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Citation for final published version:

Lewis, Catrin , Roberts, Neil, Andrew, Martin, Starling, Elise and Bisson, Jonathan 2020. Psychological therapies for post-traumatic stress disorder in adults: systematic review and meta-analysis. *European Journal of Psychotraumatology* 11 (1) , 1729633. 10.1080/20008198.2020.1729633

Publishers page: <http://dx.doi.org/10.1080/20008198.2020.1729633>

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Word count: 3951

Number of figures: 1

Number of tables: 3

**Psychological therapies for post-traumatic stress  
disorder in adults: systematic review and meta-analysis**

## Abstract

Background: Psychological therapies are the recommended first-line treatment for post-traumatic stress disorder (PTSD). Previous systematic reviews have grouped theoretically similar interventions to determine differences between broadly distinct approaches. Consequently, we know little regarding the relative efficacy of the specific manualised therapies commonly applied to the treatment of PTSD.

Objective: To determine the effect sizes of manualised therapies for PTSD.

Methods: We undertook a systematic review following Cochrane Collaboration guidelines. A pre determined definition of clinical importance was applied to the results and the quality of evidence was appraised using the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) approach.

Results: 114 randomised controlled trials (RCTs) of 8171 participants were included. There was robust evidence that the therapies broadly defined as CBT with a trauma focus (CBT-T), as well as Eye Movement Desensitisation and Reprocessing (EMDR), had a clinically important effect. The manualised CBT-Ts with the strongest evidence of effect were Cognitive Processing Therapy (CPT); Cognitive Therapy (CT); and Prolonged Exposure (PE). There was also some evidence supporting CBT without a trauma focus; group CBT with a trauma focus; guided internet-based CBT; and Present Centred Therapy (PCT). There was emerging evidence for a number of other therapies.

Conclusions: A recent increase in RCTs of psychological therapies for PTSD, results in a more confident recommendation of CBT-T and EMDR as the first-line treatments. Among the CBT-Ts considered by the review CPT, CT and PE should be the treatments of choice. The findings should guide evidence informed shared decision making between patient and clinician.

## Introduction

Post-traumatic stress disorder (PTSD) is a common mental disorder that can develop as a consequence of exposure to a serious traumatic event [1, 2]. Diagnostic criteria for PTSD specify the presence of symptoms including re-experiencing the traumatic event; avoiding reminders of the trauma; alterations in arousal and reactivity; and changes in cognition and mood [1]. PTSD is a debilitating disorder, which is commonly comorbid with other conditions such as depression, substance use and anxiety disorders [3, 4].

Previous systematic reviews have converged on the general finding that psychological therapies are effective for the treatment of PTSD [5-9]. