-1.662751	.6970765	-1.022851	1.270827	-.6398998	1.450731	0.659	1.081927
4	6	.244354	1.144587	-.9981778	1.060652	1.242532	1.560469	0.426	1.057041
4	7 *	.0634569	1.154287	1.23532	2.603474	-1.171863	2.844385	0.680	1.090289
5	6	.3127076	.8493797	.5534056	1.19796	-.240698	1.469442	0.870	1.101691
6	8	-.0667677	1.112287	-.857622	.9753308	.7908544	1.479342	0.593	1.097911

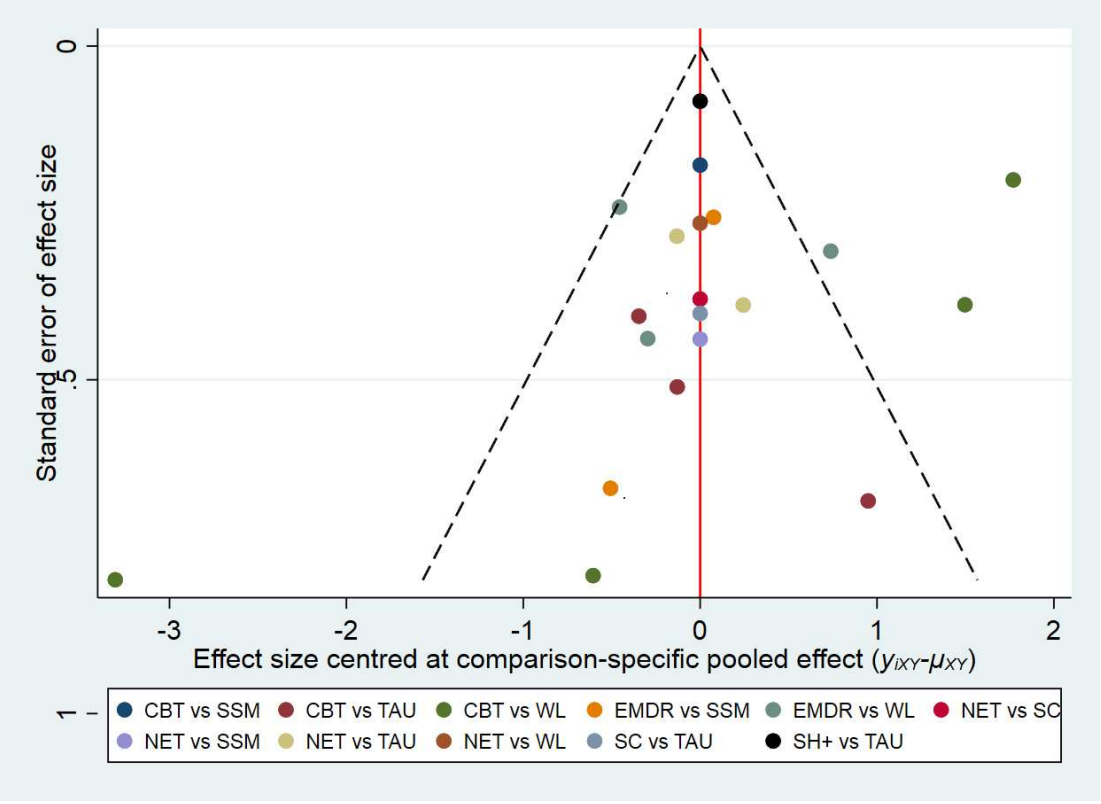
* Warning: all the evidence about these contrasts comes from the trials which directly compare them.

SUCRA and cumulative probability plots

Treatment	SUCRA	PrBest	MeanRank
WL	24.5	0.0	6.3
TAU	20.7	0.0	6.6
SH+	46.5	14.9	4.7
NET	46.2	2.3	4.8
EMDR	78.8	30.7	2.5
SSM	62.5	9.3	3.6
SC	37.1	7.7	5.4
CBT	83.6	35.1	2.1



Funnel Plot



THE P-VALUE OF THE EGGER'S TEST IS 0.178

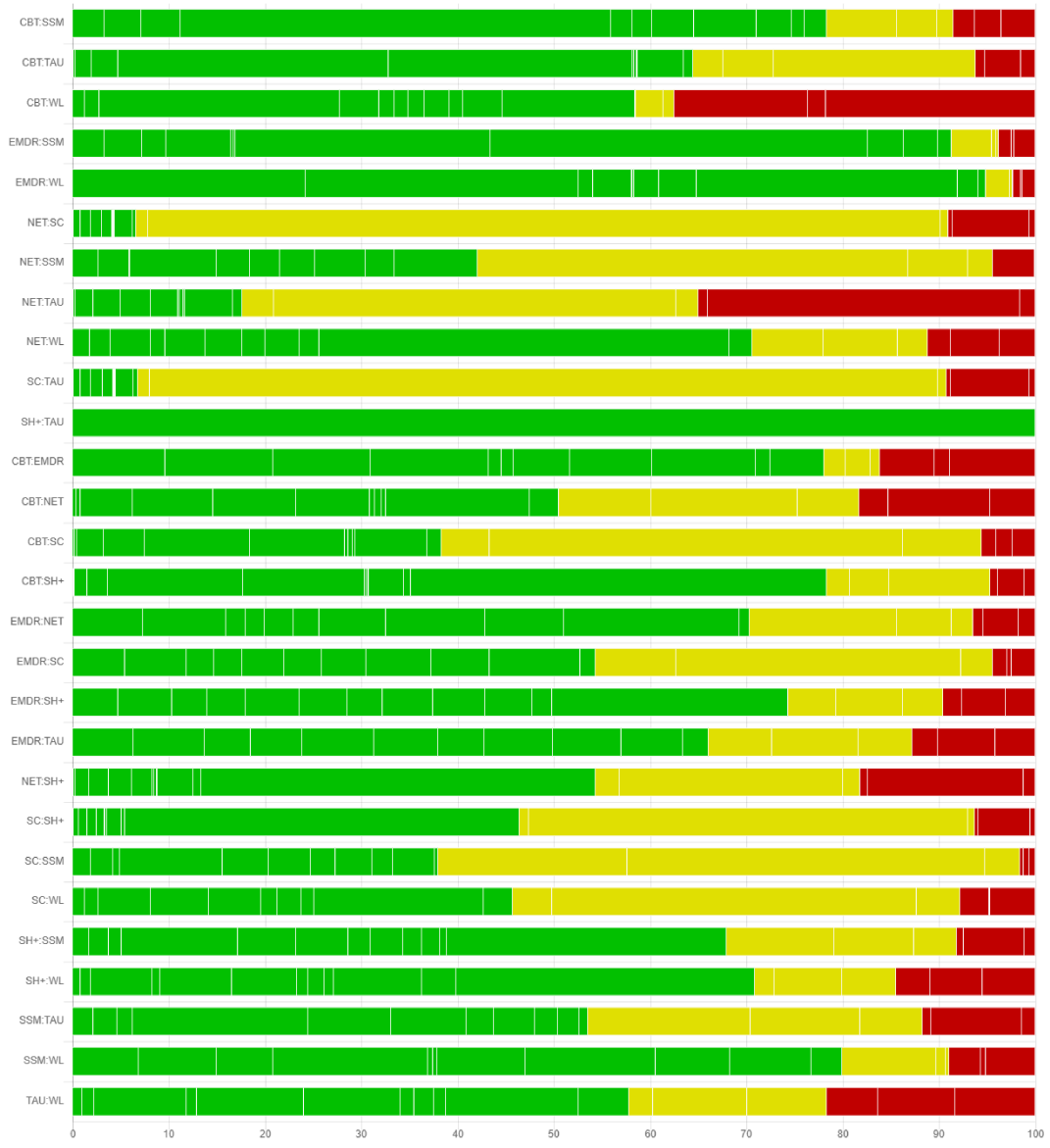
CINeMA

The analysis of the certainty of the evidence was performed with the online application CINeMA, which follows the principles of the GRADE methodology. The following criteria were applied:

- Within-study bias: the "overall" risk of bias of each study was calculated as follows: (a) LOW risk if three or more domains of the Cochrane RoB were at low risk; (b) HIGH risk if two or more domains were at high risk; (c) UNCLEAR RISK in all other cases. For each comparison, the histogram was interpreted according to a "Majority risk of bias" rule;
- Across-studies bias was considered "undetected" when was not possible to evaluate the risk of publication bias;
- Indirectness: the histogram was interpreted according to a "Majority risk of bias" rule;
- Imprecision: standardised mean difference between -0.700 to 0.700 was considered as a clinically important size of effect;
- Heterogeneity: standardised mean difference between -0.700 to 0.700 was considered as a clinically important size of effect;
- Incoherence: for all the comparisons for which only a direct or indirect estimation was available (Inconsistency measures: Not applicable) we reported "some concern".

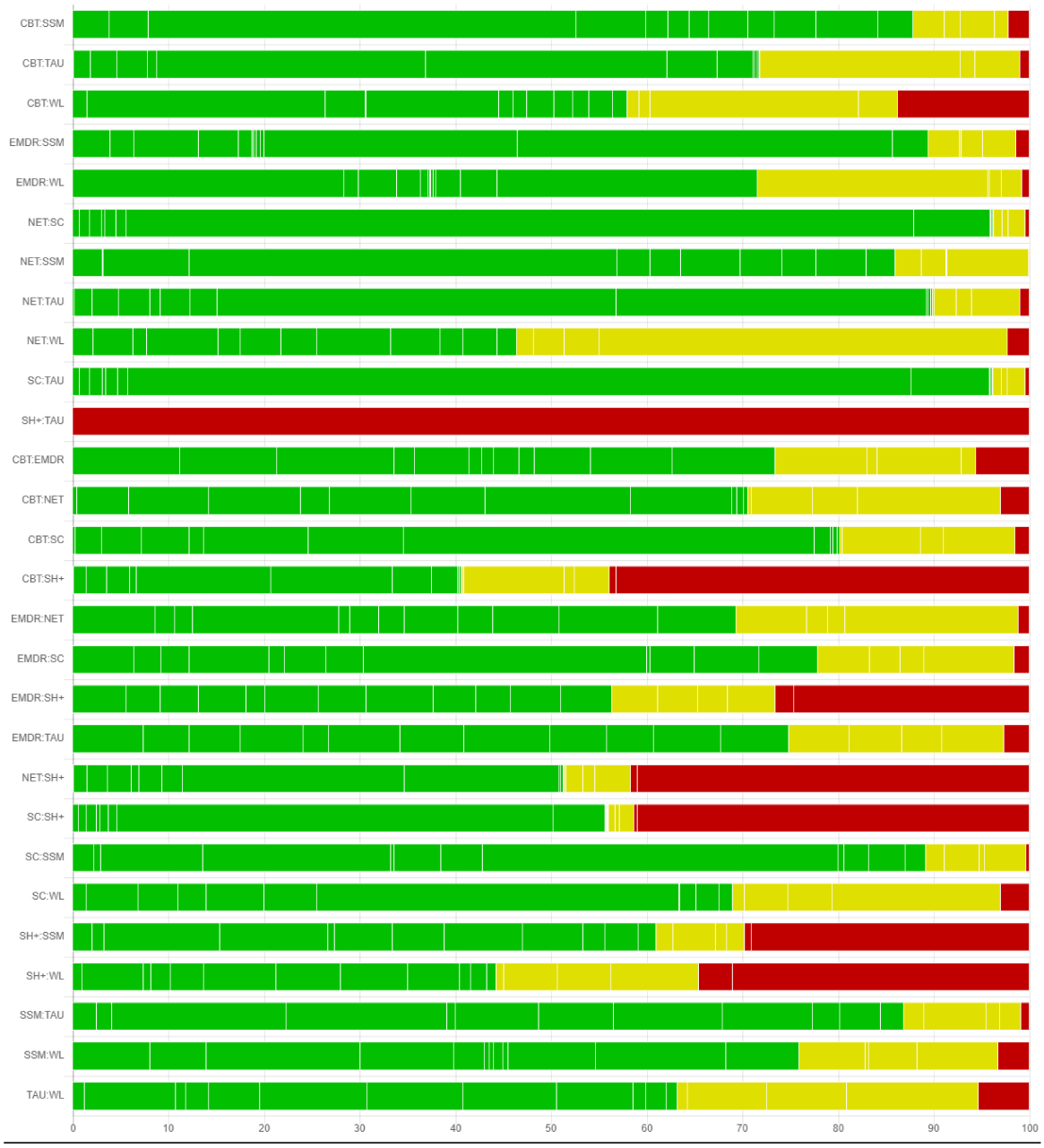
Within-study bias

The bar chart shows the contributions of each piece of study to the network estimate.
Green=low risk; Yellow=unclear risk; Red=high risk



Indirectness

The bar chart shows the contributions of each study to the network estimate.
Green=low risk; Yellow=unclear risk; Red=high risk



Final report

Comparison	Number of studies	Within-study bias	Reporting bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Confidence rating
CBT:SSM	1	No concerns	Undetected	No concerns	Some concerns	Some concerns	No concerns	Low
CBT:TAU	3	No concerns	Undetected	No concerns	No concerns	Some concerns	No concerns	Moderate
CBT:WL	4	No concerns	Undetected	No concerns	No concerns	Major concerns	No concerns	Low
EMDR:SSM	2	No concerns	Undetected	No concerns	Some concerns	Some concerns	No concerns	Low
EMDR:WL	3	No concerns	Undetected	No concerns	No concerns	Major concerns	No concerns	Low
NET:SC	1	Some concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Very low
NET:SSM	1	Some concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Very low
NET:TAU	2	Some concerns	Undetected	No concerns	Some concerns	Some concerns	No concerns	Very low
NET:WL	1	No concerns	Undetected	Some concerns	Major concerns	No concerns	No concerns	Very low
SC:TAU	1	Some concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Very low
SH+:TAU	1	No concerns	Undetected	Major concerns	Major concerns	No concerns	No concerns	Very low
CBT:EMDR	0	No concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Low
CBT:NET	0	No concerns	Undetected	No concerns	Some concerns	Some concerns	No concerns	Low
CBT:SC	0	Some concerns	Undetected	No concerns	Some concerns	Some concerns	No concerns	Very low
CBT:SH+	0	No concerns	Undetected	Major concerns	Major concerns	No concerns	No concerns	Very low
EMDR:NET	0	No concerns	Undetected	No concerns	Some concerns	Some concerns	No concerns	Low
EMDR:SC	0	No concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Low
EMDR:SH+	0	No concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Low
EMDR:TAU	0	No concerns	Undetected	No concerns	No concerns	Major concerns	No concerns	Low
NET:SH+	0	No concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Low
SC:SH+	0	Some concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Very low
SC:SSM	0	Some concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Very low
SC:WL	0	Some concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Very low
SH+:SSM	0	No concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Low
SH+:WL	0	No concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Low
SSM:TAU	0	No concerns	Undetected	No concerns	Some concerns	Some concerns	No concerns	Low
SSM:WL	0	No concerns	Undetected	No concerns	Some concerns	Some concerns	No concerns	Low
TAU:WL	0	No concerns	Undetected	No concerns	Major concerns	No concerns	No concerns	Low

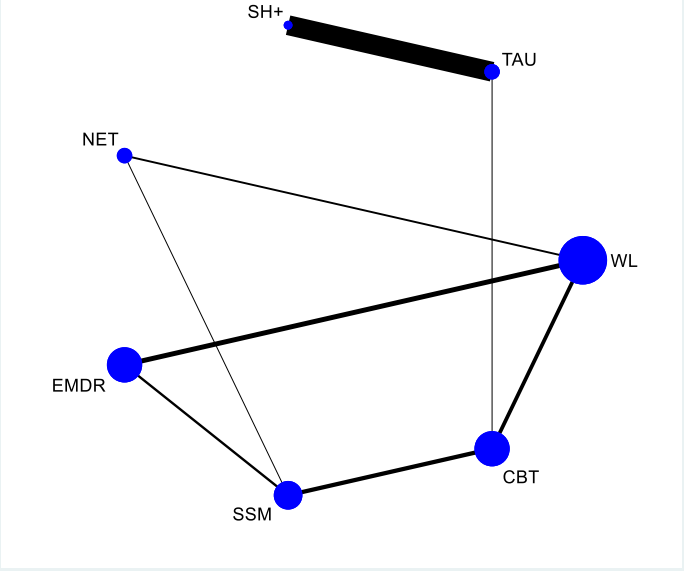
Secondary outcome: depressive symptoms

Intervention codes:

Waiting List	1
Treatment as Usual	2
Self-Help Plus	3
Narrative Exposure Therapy	4
EMDR	5
Stabilization/Stress Management	6
Cognitive- Behavioural Therapy	7

Studies contributing to the analysis n= 13

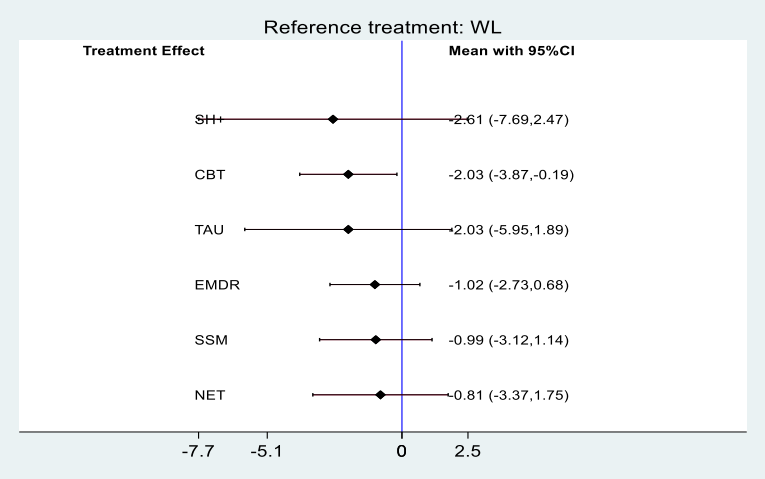
Network map



Net league table

CBT	1.01 (-1.29,3.30)	1.22 (-1.73,4.17)	-0.58 (-5.32,4.16)	1.04 (-1.27,3.35)	0.00 (-3.46,3.46)	2.03 (0.19,3.87)
-1.01 (-3.30,1.29)	**EMDR**	0.21 (-2.57,2.99)	-1.59 (-6.85,3.68)	0.03 (-1.94,2.01)	-1.01 (-5.16,3.15)	1.02 (-0.68,2.73)
-1.22 (-4.17,1.73)	-0.21 (-2.99,2.57)	**NET**	-1.80 (-7.38,3.78)	-0.18 (-2.76,2.41)	-1.22 (-5.76,3.33)	0.81 (-1.75,3.37)
0.58 (-4.16,5.32)	1.59 (-3.68,6.85)	1.80 (-3.78,7.38)	**SHplus**	1.62 (-3.65,6.89)	0.58 (-2.66,3.82)	2.61 (-2.47,7.69)
-1.04 (-3.35,1.27)	-0.03 (-2.01,1.94)	0.18 (-2.41,2.76)	-1.62 (-6.89,3.65)	**SSM**	-1.04 (-5.20,3.12)	0.99 (-1.14,3.12)
-0.00 (-3.46,3.46)	1.01 (-3.15,5.16)	1.22 (-3.33,5.76)	-0.58 (-3.82,2.66)	1.04 (-3.12,5.20)	**TAU**	2.03 (-1.89,5.95)
-2.03 (-3.87,-0.19)	-1.02 (-2.73,0.68)	-0.81 (-3.37,1.75)	-2.61 (-7.69,2.47)	-0.99 (-3.12,1.14)	-2.03 (-5.95,1.89)	**WL**

Interval plot



Pairwise meta-analysis

Study	ES	[95% Conf.	Interval]
5 - 1			
0	-1.177	-2.004	-0.350
1	-1.322	-1.760	-0.883
18	0.177	-0.412	0.767
Sub-total			
D+L pooled ES	-0.770	-1.773	0.233
7 - 1			
3	-0.195	-0.589	0.198
6	-1.838	-3.275	-0.401
21	-6.346	-8.265	-4.427
Sub-total			
D+L pooled ES	-2.676	-5.845	0.494
7 - 6			
4	0.196	-0.154	0.546
Sub-total			
D+L pooled ES	0.196	-0.154	0.546
6 - 4			
5	0.358	-0.528	1.243
Sub-total			
D+L pooled ES	0.358	-0.528	1.243
7 - 2			
12	0.000	-1.240	1.240
Sub-total			
D+L pooled ES	0.000	-1.240	1.240
6 - 5			
15	0.906	-0.448	2.261
16	0.016	-0.483	0.514
Sub-total			
D+L pooled ES	0.229	-0.516	0.974
4 - 1			
20	-0.302	-0.823	0.219
Sub-total			
D+L pooled ES	-0.302	-0.823	0.219
3 - 2			
22	-0.579	-0.741	-0.417
Sub-total			
D+L pooled ES	-0.579	-0.741	-0.417

Test(s) of heterogeneity

	Heterogeneity statistic	degrees of freedom	P	I-squared**	Tau-squared
5 - 1	16.72	2	0.000	88.0%	0.6825
7 - 1	41.26	2	0.000	95.2%	7.3520
7 - 6	0.00	0	.	.%	0.0000
6 - 4	0.00	0	.	.%	0.0000
7 - 2	0.00	0	.	.%	0.0000
6 - 5	1.46	1	0.226	31.6%	0.1255
4 - 1	0.00	0	.	.%	0.0000
3 - 2	0.00	0	.	.%	0.0000

** I-squared: the variation in ES attributable to heterogeneity)

Evaluation of heterogeneity and incoherence

Overall heterogeneity in the inconsistency model
Estimated between-studies SD: 1.882

Overall heterogeneity in the consistency model
Estimated between-studies SD: 1.649

Overall incoherence
Design-by-treatment test: P=0.63

Loop-specific heterogeneity

* 3 quadratic loops found

Evaluation of inconsistency using loop-specific heterogeneity estimates:

Loop	IF	seIF	z_value	p_value	CI_95	Loop_Heterog_tau2
WL-SH+-EMDR-SSM	2.927	5.635	0.520	0.603	(0.00,13.97)	7.352
WL-NET-EMDR-SSM	2.231	2.812	0.793	0.428	(0.00,7.74)	1.780
WL-SH+-NET-EMDR	0.470	1.457	0.323	0.747	(0.00,3.33)	0.601

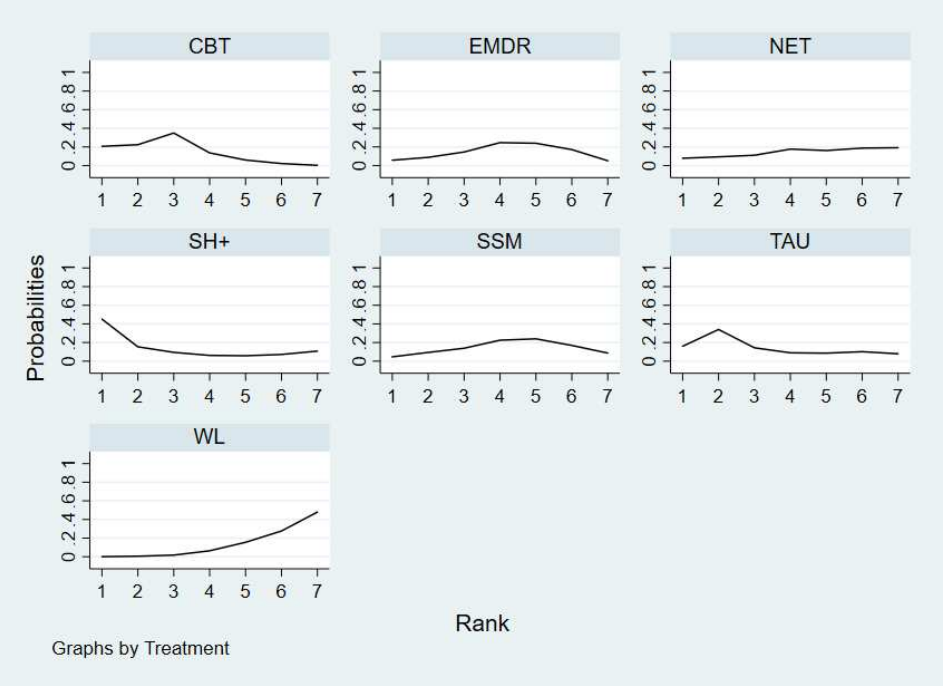
Consistency between direct and indirect estimates

Side	Direct Coef.	Direct Std. Err.	Indirect Coef.	Indirect Std. Err.	Difference Coef.	Difference Std. Err.	Difference P>|z|	tau
1 4	-.3018354	1.815645	-1.629583	2.27514	1.327747	2.910813	0.648	1.796094
1 5	-.7724727	1.049202	-2.05504	2.099598	1.282567	2.347123	0.585	1.788052
1 7	-2.514686	1.056201	-.0268988	2.140657	-2.487787	2.387838	0.297	1.67307
2 3 *	-.5791176	1.651195	3.481416	632.4952	-4.060533	632.4973	0.995	1.649123
2 7 *	-1.63e-06	1.766243	-2.436273	282.8538	2.436271	282.8596	0.993	1.649126
4 6	.3577437	1.852069	-.9700686	2.245624	1.327812	2.91084	0.648	1.796097
5 6	.4343449	1.314638	-.8483479	1.94375	1.282693	2.347191	0.585	1.788062
6 7	.1959733	1.682592	-2.291758	1.694466	2.487731	2.387956	0.298	1.673082

* Warning: all the evidence about these contrasts comes from the trials which directly compare them.

SUCRA and cumulative probability plots

Treatm~t	SUCRA	PrBest	MeanRank
WL	14.8	0.1	6.1
TAU	62.9	15.9	3.2
SH+	70.5	45.1	2.8
NET	40.4	7.8	4.6
EMDR	45.9	5.7	4.2
SSM	43.8	4.6	4.4
CBT	71.8	20.7	2.7


CBT
EMDR
NET
SH+
SSM
TAU
WL
Probabilities
0 .2 .4 .6 .8 1
1 2 3 4 5 6 7
Rank
Graphs by Treatment

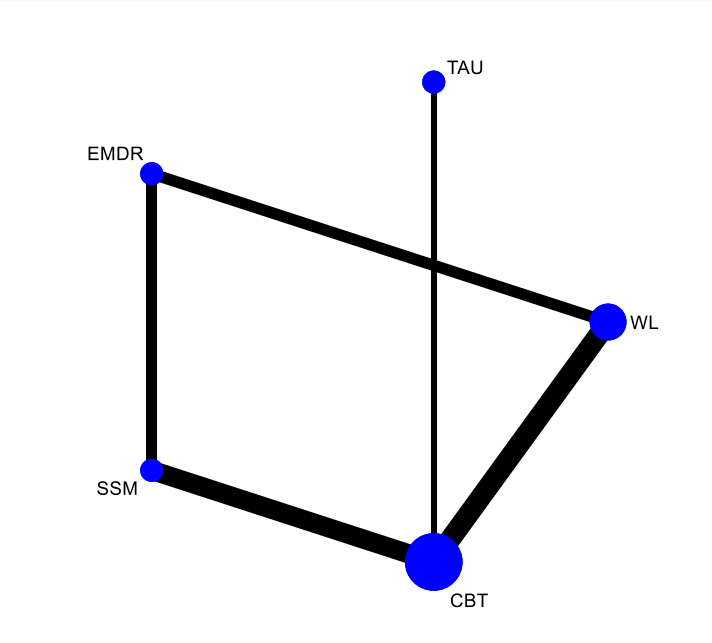
Secondary outcome: anxiety symptoms

Intervention codes:

Waiting List	1
Treatment as Usual	2
EMDR	3
Stabilization/Stress Management	4
Cognitive- Behavioural Therapy	5

Studies contributing to the analysis n= 11

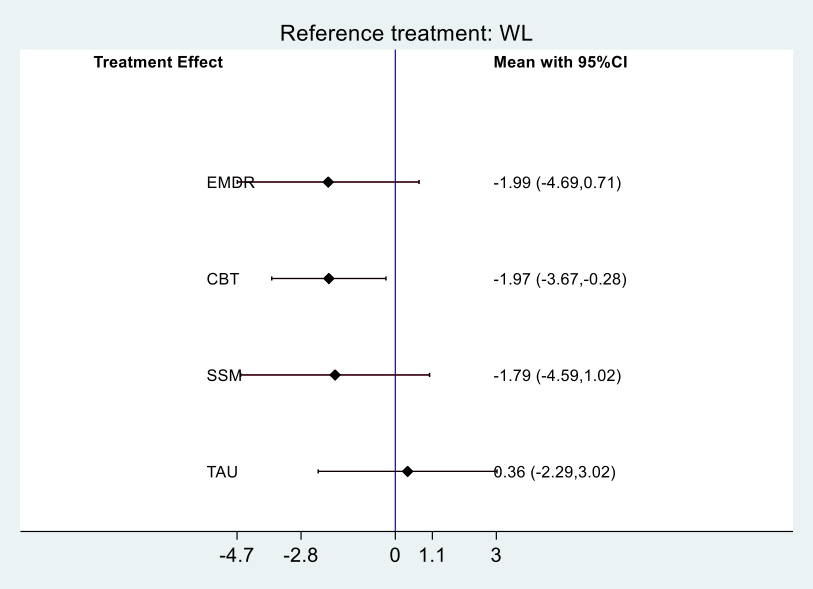
Network map



Net league table

CBT	-0.02 (-2.83,2.79)	0.19 (-2.51,2.88)	2.34 (0.30,4.38)	1.97 (0.28,3.67)
0.02 (-2.79,2.83)	**EMDR**	0.21 (-2.00,2.41)	2.36 (-1.11,5.83)	1.99 (-0.71,4.69)
-0.19 (-2.88,2.51)	-0.21 (-2.41,2.00)	**SSM**	2.15 (-1.23,5.53)	1.79 (-1.02,4.59)
-2.34 (-4.38,-0.30)	-2.36 (-5.83,1.11)	-2.15 (-5.53,1.23)	**TAU**	-0.36 (-3.02,2.29)
-1.97 (-3.67,-0.28)	-1.99 (-4.69,0.71)	-1.79 (-4.59,1.02)	0.36 (-2.29,3.02)	**WL**

Interval plot



Pairwise meta-analysis

Study	ES	[95% Conf.	Interval]
3 - 1			
1	-1.564	-2.018	-1.109
Sub-total			
D+L pooled ES	-1.564	-2.018	-1.109
5 - 1			
3	-0.344	-0.739	0.052
6	-2.038	-3.536	-0.540
19	-0.772	-1.559	0.015
21	-6.043	-7.886	-4.200
Sub-total			
D+L pooled ES	-2.065	-3.719	-0.411
5 - 4			
4	0.240	-0.110	0.591
Sub-total			
D+L pooled ES	0.240	-0.110	0.591
5 - 2			
7	-3.701	-4.765	-2.638
8	-2.731	-3.907	-1.554
12	-0.521	-1.800	0.758
Sub-total			
D+L pooled ES	-2.345	-4.148	-0.542
4 - 3			
15	0.576	-0.711	1.863
16	0.307	-0.194	0.808
Sub-total			
D+L pooled ES	0.342	-0.125	0.809

Test(s) of heterogeneity

	Heterogeneity statistic	degrees of freedom	P	I-squared**	Tau-squared
3 - 1	0.00	0	.	.%	0.0000
5 - 1	38.51	3	0.000	92.2%	2.4687

```
5 - 4                 0.00          0         .          .%        0.0000
5 - 2                14.25          2     0.001      86.0%        2.1808
4 - 3                 0.15          1     0.703       0.0%        0.0000

** I-squared: the variation in ES attributable to heterogeneit
```

Evaluation of heterogeneity and incoherence

Overall heterogeneity in the inconsistency model
Estimated between-studies SD: 1.864

Overall heterogeneity in the consistency model
Estimated between-studies SD: 1.700

Overall incoherence
Design-by-treatment test: P=0.69

Loop-specific heterogeneity

* 1 quadratic loops found

Evaluation of inconsistency using loop-specific heterogeneity estimates:

Loop	IF	seIF	z_value	p_value	CI_95	Loop_Heterog_tau2
WL-EMDR-SSM-CBT	1.114	3.326	0.335	0.738	(0.00,7.63)	1.882

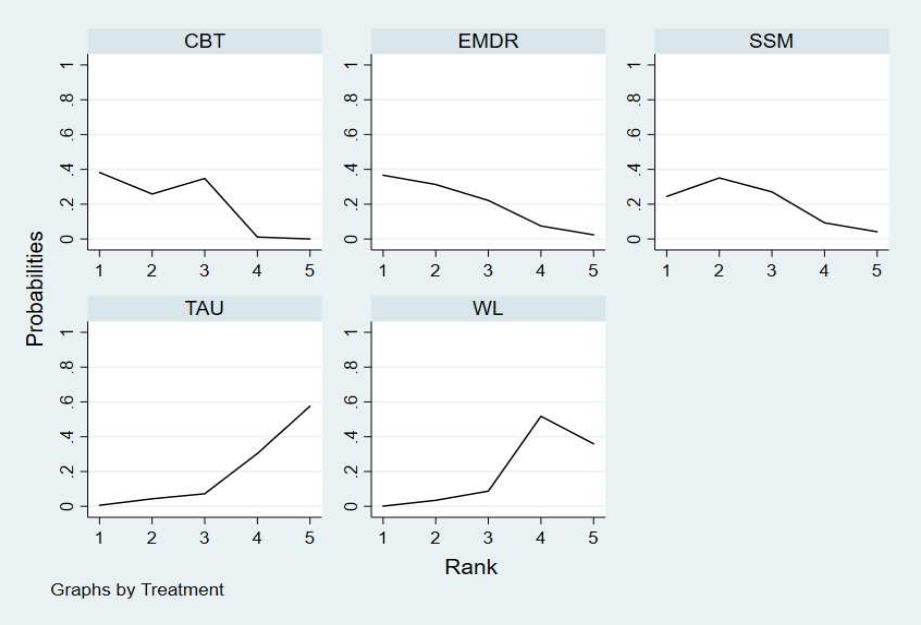
Evaluation of incoherence

Side	Direct Coef.	Direct Std. Err.	Indirect Coef.	Indirect Std. Err.	Difference Coef.	Difference Std. Err.	P>|z|	tau
1 3	-1.563919	1.878099	-2.798268	2.517532	1.234349	3.140895	0.694	1.863724
1 5	-2.123547	.9878901	-.8890099	2.980842	-1.234537	3.140409	0.694	1.863673
2 5 *	-2.339161	1.040875	-1.609427	365.158	-.7297339	365.1598	0.998	1.700181
3 4	.4346981	1.362523	-.7999359	2.829962	1.234634	3.141018	0.694	1.863737
4 5	.2403762	1.872293	-.9945167	2.521927	1.234893	3.140955	0.694	1.863729

* Warning: all the evidence about these contrasts comes from the trials which directly compare them.
* Warning: all the evidence about these contrasts comes from the trials which directly compare them.

SUCRA and cumulative probability plots

Treatment	SUCRA	PrBest	MeanRank
WL	20.0	0.1	4.2
TAU	15.0	0.6	4.4
EMDR	73.1	36.6	2.1
SSM	66.6	24.4	2.3
CBT	75.3	38.2	2.0


CBT
EMDR
SSM
TAU
WL
Probabilities
0
.2
.4
.6
.8
1
1
2
3
4
5
Rank
Graphs by Treatment

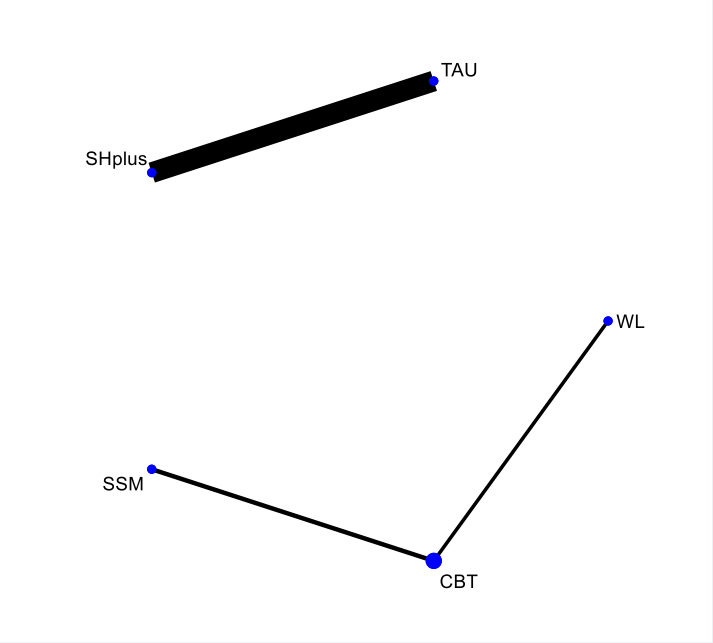
Secondary outcome: functioning

Intervention codes:

Waiting List	1
Treatment as Usual	2
Self-Help Plus	3
Stabilization/Stress Management	4
Cognitive- Behavioural Therapy	5

Studies contributing to the analysis n= 2

Network map

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. indirect _y _stderr study ordine , fixed eff() tabl trta(_t1) trtb(_t2)

           Study     |     ES    [95% Conf. Interval]     % Weight
---------------------+-------------------------------------------------
Buhmann 2016         |  0.113      -0.279     0.506        100.00
---------------------+-------------------------------------------------
I-V pooled ES        |  0.113      -0.279     0.506        100.00
---------------------+-------------------------------------------------

  Heterogeneity chi-squared =   0.00 (d.f. = 0) p =    .
  I-squared (variation in ES attributable to heterogeneity) =     .%

  Test of ES=0 : z=   0.57 p = 0.572
Meta-Analysis: comparing treatments  1  and  5
Exponential Statistic  = 1.12
Log statistic ln() = .113 and standard error = .2(var = .04)

           Study     |     ES    [95% Conf. Interval]     % Weight
---------------------+-------------------------------------------------
Carlsson 2018        |  0.098      -0.252     0.447        100.00
---------------------+-------------------------------------------------
```

```
I-V pooled ES        |  0.098      -0.252     0.447        100.00
--------------------+-------------------------------------------------

  Heterogeneity chi-squared =   0.00 (d.f. = 0) p =    .
  I-squared (variation in ES attributable to heterogeneity) =     .%

  Test of ES=0 : z=   0.55 p = 0.583
----------------------------------------
Meta-Analysis: comparing treatments 4  and  5
Exponential Statistic = 1.103
Log statistic ln() = .098 and standard error = .178 (var = .032)
----------------------------------------
----------------------------------------
Indirect comparison: 1 vs 4
Exponential Statistic  =1.015 with CI [ .6, 1.718]
Log statistic ln() = .015 and standard error =  .268 (var = .072)
Confidence Interval: [-.51, .541]
Heterogeneity statistic ChiSquared: =.003, p-value: = .955
```

Secondary outcome: wellbeing/quality of life

Intervention codes:

ALL STUDIES

Waiting List	1
Treatment as Usual	2
Self-Help Plus	3
Narrative Exposure Therapy	4
EMDR	5
Stabilization/Stress Management	6
Supportive Counseling	7

ONLY CONNECTED

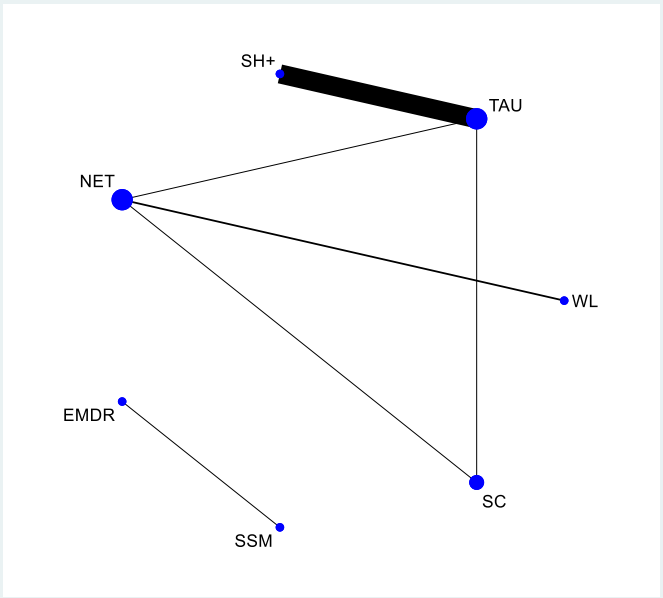
Waiting List	1
Treatment as Usual	2
Self-Help Plus	3
Narrative Exposure Therapy	4
Supportive Counseling	5

Studies contributing to the analysis

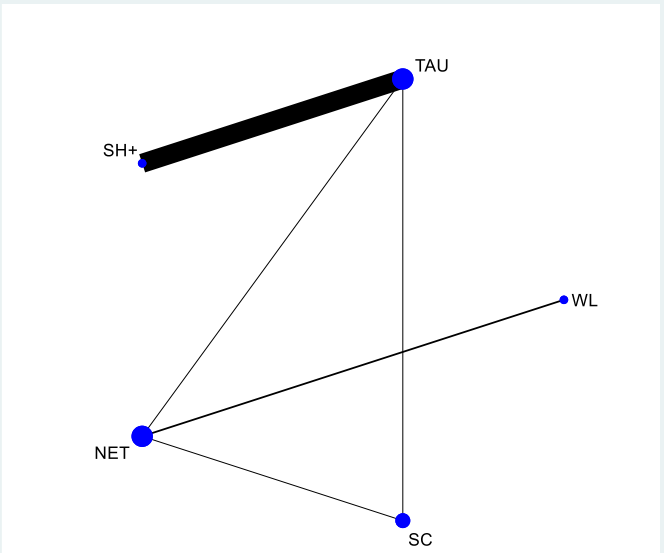
- **All studies n= 4**
- **Only connected n= 3**

Network map

ALL STUDIES



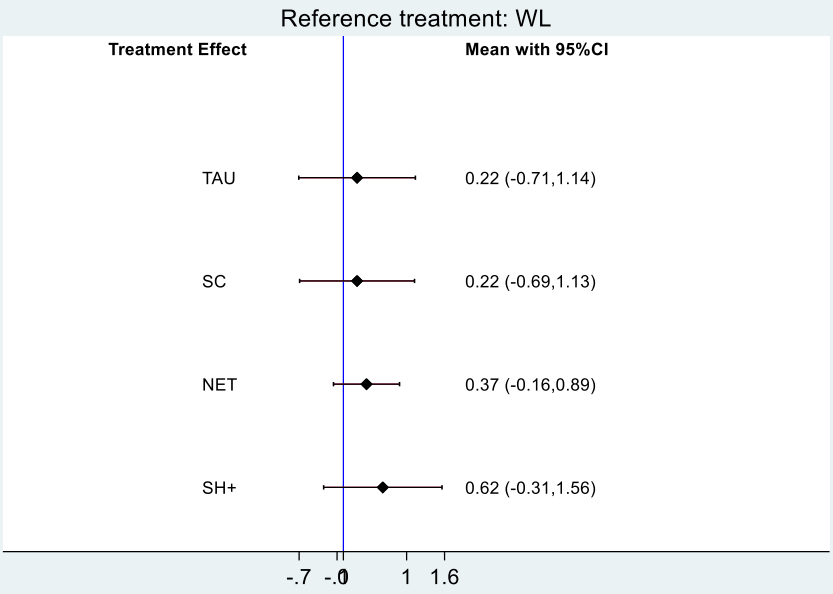
ONLY CONNECTED



Net league table

NET	-0.15 (-0.89, 0.59)	0.26 (-0.52, 1.03)	-0.15 (-0.91, 0.61)	-0.37 (-0.89, 0.16)
0.15 (-0.59, 0.89)	**SC**	0.41 (-0.39, 1.21)	-0.00 (-0.78, 0.78)	-0.22 (-1.13, 0.69)
-0.26 (-1.03, 0.52)	-0.41 (-1.21, 0.39)	**SHplus**	-0.41 (-0.57, -0.25)	-0.62 (-1.56, 0.31)
0.15 (-0.61, 0.91)	0.00 (-0.78, 0.78)	**0.41 (0.25, 0.57)**	**TAU**	-0.22 (-1.14, 0.71)
0.37 (-0.16, 0.89)	0.22 (-0.69, 1.13)	0.62 (-0.31, 1.56)	0.22 (-0.71, 1.14)	**WL**

Interval plot



Pairwise meta-analysis

ALL STUDIES

Study	ES	[95% Conf.	Interval]
4 - 2			
9	0.149	-0.611	0.909
Sub-total			
D+L pooled ES	0.149	-0.611	0.909
7 - 2			
9	0.000	-0.785	0.785
Sub-total			
D+L pooled ES	0.000	-0.785	0.785
7 - 4			
9	-0.149	-0.893	0.594
Sub-total			
D+L pooled ES	-0.149	-0.893	0.594
6 - 5			
15	-0.957	-2.324	0.410
Sub-total			
D+L pooled ES	-0.957	-2.324	0.410
4 - 1			
20	0.366	-0.156	0.888
Sub-total			
D+L pooled ES	0.366	-0.156	0.888
3 - 2			
22	0.407	0.247	0.568
Sub-total			
D+L pooled ES	0.407	0.247	0.568

ONLY CONNECTED

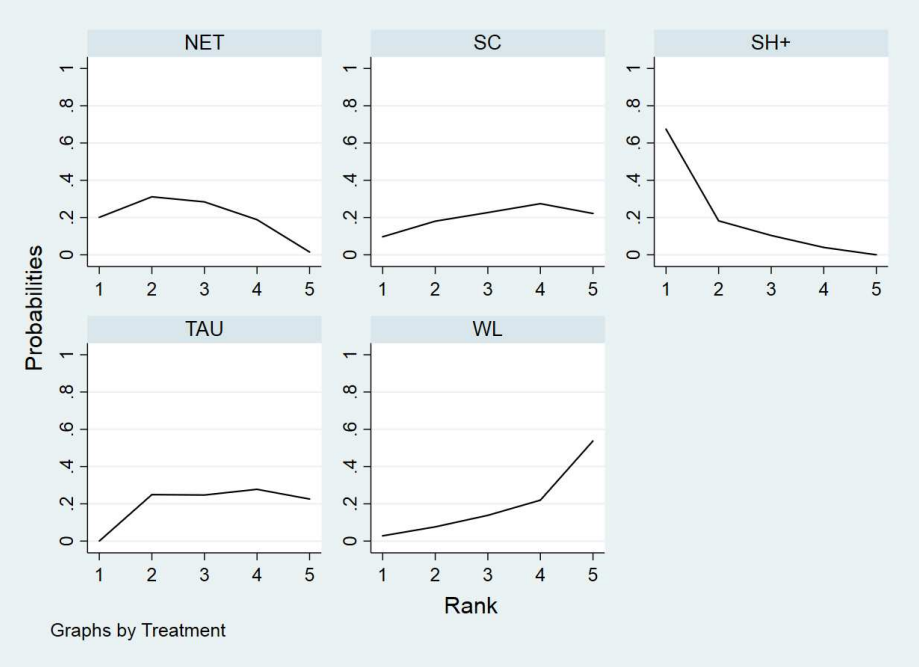
Study	ES	[95% Conf.	Interval]
4 - 2			
9	0.149	-0.611	0.909
Sub-total			
D+L pooled ES	0.149	-0.611	0.909
5 - 2			
9	0.000	-0.785	0.785
Sub-total			
D+L pooled ES	0.000	-0.785	0.785
5 - 4			
9	-0.149	-0.893	0.594
Sub-total			
D+L pooled ES	-0.149	-0.893	0.594
4 - 1			
20	0.366	-0.156	0.888
Sub-total			
D+L pooled ES	0.366	-0.156	0.888
3 - 2			
22	0.407	0.247	0.568
Sub-total			
D+L pooled ES	0.407	0.247	0.568

***** NO TEST OF HETEROGENEITY (1 study per each comparison): Fixed effects*****

*** NO CONSISTENCY PLOT (no pair for which direct and indirect comparison available at the same time): Consistency by definition ***

SUCRA and cumulative probability plots

Treatment	SUCRA	PrBest	MeanRank
WL	21.0	2.8	4.2
TAU	38.0	0.0	3.5
SH+	87.3	67.4	1.5
NET	62.4	20.1	2.5
SC	41.4	9.7	3.3



******** NO FUNNEL PLOT (1 study per comparison)*****************

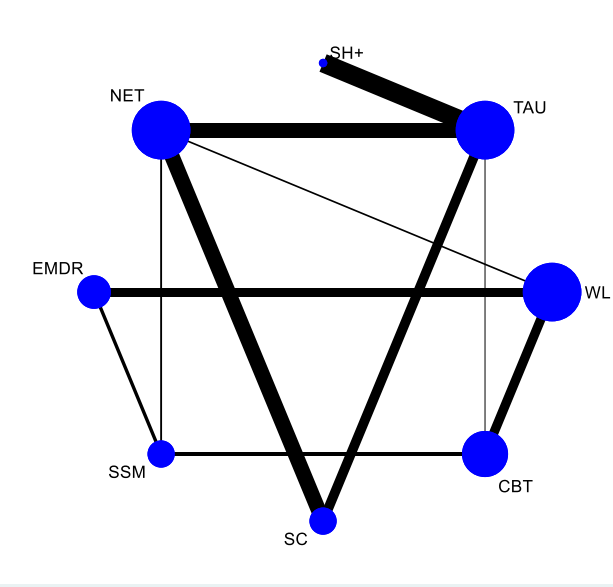
Secondary outcome: acceptability

Intervention codes:

Waiting List	A
Treatment as Usual	B
Self-Help Plus	C
Narrative Exposure Therapy	D
EMDR	E
Stabilization/Stress Management	F
Supportive Counseling	G
Cognitive- Behavioural Therapy	H

Studies contributing to the analysis n= 20

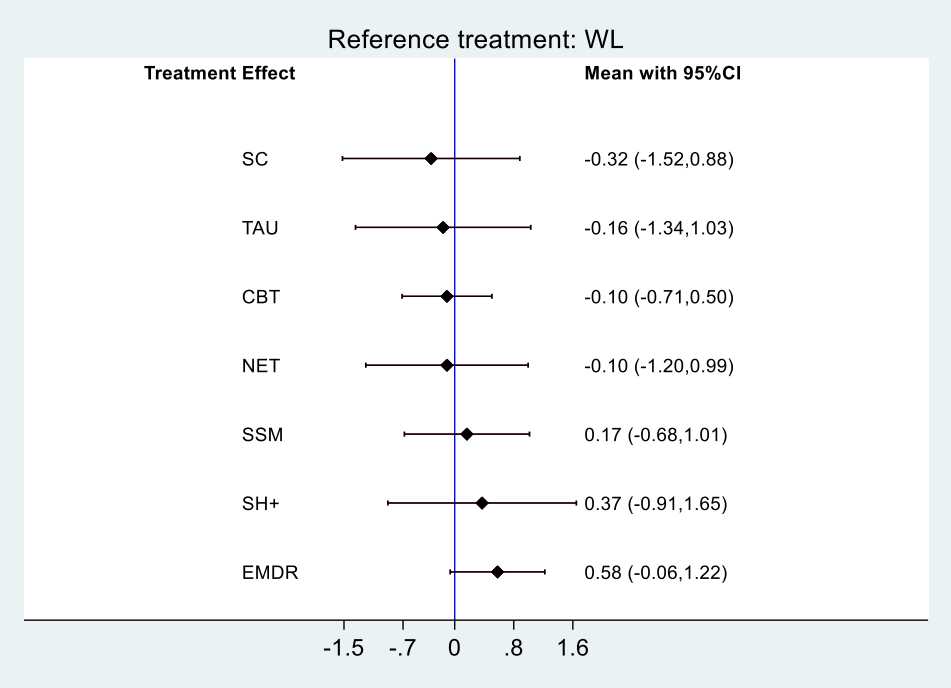
Network map



Net league table

CBT	1.98 (0.88,4.50)	1.00 (0.32,3.13)	0.81 (0.23,2.79)	1.61 (0.44,5.95)	1.31 (0.57,3.02)	0.95 (0.28,3.22)	1.11 (0.60,2.04)
0.50 (0.22,1.14)	**EMDR**	0.50 (0.15,1.66)	0.41 (0.11,1.47)	0.81 (0.21,3.15)	0.66 (0.28,1.54)	0.48 (0.13,1.71)	0.56 (0.29,1.06)
1.00 (0.32,3.13)	1.98 (0.60,6.52)	**NET**	0.81 (0.49,1.34)	1.61 (0.80,3.25)	1.31 (0.44,3.94)	0.95 (0.56,1.60)	1.11 (0.37,3.33)
1.24 (0.36,4.28)	2.46 (0.68,8.89)	1.24 (0.75,2.06)	**SC**	1.99 (0.93,4.27)	1.62 (0.49,5.42)	1.18 (0.65,2.14)	1.38 (0.41,4.58)
0.62 (0.17,2.30)	1.23 (0.32,4.79)	0.62 (0.31,1.26)	0.50 (0.23,1.07)	**SHplus**	0.81 (0.23,2.94)	**0.59 (0.37,0.94)**	0.69 (0.19,2.47)
0.76 (0.33,1.76)	1.51 (0.65,3.53)	0.76 (0.25,2.30)	0.62 (0.18,2.05)	1.23 (0.34,4.43)	**SSM**	0.72 (0.22,2.39)	0.85 (0.36,1.98)
1.05 (0.31,3.57)	2.09 (0.59,7.46)	1.05 (0.62,1.78)	0.85 (0.47,1.55)	1.70 (1.06,2.72)	1.38 (0.42,4.56)	**TAU**	1.17 (0.36,3.83)
0.90 (0.49,1.65)	1.79 (0.94,3.39)	0.90 (0.30,2.70)	0.73 (0.22,2.42)	1.45 (0.40,5.20)	1.18 (0.51,2.75)	0.85 (0.26,2.80)	**WL**

Interval plot



Pairwise meta-analysis

Study	ES	[95% Conf.	Interval]
E - A			
0	1.069	0.020	57.483
1	0.835	0.363	1.921
18	0.143	0.036	0.573
Sub-total			
D+L pooled ES	0.433	0.107	1.748
D - A			
2	7.500	0.791	71.086
20	0.343	0.037	3.136
Sub-total			
D+L pooled ES	1.593	0.077	32.756
H - A			
3	1.204	0.570	2.543
6	1.000	0.017	58.434
19	1.000	0.156	6.420
21	0.263	0.012	5.650
Sub-total			
D+L pooled ES	1.088	0.558	2.121
H - F			
4	1.376	0.451	4.196
Sub-total			
D+L pooled ES	1.376	0.451	4.196
F - D			
5	1.021	0.230	4.526
Sub-total			
D+L pooled ES	1.021	0.230	4.526
H - B			
7	1.000	0.019	52.849
8	1.000	0.018	54.465
Sub-total			

D+L pooled ES	1.000	0.060	16.710
D - B			
9	0.424	0.039	4.662
10	1.198	0.610	2.352
11	0.176	0.008	3.969
14	0.786	0.298	2.071
Sub-total			
D+L pooled ES	0.948	0.557	1.614
G - B			
9	1.182	0.066	21.175
10	1.341	0.685	2.625
Sub-total			
D+L pooled ES	1.332	0.692	2.563
G - D			
9	2.786	0.256	30.273
10	1.119	0.654	1.915
Sub-total			
D+L pooled ES	1.169	0.693	1.975
F - E			
15	2.667	0.361	19.712
16	1.000	0.264	3.792
Sub-total			
D+L pooled ES	1.352	0.446	4.099
C - B			
22	0.590	0.368	0.944
Sub-total			
D+L pooled ES	0.590	0.368	0.944

Test(s) of heterogeneity

	Heterogeneity statistic	degrees of freedom	P	I-squared**	Tau-squared
E - A	4.68	2	0.096	57.3%	0.8098
D - A	3.67	1	0.055	72.8%	3.4636
H - A	0.90	3	0.825	0.0%	0.0000
H - F	0.00	0	.	.%	0.0000
F - D	0.00	0	.	.%	0.0000
H - B	0.00	1	1.000	0.0%	0.0000
D - B	2.16	3	0.539	0.0%	0.0000
G - B	0.01	1	0.933	0.0%	0.0000
G - D	0.53	1	0.465	0.0%	0.0000
F - E	0.64	1	0.424	0.0%	0.0000
C - B	0.00	0	.	.%	0.0000

** I-squared: the variation in ES attributable to heterogeneity)

Evaluation of heterogeneity and incoherence

Overall heterogeneity in the inconsistency model
Estimated between-studies SD: 0.501

Overall heterogeneity in the consistency model
Estimated between-studies SD: 0.134

Overall incoherence
Design-by-treatment test: P=0.95

Pairwise meta-analysis with fixed-effects

Study	ES	[95% Conf. Interval]
E - A		

0	1.069	0.020	57.483
1	0.835	0.363	1.921
18	0.143	0.036	0.573
Sub-total			
I-V pooled ES	0.535	0.265	1.080
D - A			
2	7.500	0.791	71.086
20	0.343	0.037	3.136
Sub-total			
I-V pooled ES	1.565	0.323	7.578
H - A			
3	1.204	0.570	2.543
6	1.000	0.017	58.434
19	1.000	0.156	6.420
21	0.263	0.012	5.650
Sub-total			
I-V pooled ES	1.088	0.558	2.121
H - F			
4	1.376	0.451	4.196
Sub-total			
I-V pooled ES	1.376	0.451	4.196
F - D			
5	1.021	0.230	4.526
Sub-total			
I-V pooled ES	1.021	0.230	4.526
H - B			
7	1.000	0.019	52.849
8	1.000	0.018	54.465
Sub-total			
I-V pooled ES	1.000	0.060	16.710
D - B			
9	0.424	0.039	4.662
10	1.198	0.610	2.352
11	0.176	0.008	3.969
14	0.786	0.298	2.071
Sub-total			
I-V pooled ES	0.948	0.557	1.614
G - B			
9	1.182	0.066	21.175
10	1.341	0.685	2.625
Sub-total			
I-V pooled ES	1.332	0.692	2.563
G - D			
9	2.786	0.256	30.273
10	1.119	0.654	1.915
Sub-total			
I-V pooled ES	1.169	0.693	1.975
F - E			
15	2.667	0.361	19.712
16	1.000	0.264	3.792
Sub-total			
I-V pooled ES	1.352	0.446	4.099
C - B			
22	0.590	0.368	0.944
Sub-total			
I-V pooled ES	0.590	0.368	0.944

Loop-specific heterogeneity

```
* 1 triangular loops found
* 5 quadratic loops found

  Note: Heterogeneity of loop TAU-NET-SC cannot be estimated due to insufficient
observations - set equal to 0
```

Evaluation of inconsistency using loop-specific heterogeneity estimates:

Loop	IF	seIF	z_value	p_value	CI_95	Loop_Heterog_tau2
WL-NET-EMDR-SSM	0.912	1.994	0.457	0.647	(0.00,4.82)	0.923
WL-NET-SSM-CBT	0.768	1.476	0.521	0.603	(0.00,3.66)	0.153
TAU-NET-SC	0.503	0.637	0.790	0.429	(0.00,1.75)	0.000
WL-TAU-NET-CBT	0.416	1.703	0.244	0.807	(0.00,3.75)	0.000
TAU-NET-SSM-CBT	0.287	1.743	0.165	0.869	(0.00,3.70)	0.000
WL-EMDR-SSM-CBT	0.097	0.985	0.098	0.922	(0.00,2.03)	0.030

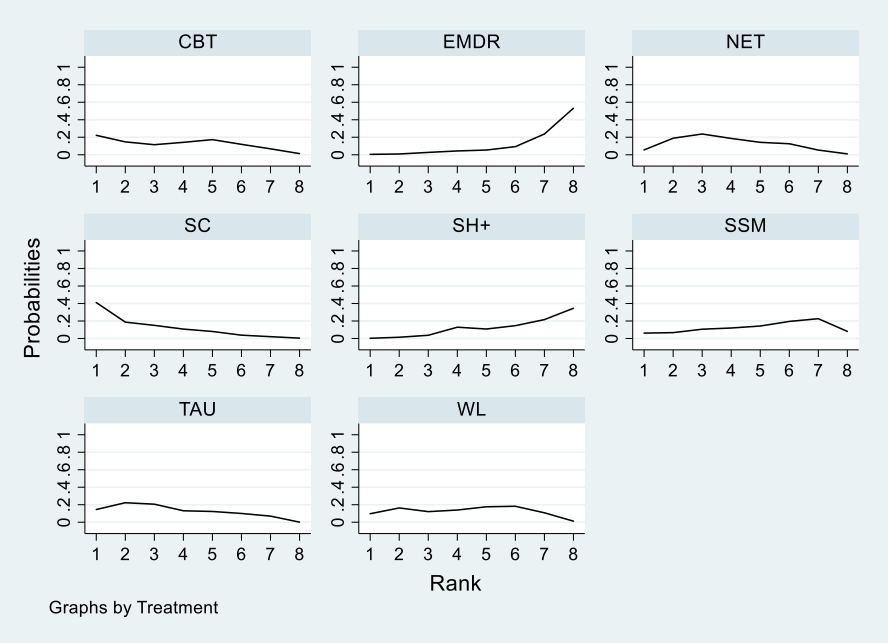
Consistency between direct and indirect estimates

Side	Direct Coef.	Direct Std. Err.	Indirect Coef.	Indirect Std. Err.	Difference Coef.	Difference Std. Err.	P>|z|	tau
A D	-.4485984	.8205838	.2564328	.8301627	-.7050311	1.16775	0.546	.2257647
A E	.6913416	.4440306	.3760236	.8715872	.315318	.9676707	0.745	.2753051
A H	-.0495188	.4154468	-.2003068	.8181055	.1507881	.9178862	0.870	.2775706
B C *	.5283392	.2747806	.8629567	199.5437	-.3346175	199.5436	0.999	.1334322
B D *	.0845849	.3452598	-.0231472	1.58598	.1077321	1.631784	0.947	.1827816
B G *	-.2669197	.3932646	.588422	1.163372	-.8553417	1.257773	0.496	.2216374
B H	-.0000295	1.442485	.1075721	.763775	-.1076016	1.632235	0.947	.1827694
D F	-.0206196	.7877958	.6318127	.8594658	-.6524323	1.165895	0.576	.2079654
D G *	-.1935466	.3641439	-1.048854	1.205038	.8553076	1.257769	0.496	.2216337
E F	-.3188552	.6047516	-.6341482	.7652966	.315293	.9677199	0.745	.2753102
F H	-.3194275	.6333367	-.2087627	.7072879	-.1106648	.9494077	0.907	.2787423

```
* Warning: all the evidence about these contrasts comes from the trials which directly compare them.
```

SUCRA and cumulative probability plots

Treatm~t	SUCRA	PrBest	MeanRank
WL	54.6	9.7	4.2
TAU	65.0	14.5	3.4
SH+	23.4	0.3	6.4
NET	59.8	5.5	3.8
EMDR	14.0	0.5	7.0
SSM	41.3	6.2	5.1
SC	78.9	41.1	2.5
CBT	63.0	22.2	3.6


CBT
EMDR
NET
SC
SH+
SSM
TAU
WL
Probabilities
0 .2 .4 .6 .8 1
1 2 3 4 5 6 7 8
Rank
Graphs by Treatment

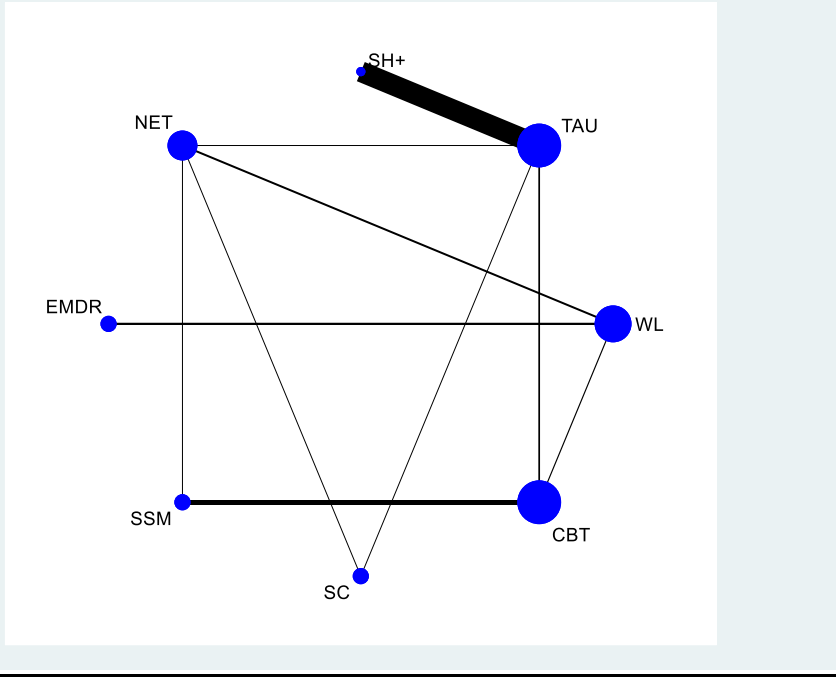
Sensitivity analysis: excluding trials with a high risk of bias

Intervention codes:

Waiting List	1
Treatment as Usual	2
Self-Help Plus	3
Narrative Exposure Therapy	4
EMDR	5
Stabilization/Stress Management	6
Supportive Counseling	7
Cognitive- Behavioural Therapy	8

Studies contributing to the analysis n= 12

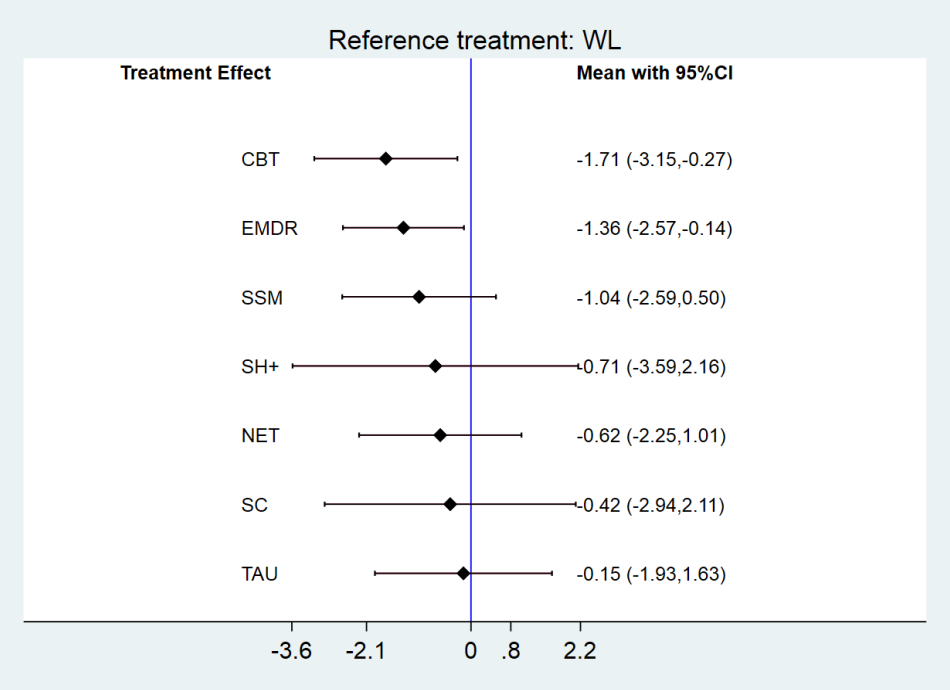
Network map



Net league table

CBT	0.35 (-1.32,2.03)	1.09 (-0.62,2.81)	1.29 (-1.11,3.70)	0.67 (-0.93,2.26)	1.00 (-1.61,3.60)	1.56 (0.25,2.87)	1.71 (0.27,3.15)
-0.35 (-2.03,1.32)	**EMDR**	0.74 (-1.08,2.56)	0.94 (-1.71,3.59)	0.31 (-1.12,1.74)	0.64 (-2.35,3.64)	1.21 (-0.76,3.18)	1.36 (0.14,2.57)
-1.09 (-2.81,0.62)	-0.74 (-2.56,1.08)	**NET**	0.20 (-2.03,2.43)	-0.43 (-2.12,1.27)	-0.10 (-2.96,2.76)	0.47 (-1.29,2.22)	0.62 (-1.01,2.25)
-1.29 (-3.70,1.11)	-0.94 (-3.59,1.71)	-0.20 (-2.43,2.03)	**SC**	-0.63 (-3.21,1.96)	-0.30 (-3.47,2.88)	0.27 (-1.97,2.51)	0.42 (-2.11,2.94)
-0.67 (-2.26,0.93)	-0.31 (-1.74,1.12)	0.43 (-1.27,2.12)	0.63 (-1.96,3.21)	**SSM**	0.33 (-2.61,3.27)	0.89 (-1.00,2.78)	1.04 (-0.50,2.59)
-1.00 (-3.60,1.61)	-0.64 (-3.64,2.35)	0.10 (-2.76,2.96)	0.30 (-2.88,3.47)	-0.33 (-3.27,2.61)	**SHplus**	0.56 (-1.69,2.82)	0.71 (-2.16,3.59)
-1.56 (-2.87,-0.25)	-1.21 (-3.18,0.76)	-0.47 (-2.22,1.29)	-0.27 (-2.51,1.97)	-0.89 (-2.78,1.00)	-0.56 (-2.82,1.69)	**TAU**	0.15 (-1.63,1.93)
-1.71 (-3.15,-0.27)	**-1.36 (-2.57,-0.14)**	-0.62 (-2.25,1.01)	-0.42 (-2.94,2.11)	-1.04 (-2.59,0.50)	-0.71 (-3.59,2.16)	-0.15 (-1.93,1.63)	**WL**

Interval plot



Pairwise meta-analysis

Study	ES	[95% Conf.	Interval]
5 - 1			
0	-1.651	-2.510	-0.792
1	-1.810	-2.283	-1.337
18	-0.616	-1.219	-0.014
Sub-total			
D+L pooled ES	-1.355	-2.154	-0.556
8 - 1			
3	0.162	-0.231	0.555
21	-4.915	-6.482	-3.348
Sub-total			
D+L pooled ES	-2.317	-7.291	2.656
8 - 6			
4	-0.067	-0.416	0.283
Sub-total			
D+L pooled ES	-0.067	-0.416	0.283
6 - 4			
5	0.244	-0.616	1.105
Sub-total			
D+L pooled ES	0.244	-0.616	1.105
8 - 2			
7	-2.121	-2.915	-1.328
8	-1.904	-2.905	-0.903
12	-0.825	-2.161	0.511
Sub-total			
D+L pooled ES	-1.775	-2.450	-1.100
4 - 2			
9	-0.190	-0.951	0.570
Sub-total			
D+L pooled ES	-0.190	-0.951	0.570
7 - 2			

```
9                    |   -0.127    -0.912     0.658
 Sub-total           |
  D+L pooled ES      |   -0.127    -0.912     0.658
--------------------+-------------------------------------------------
     7 - 4
9                    |    0.063    -0.679     0.806
 Sub-total           |
  D+L pooled ES      |    0.063    -0.679     0.806
--------------------+-------------------------------------------------
     6 - 5
15                   |    0.641    -0.657     1.940
16                   |    0.058    -0.444     0.561
 Sub-total           |
  D+L pooled ES      |    0.134    -0.334     0.603
--------------------+-------------------------------------------------
     4 - 1
20                   |   -0.262    -0.782     0.259
 Sub-total           |
  D+L pooled ES      |   -0.262    -0.782     0.259
--------------------+-------------------------------------------------
     3 - 2
22                   |   -0.563    -0.725    -0.401
 Sub-total           |
  D+L pooled ES      |   -0.563    -0.725    -0.401
--------------------+-------------------------------------------------
```

Test(s) of heterogeneity:

Heterogeneity	degrees of freedom	statistic	P	I-squared**	Tau-squared
5 - 1	2	9.72	0.008	79.4%	0.3900
8 - 1	1	37.93	0.000	97.4%	12.5470
8 - 6	0	0.00	.	.%	0.0000
6 - 4	0	0.00	.	.%	0.0000
8 - 2	2	2.71	0.257	26.3%	0.0963
4 - 2	0	0.00	.	.%	0.0000
7 - 2	0	0.00	.	.%	0.0000
7 - 4	0	0.00	.	.%	0.0000
6 - 5	1	0.67	0.412	0.0%	0.0000
4 - 1	0	0.00	.	.%	0.0000
3 - 2	0	0.00	.	.%	0.0000

** I-squared: the variation in ES attributable to heterogeneity)

Evaluation of heterogeneity and incoherence

Overall heterogeneity in the inconsistency model
Estimated between-studies SD: 1.434

Overall heterogeneity in the consistency model
Estimated between-studies SD: 1.147

Overall incoherence
Design-by-treatment test: P=0.904

Loop-specific heterogeneity

* 1 triangular loops found
* 3 quadratic loops found

Note: Heterogeneity of loop TAU-NET-SC cannot be estimated due to insufficient observations - set equal to 0

Note: Heterogeneity of loop WL-NET-SSM-CBT cannot be estimated due to insufficient observations - set equal to 0

Evaluation of inconsistency using loop-specific heterogeneity estimates:

Loop	IF	seIF	z_value	p_value	CI_95	Loop_Heterog_tau2
TAU-NET-SSM-CBT	1.762	0.910	1.936	0.053	(0.00,3.55)	0.096
WL-NET-EMDR-SSM	1.084	1.130	0.960	0.337	(0.00,3.30)	0.311
WL-EMDR-SSM-CBT	0.893	2.716	0.329	0.742	(0.00,6.22)	1.660
WL-TAU-NET-CBT	0.479	3.537	0.136	0.892	(0.00,7.41)	3.636
WL-NET-SSM-CBT	0.054	0.577	0.094	0.925	(0.00,1.18)	0.000
TAU-NET-SC	.	.	.	.		0.000

*** Note: Loop TAU-NET-SC is formed only by multi-arm trial(s) - Consistent by definition

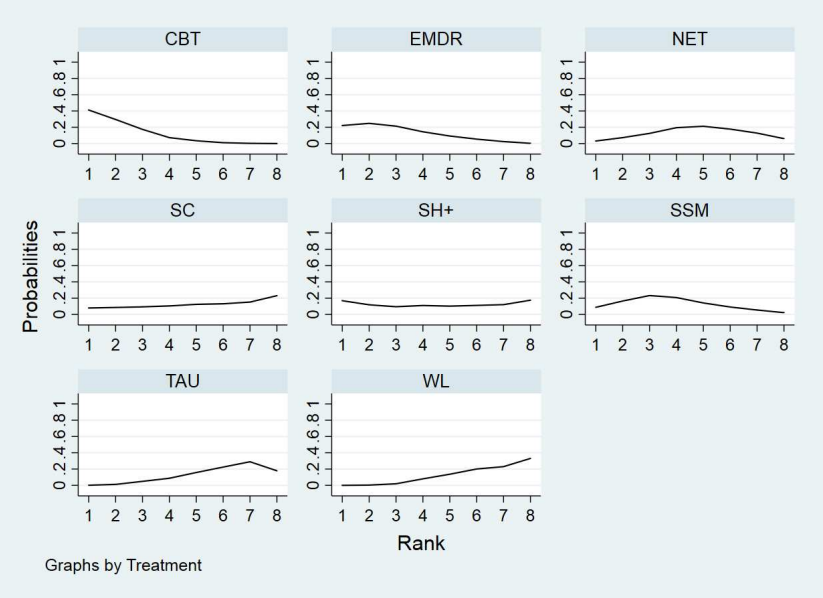
Consistency between direct and indirect estimates

Side	Direct Coef.	Direct Std. Err.	Indirect Coef.	Indirect Std. Err.	Difference Coef.	Difference Std. Err.	P>|z|	tau
1 4	-.2615775	1.265335	-.9977589	1.255494	.7361814	1.782509	0.680	1.237194
1 5	-1.357102	.7444421	-1.394759	1.527617	.0376574	1.699282	0.982	1.244818
1 8	-1.974502	.9805079	-1.331967	1.307085	-.6425353	1.634065	0.694	1.246009
2 3 *	-.562943	1.149775	-.2595793	200.0651	-.3033637	200.0684	0.999	1.146803
2 4 *	-.1903732	1.285376	-.7639694	1.417129	.5735962	1.91323	0.764	1.225424
2 7 *	-.126919	1.289238	-1.273912	3.600643	1.146993	3.826286	0.764	1.225416
2 8	-1.654578	.7725492	-1.081298	1.748636	-.5732792	1.912991	0.764	1.225392
4 6	.2443465	1.264888	-1.077033	1.250609	1.32138	1.778754	0.458	1.186253
4 7 *	.0634569	1.282688	1.210654	3.607599	-1.147197	3.826243	0.764	1.225414
5 6	.3196129	.9442344	.2815427	1.411883	.0380702	1.699545	0.982	1.244849
6 8	-.0667696	1.229715	-1.263717	1.197039	1.196947	1.71613	0.486	1.216728

* Warning: all the evidence about these contrasts comes from the trials which directly compare them.

SUCRA and cumulative probability plots

Treatm~t	SUCRA	PrBest	MeanRank
WL	21.1	0.0	6.5
TAU	26.9	0.1	6.1
SH+	49.3	16.9	4.5
NET	45.3	3.1	4.8
EMDR	72.7	22.1	2.9
SSM	60.7	8.7	3.8
SC	39.1	7.9	5.3
CBT	84.8	41.2	2.1


CBT
EMDR
NET
SC
SH+
SSM
TAU
WL
Probabilities
0 .2 .4 .6 .8 1
1 2 3 4 5 6 7 8
Rank
Graphs by Treatment

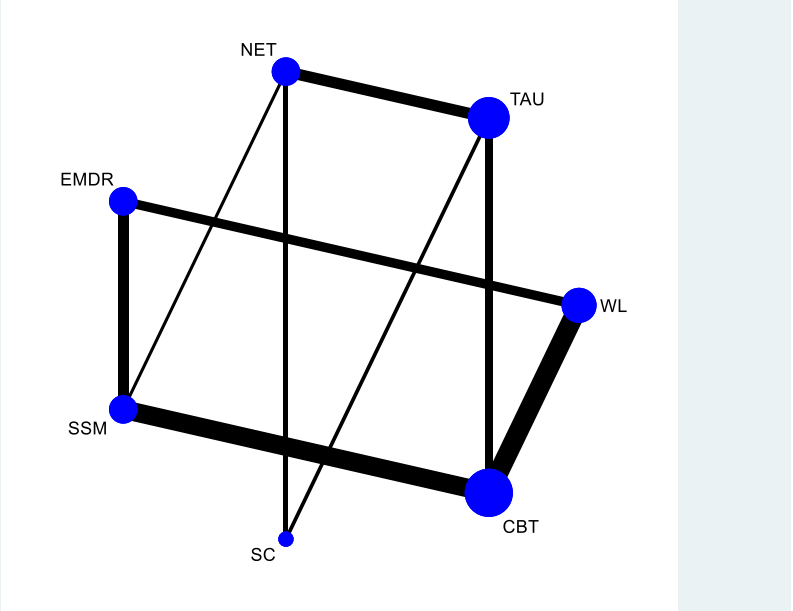
Sensitivity analysis: excluding studies with PTSD probable diagnosis

Intervention codes:

Waiting List	1
Treatment as Usual	2
Narrative Exposure Therapy	3
EMDR	4
Stabilization/Stress Management	5
Supportive Counseling	6
Cognitive- Behavioural Therapy	7

Studies contributing to the analysis n= 14

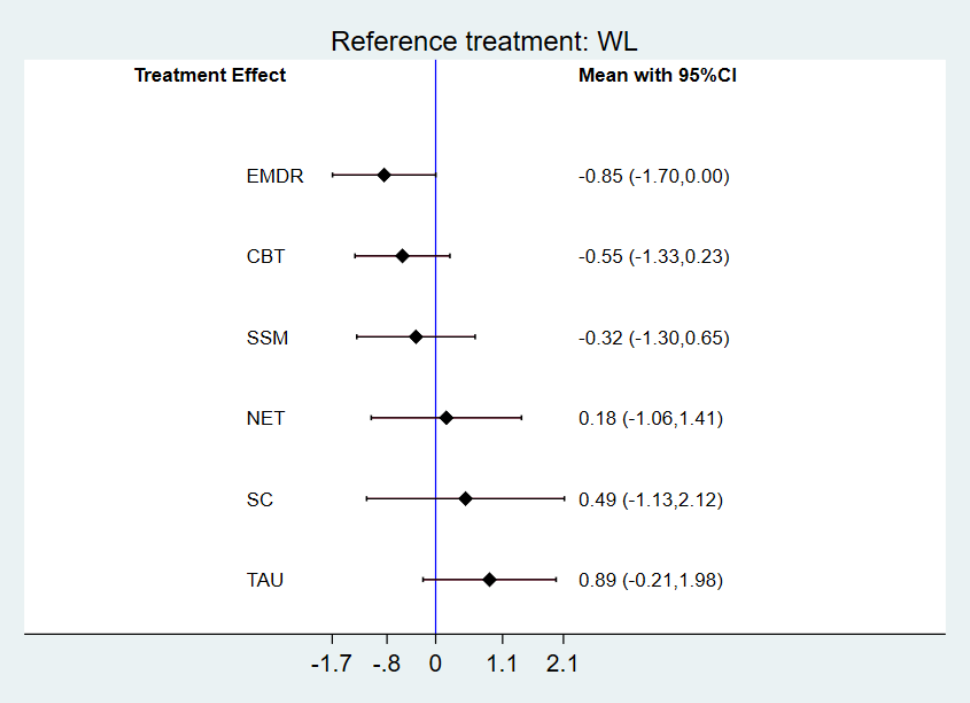
Network map



Net league table

CBT	-0.30 (-1.27,0.67)	0.72 (-0.32,1.77)	1.04 (-0.44,2.51)	0.22 (-0.66,1.10)	1.43 (0.61,2.25)	0.55 (-0.23,1.33)
0.30 (-0.67,1.27)	**EMDR**	1.02 (-0.25,2.29)	1.34 (-0.33,3.01)	0.52 (-0.35,1.40)	1.73 (0.55,2.92)	0.85 (-0.00,1.70)
-0.72 (-1.77,0.32)	-1.02 (-2.29,0.25)	**NET**	0.31 (-0.96,1.59)	-0.50 (-1.59,0.59)	0.71 (-0.14,1.56)	-0.18 (-1.41,1.06)
-1.04 (-2.51,0.44)	-1.34 (-3.01,0.33)	-0.31 (-1.59,0.96)	**SC**	-0.81 (-2.37,0.75)	0.40 (-0.89,1.68)	-0.49 (-2.12,1.13)
-0.22 (-1.10,0.66)	-0.52 (-1.40,0.35)	0.50 (-0.59,1.59)	0.81 (-0.75,2.37)	**SSM**	1.21 (0.15,2.27)	0.32 (-0.65,1.30)
-1.43 (-2.25,-0.61)	**-1.73 (-2.92,-0.55)**	-0.71 (-1.56,0.14)	-0.40 (-1.68,0.89)	-1.21 (-2.27,-0.15)	**TAU**	-0.89 (-1.98,0.21)
-0.55 (-1.33,0.23)	-0.85 (-1.70,0.00)	0.18 (-1.06,1.41)	0.49 (-1.13,2.12)	-0.32 (-1.30,0.65)	0.89 (-0.21,1.98)	**WL**

Interval plot



Pairwise meta-analysis

Study	ES	[95% Conf.	Interval]
4 - 1			
0	-1.651	-2.510	-0.792
18	-0.616	-1.219	-0.014
Sub-total			
D+L pooled ES	-1.087	-2.096	-0.077
7 - 1			
3	0.162	-0.231	0.555
6	-2.213	-3.768	-0.658
19	-0.111	-0.871	0.649
Sub-total			
D+L pooled ES	-0.428	-1.377	0.520
7 - 5			
4	-0.067	-0.416	0.283
Sub-total			
D+L pooled ES	-0.067	-0.416	0.283
5 - 3			
5	0.244	-0.616	1.105
Sub-total			
D+L pooled ES	0.244	-0.616	1.105
7 - 2			
7	-2.121	-2.915	-1.328
8	-1.904	-2.905	-0.903
12	-0.825	-2.161	0.511
Sub-total			
D+L pooled ES	-1.775	-2.450	-1.100
3 - 2			
9	-0.190	-0.951	0.570

```
14                    |   -0.566    -1.124    -0.007
 Sub-total            |
  D+L pooled ES       |   -0.434    -0.884     0.016
--------------------- +-------------------------------------------------
     6 - 2
9                     |   -0.127    -0.912     0.658
 Sub-total            |
  D+L pooled ES       |   -0.127    -0.912     0.658
--------------------- +-------------------------------------------------
     6 - 3
9                     |    0.063    -0.679     0.806
 Sub-total            |
  D+L pooled ES       |    0.063    -0.679     0.806
--------------------- +-------------------------------------------------
     5 - 4
15                    |    0.641    -0.657     1.940
16                    |    0.058    -0.444     0.561
 Sub-total            |
  D+L pooled ES       |    0.134    -0.334     0.603
--------------------- +-------------------------------------------------
```

Test(s) of heterogeneity

Heterogeneity	degrees of freedom	statistic	P	I-squared**	Tau-squared
4 - 1	1	3.74	0.053	73.2%	0.3922
7 - 1	2	8.52	0.014	76.5%	0.5004
7 - 5	0	0.00	.	.%	0.0000
5 - 3	0	0.00	.	.%	0.0000
7 - 2	2	2.71	0.257	26.3%	0.0963
3 - 2	1	0.61	0.436	0.0%	0.0000
6 - 2	0	0.00	.	.%	0.0000
6 - 3	0	0.00	.	.%	0.0000
5 - 4	1	0.67	0.412	0.0%	0.0000

** I-squared: the variation in ES attributable to heterogeneity)

Evaluation of heterogeneity and incoherence

Overall heterogeneity in the inconsistency model
Estimated between-studies SD: .586

Overall heterogeneity in the consistency model
Estimated between-studies SD: .596

Overall incoherence
Design-by-treatment test: P=0.44

Loop-specific heterogeneity

* 1 triangular loops found
 * 2 quadratic loops found

Note: Heterogeneity of loop TAU-NET-CBT cannot be estimated due to insufficient observations - set equal to 0

Evaluation of inconsistency using loop-specific heterogeneity estimates:

Loop	IF	seIF	z_value	p_value	CI_95	Loop_Heterog_tau2
TAU-NET-SSM-SC	1.561	0.655	2.382	0.017	(0.28,2.85)	0.020
WL-EMDR-SSM-SC	0.508	1.249	0.407	0.684	(0.00,2.96)	0.372
TAU-NET-CBT	0.375	0.621	0.605	0.545	(0.00,1.59)	0.000

```
  +-------------------------------------------------------------------------------
```

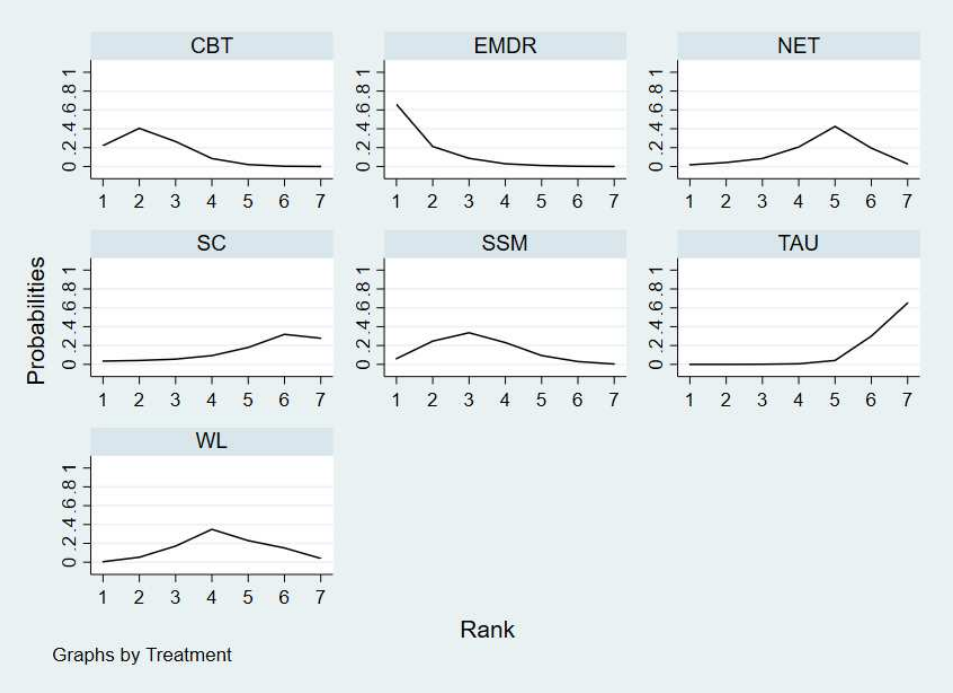
Consistency between direct and indirect estimates

Side	Direct Coef.	Direct Std. Err.	Indirect Coef.	Indirect Std. Err.	Difference Coef.	Difference Std. Err.	P>|z|	tau
1 4	-1.081049	.4883794	-.1367009	.8494138	-.9443476	.9756341	0.333	.5802651
1 7	-.3637873	.4406221	-1.308138	.8778413	.9443504	.9756171	0.333	.5802608
2 3 *	-.3977874	.4038455	-2.118642	.8581647	1.720855	.9474524	0.069	.4622194
2 6 *	-.126914	.7283897	-1.792381	1.672049	1.665467	1.827582	0.362	.6083257
2 7	-1.741119	.4035171	-.0202595	.8566127	-1.72086	.9474449	0.069	.462217
3 5	.2443547	.6374893	-1.476494	.7009119	1.720849	.9474546	0.069	.4622204
3 6 *	.0634569	.7167352	1.728917	1.687094	-1.66546	1.827586	0.362	.6083263
4 5	.2574946	.5167759	1.201841	.8247711	-.9443469	.9756395	0.333	.5802669
5 7	-.0667676	.6892053	-.4121527	.6988904	.3453851	.9815557	0.725	.6657564

* Warning: all the evidence about these contrasts comes from the trials which directly compare them.

SUCRA and cumulative probability plots

Treatm~t	SUCRA	PrBest	MeanRank
WL	44.0	0.6	4.4
TAU	6.8	0.0	6.6
NET	38.7	1.8	4.7
EMDR	91.3	66.0	1.5
SSM	64.1	6.0	3.2
SC	26.5	3.5	5.4
CBT	78.6	22.2	2.3



Subgroup analysis: by country income (HICs vs LMICs)

Intervention codes:

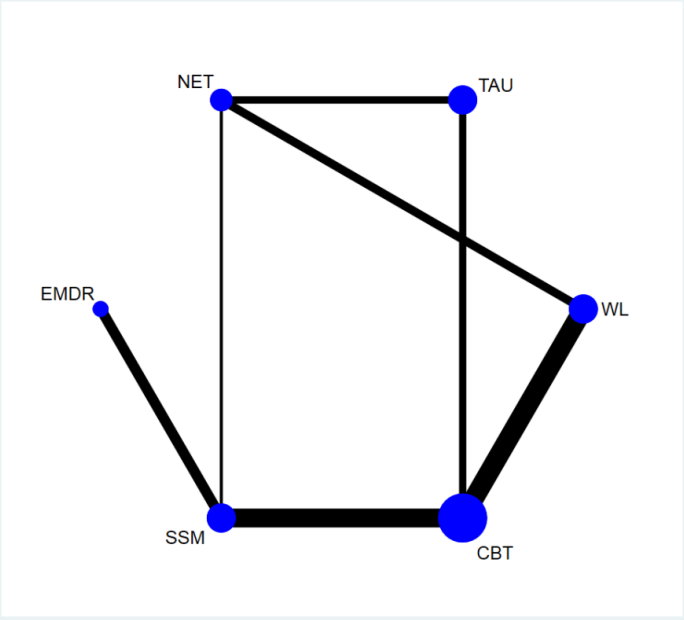
Waiting List	1
Treatment as Usual	2
Self-Help Plus	3
Narrative Exposure Therapy	4
EMDR	5
Stabilization/Stress Management	6
Supportive Counseling	7
Cognitive- Behavioural Therapy	8

Studies contributing to the analysis

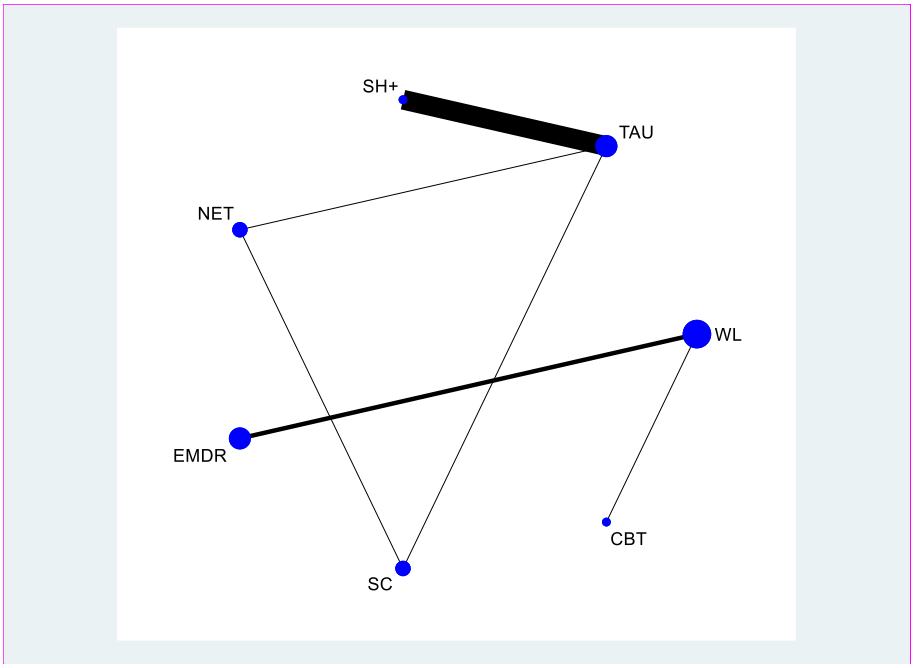
- **HICs n= 12**
- **LMICs n= 6**

Network map

High income



Low and middle income



Net league table

High income

CBT	0.05 (-1.32,1.42)	0.41 (-0.50,1.31)	0.30 (-0.66,1.27)	1.47 (0.71,2.24)	0.45 (-0.30,1.20)
-0.05 (-1.42,1.32)	**EMDR**	0.36 (-1.07,1.78)	0.25 (-0.73,1.24)	1.42 (-0.07,2.92)	0.40 (-1.10,1.89)
-0.41 (-1.31,0.50)	-0.36 (-1.78,1.07)	**NET**	-0.10 (-1.14,0.93)	1.07 (0.14,1.99)	0.04 (-0.88,0.96)
-0.30 (-1.27,0.66)	-0.25 (-1.24,0.73)	0.10 (-0.93,1.14)	**SSM**	1.17 (0.04,2.30)	0.14 (-0.97,1.26)
-1.47 (-2.24,-0.71)	-1.42 (-2.92,0.07)	**-1.07 (-1.99,-0.14)**	**-1.17 (-2.30,-0.04)**	**TAU**	-1.03 (-2.01,-0.04)
-0.45 (-1.20,0.30)	-0.40 (-1.89,1.10)	-0.04 (-0.96,0.88)	-0.14 (-1.26,0.97)	1.03 (0.04,2.01)	**WL**

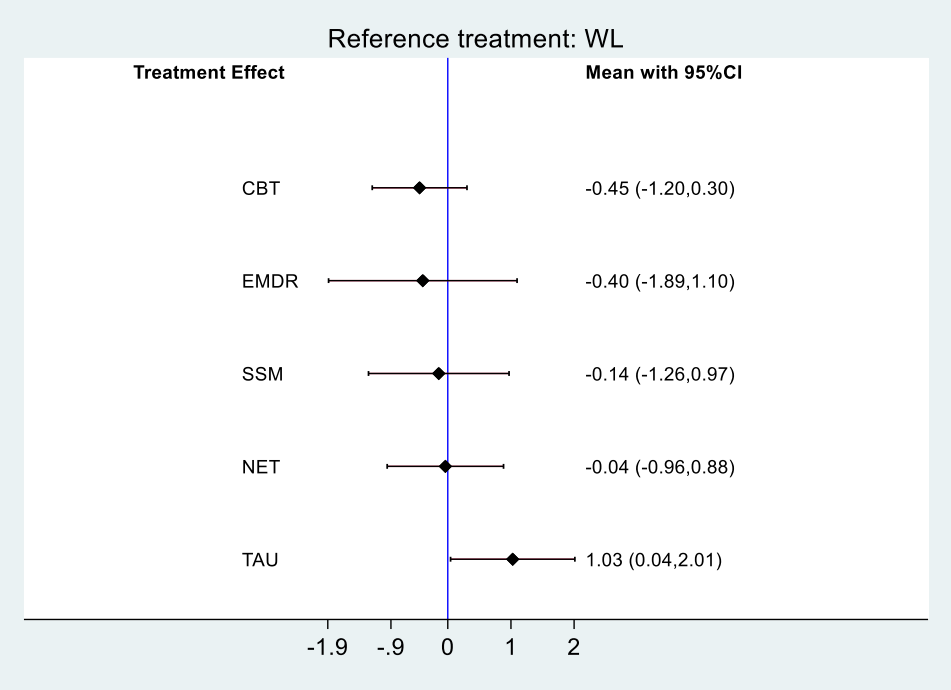
Low and middle income: Network 1

CBT	3.56 (1.47,5.65)	4.91 (2.97,6.86)
-3.56 (-5.65,-1.47)	**EMDR**	1.35 (0.59,2.12)
-4.91 (-6.86,-2.97)	**-1.35 (-2.12,-0.59)**	**WL**

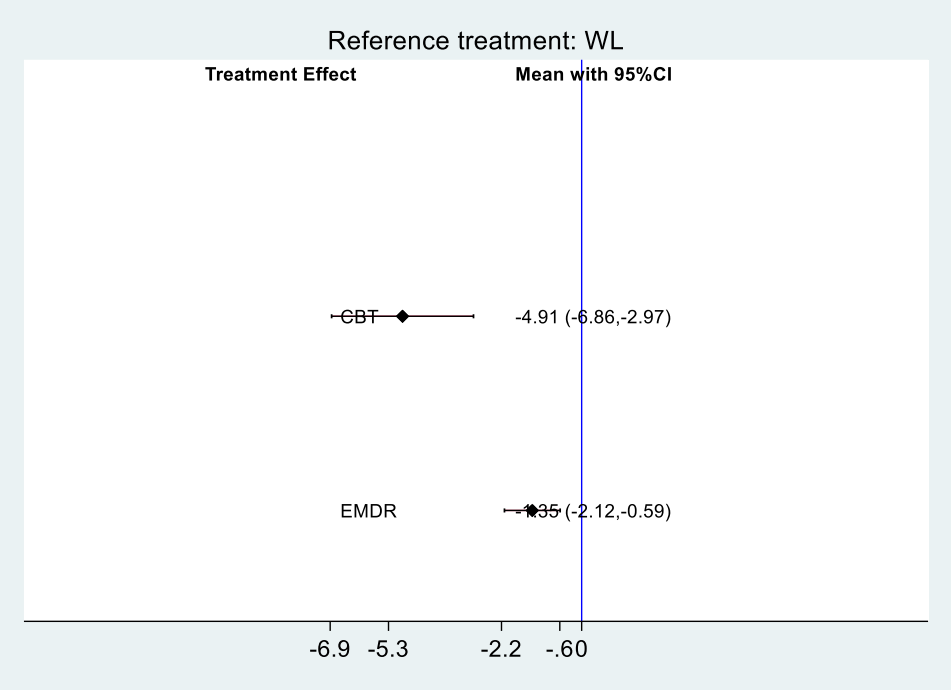
Low and middle income: Network 2

NET	0.19 (-0.57,0.95)	-0.37 (-1.15,0.40)	0.06 (-0.68,0.81)
-0.19 (-0.95,0.57)	**TAU**	-0.56 (-0.72,-0.40)	-0.13 (-0.91,0.66)
0.37 (-0.40,1.15)	0.56 (0.40,0.72)	**SHplus**	0.44 (-0.37,1.24)
-0.06 (-0.81,0.68)	0.13 (-0.66,0.91)	-0.44 (-1.24,0.37)	**SC**

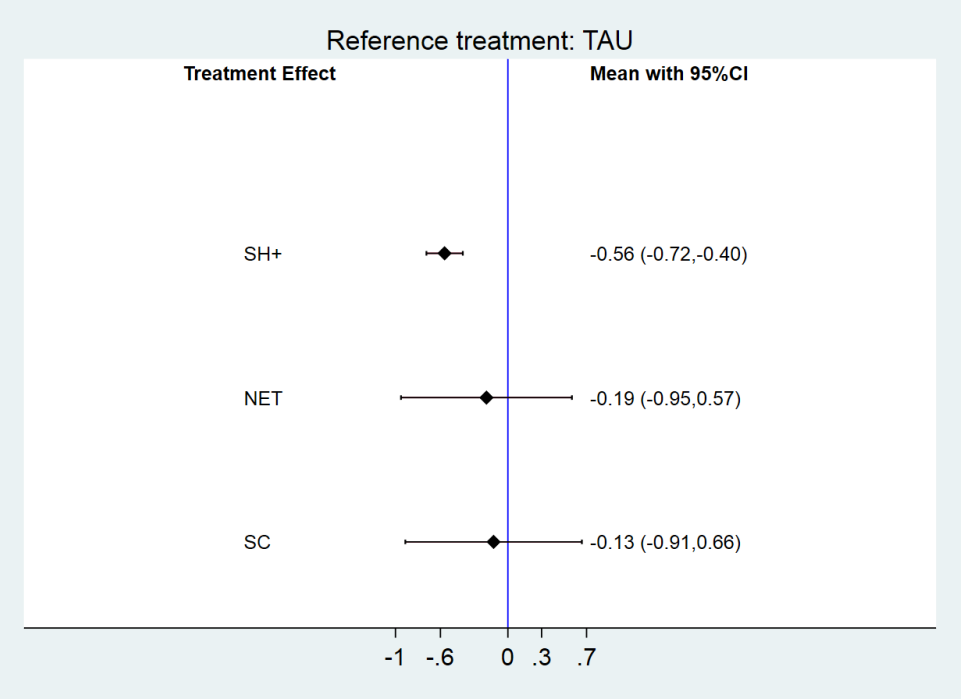
Interval plot
High income



Low income network 1



Low income network 2



Pairwise meta-analysis

High income

Study	ES	[95% Conf.	Interval]
8 - 1			
3	0.162	-0.231	0.555
6	-2.213	-3.768	-0.658
19	-0.111	-0.871	0.649
Sub-total			
D+L pooled ES	-0.428	-1.377	0.520
8 - 6			
4	-0.067	-0.416	0.283
Sub-total			
D+L pooled ES	-0.067	-0.416	0.283
6 - 4			
5	0.244	-0.616	1.105
Sub-total			
D+L pooled ES	0.244	-0.616	1.105
8 - 2			
7	-2.121	-2.915	-1.328
8	-1.904	-2.905	-0.903
12	-0.825	-2.161	0.511
Sub-total			
D+L pooled ES	-1.775	-2.450	-1.100
4 - 2			
14	-0.566	-1.124	-0.007
Sub-total			
D+L pooled ES	-0.566	-1.124	-0.007
6 - 5			
15	0.641	-0.657	1.940
16	0.058	-0.444	0.561
Sub-total			
D+L pooled ES	0.134	-0.334	0.603
4 - 1			
20	-0.262	-0.782	0.259

```
 Sub-total           |
  D+L pooled ES      |   -0.262    -0.782     0.259
--------------------+---------------------------------------------------
```

Low and middle income

```
           Study     |     ES    [95% Conf. Interval]
--------------------+---------------------------------------------------
     5 - 1
0                   |   -1.651    -2.510    -0.792
1                   |   -1.810    -2.283    -1.337
18                  |   -0.616    -1.219    -0.014
 Sub-total          |
  D+L pooled ES     |   -1.355    -2.154    -0.556
--------------------+---------------------------------------------------
     8 - 1
21                  |   -4.915    -6.482    -3.348
 Sub-total          |
  D+L pooled ES     |   -4.915    -6.482    -3.348
--------------------+---------------------------------------------------
     4 - 2
9                   |   -0.190    -0.951     0.570
 Sub-total          |
  D+L pooled ES     |   -0.190    -0.951     0.570
--------------------+---------------------------------------------------
     7 - 2
9                   |   -0.127    -0.912     0.658
 Sub-total          |
  D+L pooled ES     |   -0.127    -0.912     0.658
--------------------+---------------------------------------------------
     7 - 4
9                   |    0.063    -0.679     0.806
 Sub-total          |
  D+L pooled ES     |    0.063    -0.679     0.806
--------------------+---------------------------------------------------
     3 - 2
22                  |   -0.563    -0.725    -0.401
 Sub-total          |
  D+L pooled ES     |   -0.563    -0.725    -0.401
--------------------+---------------------------------------------------
```

Test(s) of heterogeneity:

High income

```
       Heterogeneity  degrees of
                statistic     freedom      P    I-squared**   Tau-squared

8 - 1               8.52           2      0.014     76.5%       0.5004
8 - 6               0.00           0          .          .%       0.0000
6 - 4               0.00           0          .          .%       0.0000
8 - 2               2.71           2      0.257     26.3%       0.0963
4 - 2               0.00           0          .          .%       0.0000
6 - 5               0.67           1      0.412      0.0%       0.0000
4 - 1               0.00           0          .          .%       0.0000

** I-squared: the variation in ES attributable to heterogeneity)
```

Low and middle income

```
    Heterogeneity  degrees of
                statistic     freedom      P    I-squared**   Tau-squared


5 - 1               9.72           2      0.008     79.4%       0.3900
8 - 1               0.00           0          .          .%       0.0000
4 - 2               0.00           0          .          .%       0.0000
7 - 2               0.00           0          .          .%       0.0000
```

```
7 - 4                0.00          0         .         .%       0.0000
3 - 2                0.00          0         .         .%       0.0000
** I-squared: the variation in ES attributable to heterogeneity)
```

Evaluation of heterogeneity and incoherence

High income

Overall heterogeneity in the inconsistency model
Estimated between-studies SD: .565

Overall heterogeneity in the consistency model
Estimated between-studies SD: .556

Overall incoherence
Design-by-treatment test: P=0.48

Low and middle income

*** NO INCONSISTENCY MODEL (no pair for which direct and indirect comparison available at the same time): Consistency by definition ***

Overall heterogeneity in the consistency model (only first network: in the second one only 1 study per comparison)

Estimated between-studies SD: 0.589

Loop-specific heterogeneity

High income

* 3 quadratic loops found

Evaluation of inconsistency using loop-specific heterogeneity estimates:

Loop	IF	seIF	z_value	p_value	CI_95	Loop_Heterog_tau2
TAU-NET-SSM-CBT	1.387	0.869	1.596	0.111	(0.00,3.09)	0.096
WL-TAU-NET-CBT	1.040	1.328	0.783	0.434	(0.00,3.64)	0.354
WL-NET-SSM-CBT	0.344	1.917	0.180	0.857	(0.00,4.10)	0.500

Consistency between direct and indirect estimates

Side		Direct Coef.	Direct Std. Err.	Indirect Coef.	Indirect Std. Err.	Difference Coef.	Difference Std. Err.	P>|z|	tau
1 4		-.2615775	.6616629	.2287839	.7842028	-.4903614	1.026047	0.633	.6061152
1 8		-.3780476	.4630631	-.8684237	.9111245	.4903761	1.026025	0.633	.6061108
2 4		-.5657008	.4019662	-1.909911	.5975204	1.344211	.7201441	0.062	.2835597
2 8		-1.780997	.3516614	-.4367711	.5914288	-1.344226	.7202088	0.062	.2835516
4 6		.2443543	.755458	-.5522057	.8620386	.79656	1.146223	0.487	.6147942
5 6	*	.2529045	.501955	-.5384438	447.2606	.7913483	447.261	0.999	.5556975
6 8		-.0667675	.6401132	-.8633355	.9508289	.7965679	1.14622	0.487	.6147947

*** Warning: all the evidence about these contrasts comes from the trials which directly compare them.**

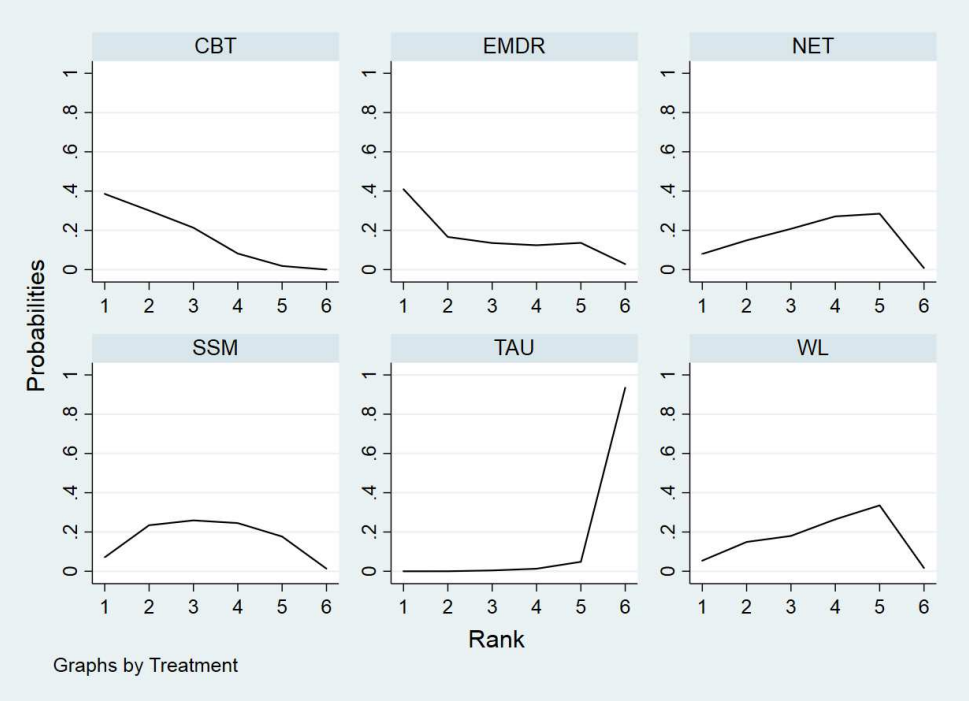
Low and middle income

*** NO EVALUATION OF INCONSISTENCY (no pair for which direct and indirect comparison available at the same time): Consistency by definition ***

SUCRA and cumulative probability plots

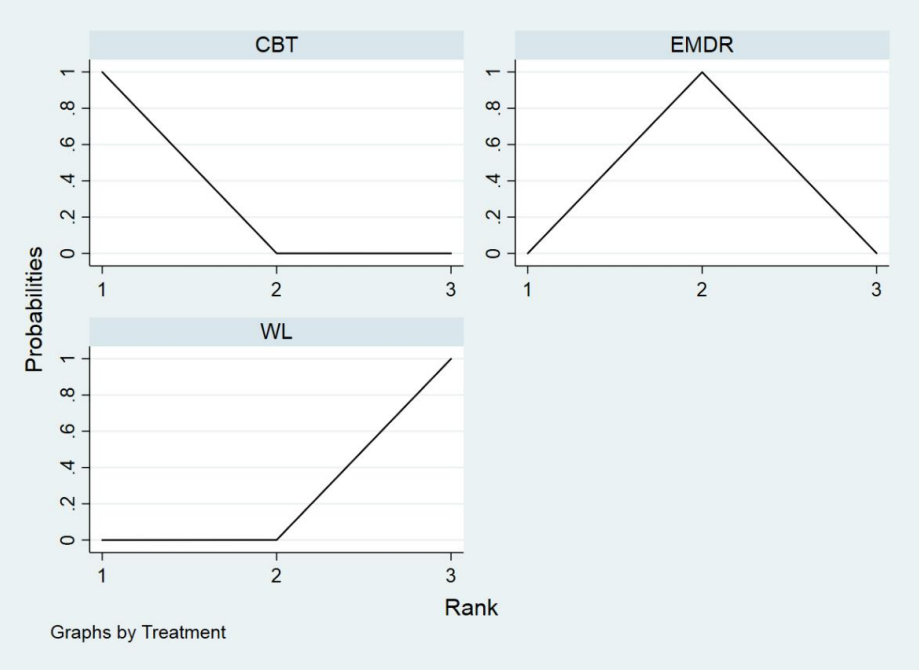
High income

Treatment	SUCRA	PrBest	MeanRank
WL	45.4	5.4	3.7
TAU	1.8	0.0	5.9
NET	48.9	8.0	3.6
EMDR	70.1	41.0	2.5
SSM	54.8	7.1	3.3
CBT	79.1	38.6	2.0



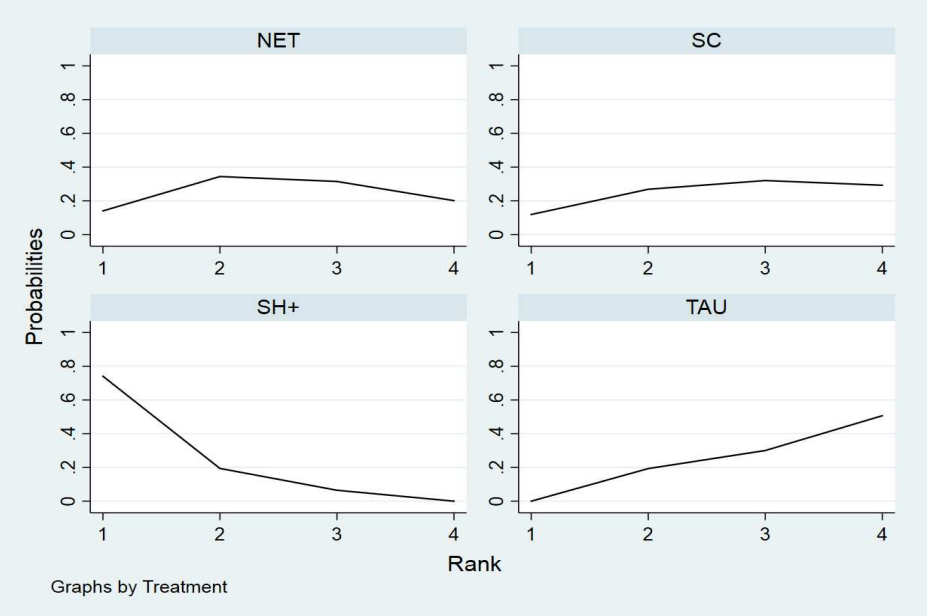
Low and middle income – Network 1

Treatment	SUCRA	PrBest	MeanRank
WL	0.0	0.0	3.0
EMDR	50.0	0.0	2.0
CBT	100.0	100.0	1.0



Low and middle income – Network 2

Treatment	SUCRA	PrBest	MeanRank
TAU	22.9	0.0	3.3
SH+	89.2	74.1	1.3
NET	47.4	14.0	2.6
SC	40.5	11.9	2.8



Subgroup analysis: by level of intervention (individual vs. group intervention)

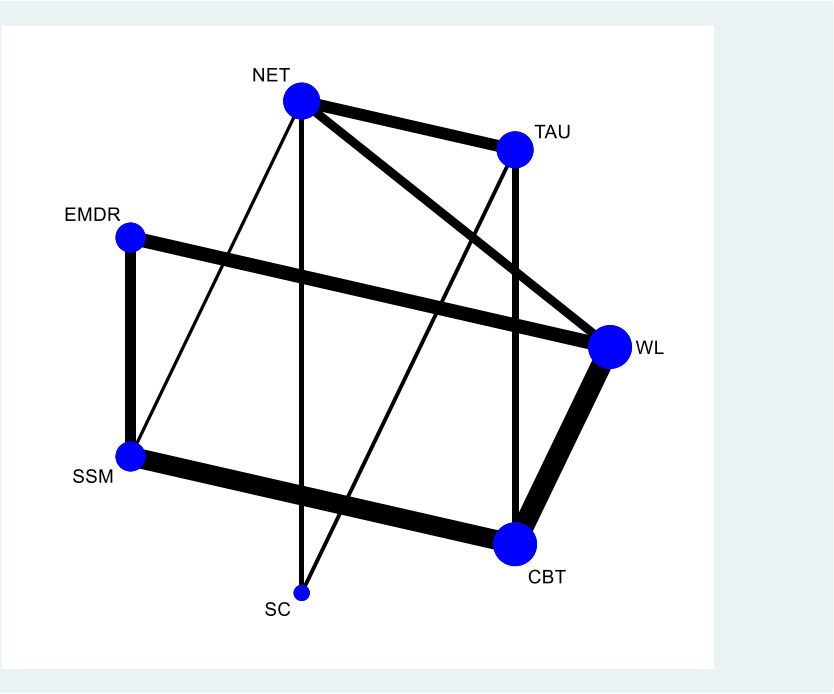
Intervention codes:

Waiting List	1
Treatment as Usual	2
Self-Help Plus	3
Narrative Exposure Therapy	4
EMDR	5
Stabilization/Stress Management	6
Supportive Counseling	7
Cognitive- Behavioural Therapy	8

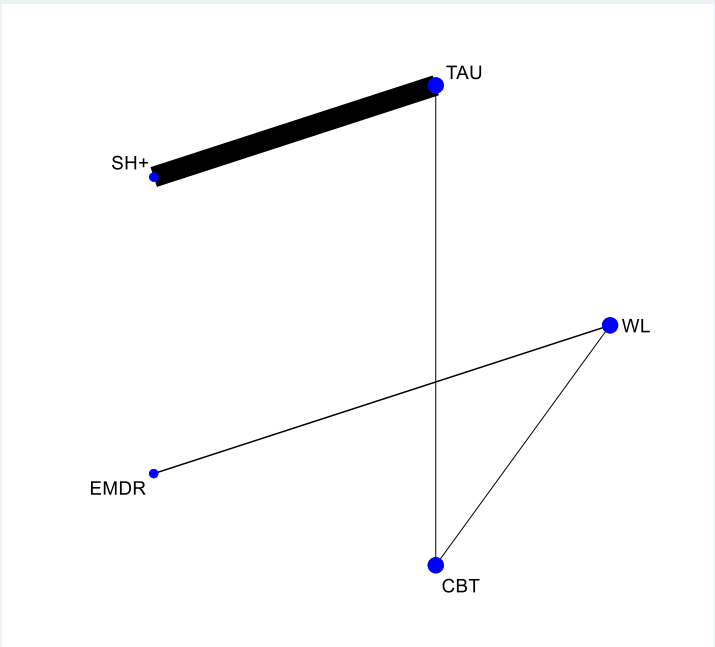
Studies contributing to the analysis

- **Individual level n=14**
- **Group level n=4**

Network map
Individual level



Group level



Net league table

Individual level

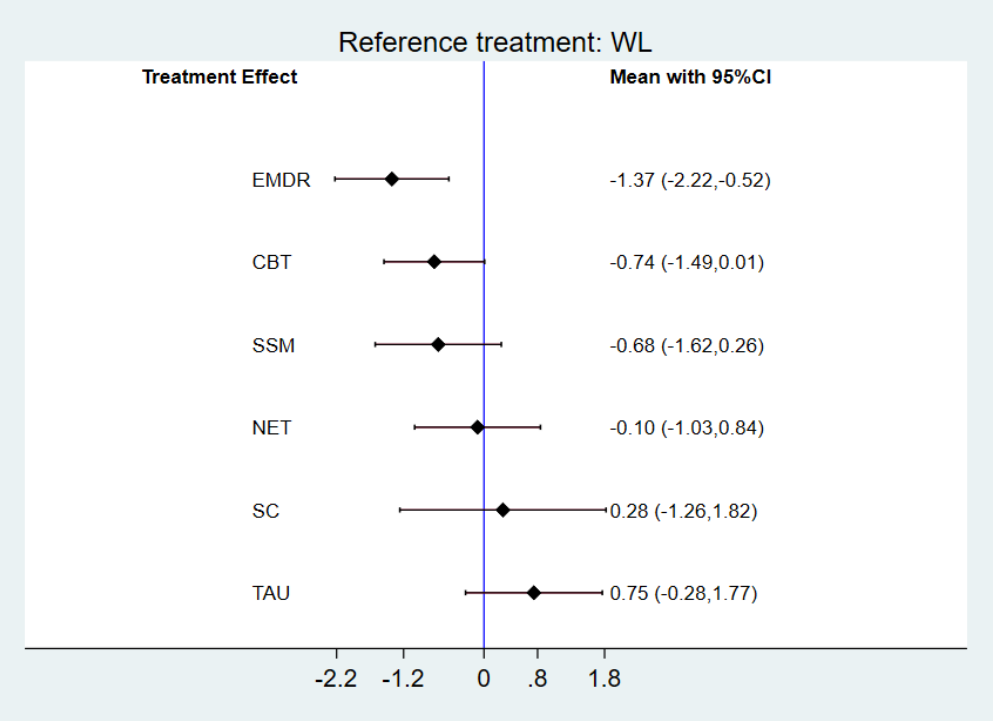
CBT	-0.63 (-1.64,0.37)	0.65 (-0.31,1.60)	1.03 (-0.48,2.53)	0.06 (-0.87,0.98)	1.49 (0.59,2.38)	0.74 (-0.01,1.49)
0.63 (-0.37,1.64)	**EMDR**	1.28 (0.15,2.40)	1.66 (-0.01,3.32)	0.69 (-0.20,1.58)	2.12 (0.91,3.33)	1.37 (0.52,2.22)
-0.65 (-1.60,0.31)	**-1.28 (-2.40,-0.15)**	**NET**	0.38 (-0.95,1.71)	-0.59 (-1.61,0.43)	0.84 (-0.01,1.69)	0.10 (-0.84,1.03)
-1.03 (-2.53,0.48)	-1.66 (-3.32,0.01)	-0.38 (-1.71,0.95)	**SC**	-0.97 (-2.57,0.63)	0.46 (-0.87,1.80)	-0.28 (-1.82,1.26)
-0.06 (-0.98,0.87)	-0.69 (-1.58,0.20)	0.59 (-0.43,1.61)	0.97 (-0.63,2.57)	**SSM**	1.43 (0.30,2.55)	0.68 (-0.26,1.62)
-1.49 (-2.38,-0.59)	**-2.12 (-3.33,-0.91)**	-0.84 (-1.69,0.01)	-0.46 (-1.80,0.87)	**-1.43 (-2.55,-0.30)**	**TAU**	-0.75 (-1.77,0.28)
-0.74 (-1.49,0.01)	**-1.37 (-2.22,-0.52)**	-0.10 (-1.03,0.84)	0.28 (-1.26,1.82)	-0.68 (-1.62,0.26)	0.75 (-0.28,1.77)	**WL**

Group level

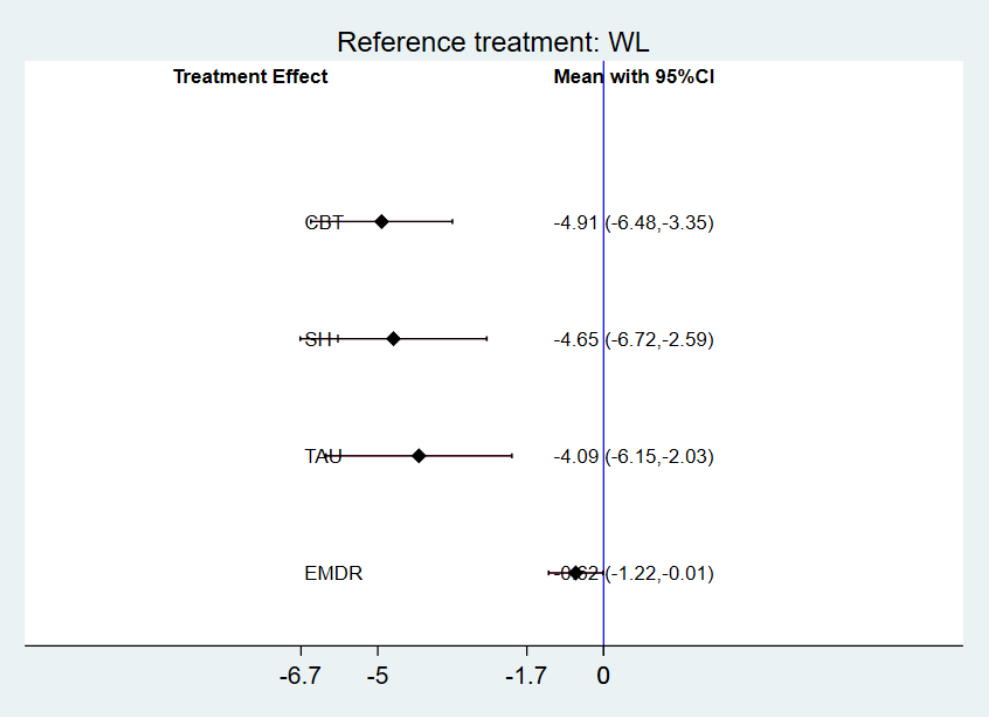
CBT	4.30 (2.62,5.98)	0.26 (-1.08,1.61)	0.83 (-0.51,2.16)	4.91 (3.35,6.48)
-4.30 (-5.98,-2.62)	**EMDR**	-4.04 (-6.19,-1.88)	-3.47 (-5.62,-1.33)	0.62 (0.01,1.22)
-0.26 (-1.61,1.08)	4.04 (1.88,6.19)	**SHplus**	0.56 (0.40,0.72)	4.65 (2.59,6.72)
-0.83 (-2.16,0.51)	3.47 (1.33,5.62)	**-0.56 (-0.72,-0.40)**	**TAU**	4.09 (2.03,6.15)
-4.91 (-6.48,-3.35)	**-0.62 (-1.22,-0.01)**	**-4.65 (-6.72,-2.59)**	**-4.09 (-6.15,-2.03)**	**WL**

Interval Plot

Individual level


Reference treatment: WL
Treatment Effect
Mean with 95%CI
EMDR
-1.37 (-2.22,-0.52)
CBT
-0.74 (-1.49,0.01)
SSM
-0.68 (-1.62,0.26)
NET
-0.10 (-1.03,0.84)
SC
0.28 (-1.26,1.82)
TAU
0.75 (-0.28,1.77)
-2.2
-1.2
0
.8
1.8

Group level


Reference treatment: WL
Treatment Effect
Mean with 95%CI
CBT
-4.91 (-6.48,-3.35)
SH
-4.65 (-6.72,-2.59)
TAU
-4.09 (-6.15,-2.03)
EMDR
-0.62 (-1.22,-0.01)
-6.7
-5
-1.7
0

Pairwise meta-analysis

Individual level

Study	ES	[95% Conf.	Interval]
5 - 1			
0	-1.651	-2.510	-0.792
1	-1.810	-2.283	-1.337
Sub-total			
D+L pooled ES	-1.773	-2.187	-1.359
8 - 1			
3	0.162	-0.231	0.555
6	-2.213	-3.768	-0.658
19	-0.111	-0.871	0.649
Sub-total			
D+L pooled ES	-0.428	-1.377	0.520
8 - 6			
4	-0.067	-0.416	0.283
Sub-total			
D+L pooled ES	-0.067	-0.416	0.283
6 - 4			
5	0.244	-0.616	1.105
Sub-total			
D+L pooled ES	0.244	-0.616	1.105
8 - 2			
7	-2.121	-2.915	-1.328
8	-1.904	-2.905	-0.903
Sub-total			
D+L pooled ES	-2.038	-2.659	-1.416
4 - 2			
9	-0.190	-0.951	0.570
14	-0.566	-1.124	-0.007
Sub-total			
D+L pooled ES	-0.434	-0.884	0.016
7 - 2			
9	-0.127	-0.912	0.658
Sub-total			
D+L pooled ES	-0.127	-0.912	0.658
7 - 4			
9	0.063	-0.679	0.806
Sub-total			
D+L pooled ES	0.063	-0.679	0.806
6 - 5			
15	0.641	-0.657	1.940
16	0.058	-0.444	0.561
Sub-total			
D+L pooled ES	0.134	-0.334	0.603
4 - 1			
20	-0.262	-0.782	0.259
Sub-total			
D+L pooled ES	-0.262	-0.782	0.259

Group level

Study	ES	[95% Conf.	Interval]
5 - 1			
18	-0.616	-1.219	-0.014
Sub-total			
D+L pooled ES	-0.616	-1.219	-0.014

```
     8 - 1
21                   |   -4.915    -6.482    -3.348
 Sub-total           |
  D+L pooled ES      |   -4.915    -6.482    -3.348
--------------------+-----------------------------------------------------
     8 - 2
12                   |   -0.825    -2.161     0.511
 Sub-total           |
  D+L pooled ES      |   -0.825    -2.161     0.511
--------------------+-----------------------------------------------------
     3 - 2
22                   |   -0.563    -0.725    -0.401
 Sub-total           |
  D+L pooled ES      |   -0.563    -0.725    -0.401
--------------------+-----------------------------------------------------
```

Test(s) of heterogeneity:

Individual level

	Heterogeneity statistic	degrees of freedom	P	I-squared**	Tau-squared
5 - 1	0.10	1	0.750	0.0%	0.0000
8 - 1	8.52	2	0.014	76.5%	0.5004
8 - 6	0.00	0	.	.%	0.0000
6 - 4	0.00	0	.	.%	0.0000
8 - 2	0.11	1	0.739	0.0%	0.0000
4 - 2	0.61	1	0.436	0.0%	0.0000
7 - 2	0.00	0	.	.%	0.0000
7 - 4	0.00	0	.	.%	0.0000
6 - 5	0.67	1	0.412	0.0%	0.0000
4 - 1	0.00	0	.	.%	0.0000

** I-squared: the variation in ES attributable to heterogeneity)

Group level

***** NO TEST OF HETEROGENEITY (1 study per each comparison): Fixed effects*****

Evaluation of heterogeneity and incoherence

Individual level

Overall heterogeneity in the inconsistency model
Estimated between-studies SDs: .211

Overall heterogeneity in the consistency model
Estimated between-studies SDs:.632

Overall incoherence
Design-by-treatment test: P=0.0123

Overall incoherence in the fixed-effect model
Design-by-treatment test: P=0.0000

Individual level

Loop-specific heterogeneity

```
* 1 triangular loops found
* 5 quadratic loops found
  Note: Heterogeneity of loop TAU-NET-SC cannot be estimated due to insufficient
observations - set equal to 0
 Evaluation of inconsistency using loop-specific heterogeneity estimates:
  +-------------------------------------------------------------------------------------+
  |            Loop |     IF |  seIF | z_value | p_value |       CI_95 | Loop_Heterog_tau2 |
```

TAU-NET-SSM-CBT	1.781	0.615	2.897	0.004	(0.58,2.99)	0.000
WL-NET-EMDR-SSM	1.622	0.604	2.684	0.007	(0.44,2.81)	0.000
WL-TAU-NET-CBT	1.609	1.032	1.559	0.119	(0.00,3.63)	0.199
WL-EMDR-SSM-CBT	1.291	1.017	1.269	0.205	(0.00,3.28)	0.212
TAU-NET-SC	0.375	0.621	0.605	0.545	(0.00,1.59)	0.000
WL-NET-SSM-CBT	0.344	1.917	0.180	0.857	(0.00,4.10)	0.500

Consistency between direct and indirect estimates

Side	Direct		Indirect		Difference			tau
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	P>|z|	
1 4	-.2615775	.7301872	.0466128	.7071073	-.3081903	1.016452	0.762	.6802581
1 5	-1.743445	.4504276	-.3641775	.7413026	-1.379268	.867996	0.112	.5397135
1 8	-.2961198	.3916849	-1.612747	.5653823	1.316628	.6800046	0.053	.4698039
2 4 *	-.3963677	.4194096	-2.109128	.7049359	1.71276	.8198214	0.037	.4890404
2 7 *	-.1269141	.7418093	-2.104679	1.648857	1.977765	1.811842	0.275	.6243313
2 8	-2.024472	.4723947	-.3117029	.6698678	-1.712769	.8198209	0.037	.4890404
4 6	.2443541	.7287894	-1.279077	.6632932	1.523431	.9854399	0.122	.5817122
4 7 *	.0634569	.7303677	2.041215	1.664108	-1.977758	1.811841	0.275	.6243304
5 6	.2497831	.4916354	1.629049	.7133685	-1.379266	.8680002	0.112	.539715
6 8	-.0667676	.716208	-.0845914	.7236926	.0178238	1.018177	0.986	.6936724

* Warning: all the evidence about these contrasts comes from the trials which directly compare them.

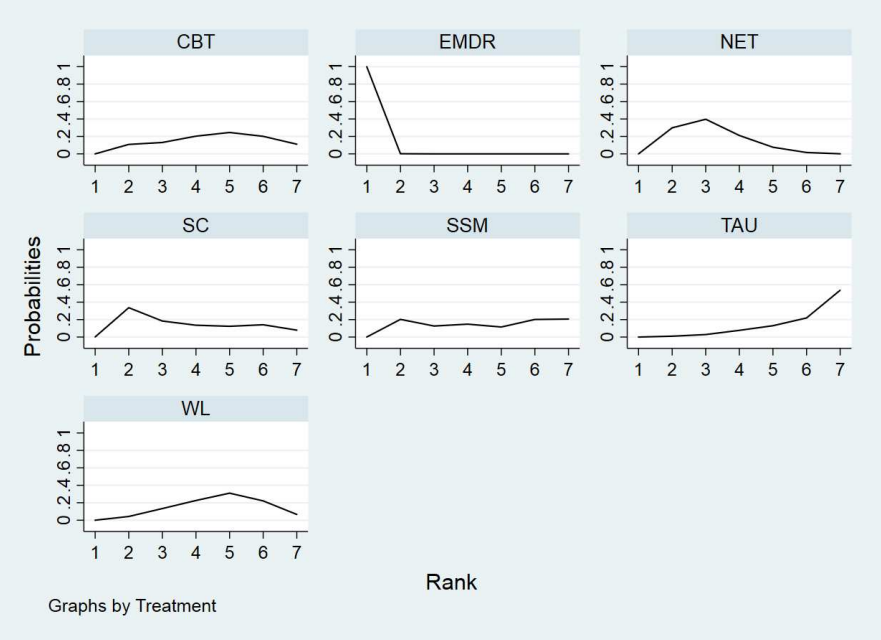
Group level

*** NO EVALUATION OF INCONSISTENCY (no pair for which direct and indirect comparison available at the same time: no loop) ***

Individual level

SUCRA and cumulative probability plots

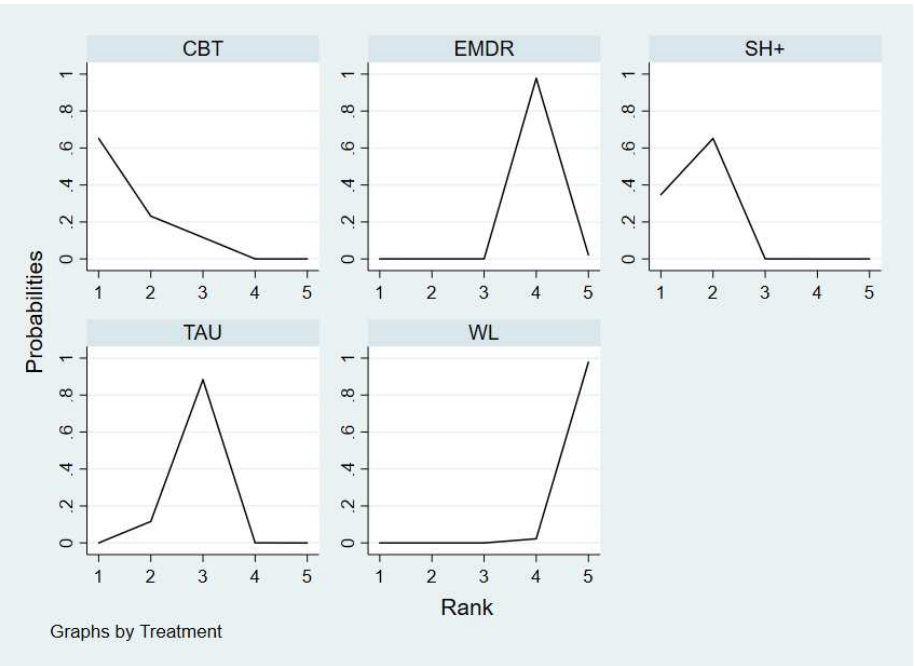
Treatm~t	SUCRA	PrBest	MeanRank
WL	34.9	0.0	4.9
TAU	6.0	0.0	6.6
NET	41.4	0.6	4.5
EMDR	96.4	83.5	1.2
SSM	69.9	4.6	2.8
SC	27.0	2.1	5.4
CBT	74.3	9.3	2.5



Group level

SUCRA and cumulative probability plots

Treatment	SUCRA	PrBest	MeanRank
WL	0.6	0.0	5.0
TAU	52.9	0.0	2.9
SH+	83.7	34.8	1.7
EMDR	24.5	0.0	4.0
CBT	88.4	65.2	1.5



Transitivity assessment

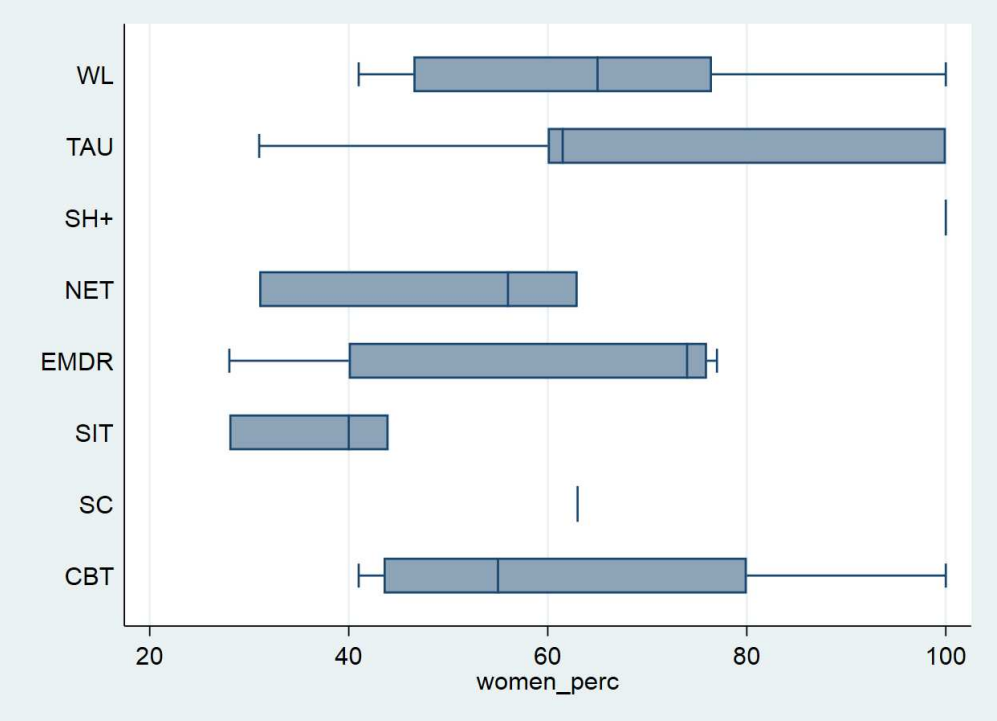
	P-value of the association with outcome in meta-regression	P-value of the association with intervention*
Percentage of women	<0.001	0.317
Mean age	<0.001	0.271
Number of sessions	0.526	0.102
Number of randomized individuals	0.634	0.788
Income level	<0.001	<0.001

*The Kruskal-Wallis test was performed for continuous variables, while Fisher's exact test for country's income level (lower and middle vs high)

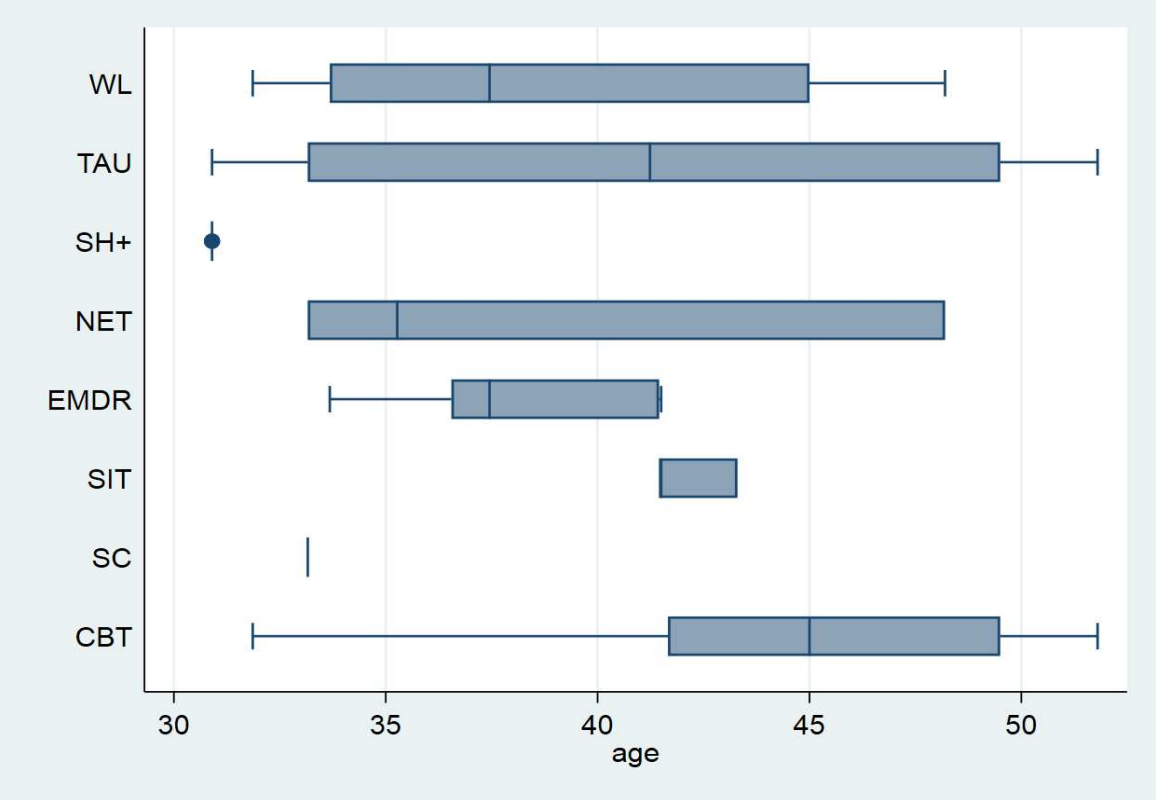
The only variable showing evidence of association with both outcome and intervention is income level, a variable that we used to perform subgroup analyses.

BOXPLOT

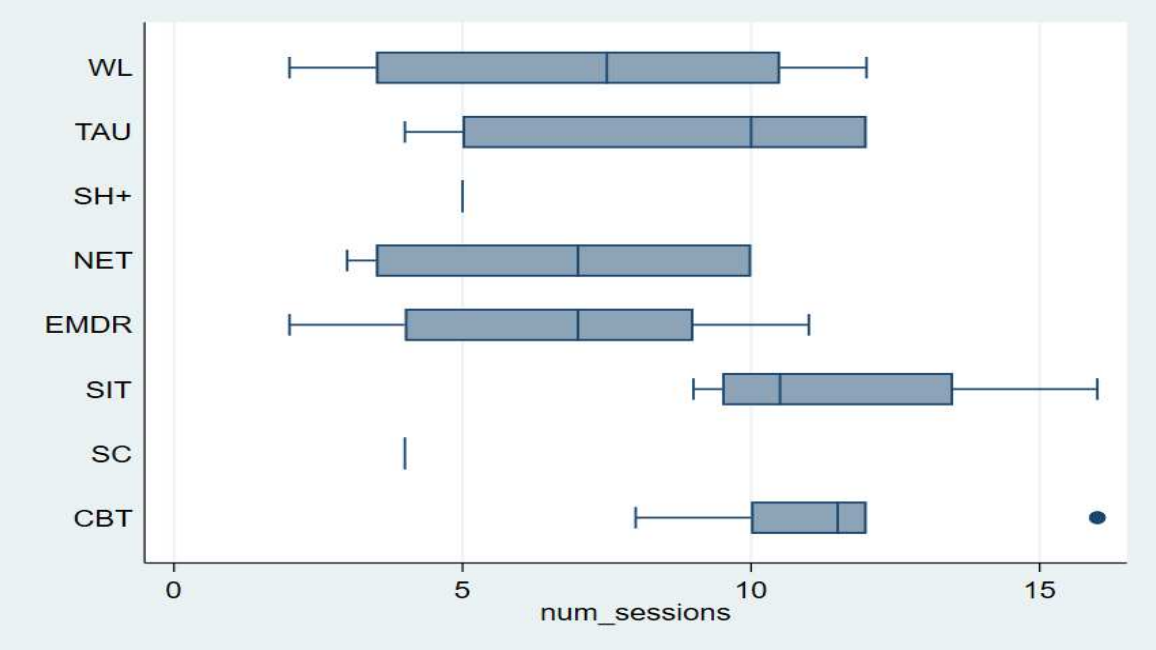
Percentage of women



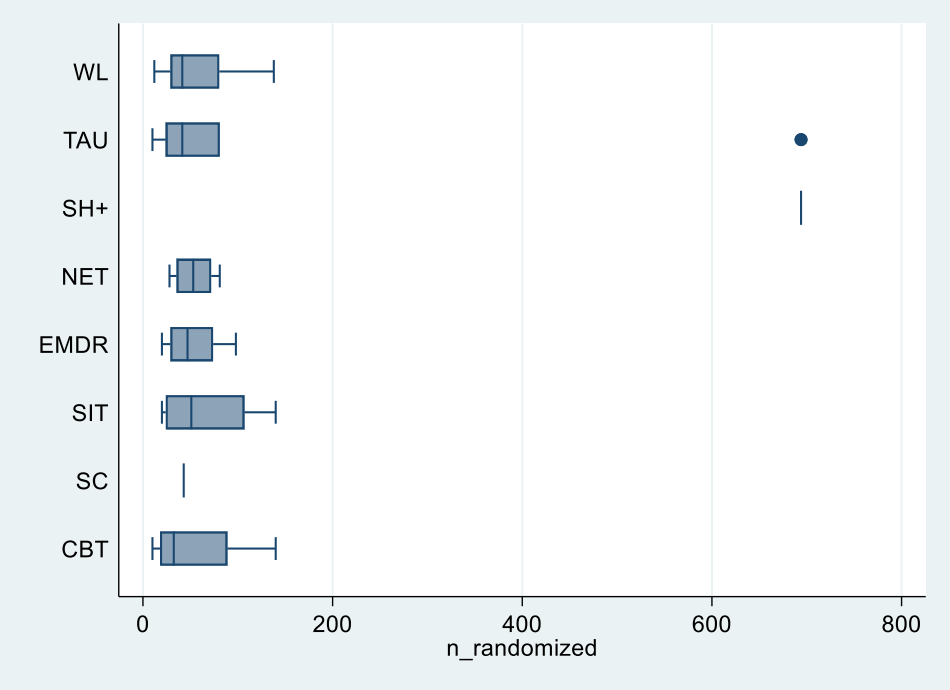
Mean age



Number of sessions



Number of randomized individuals



Percentage of LMIC by treatment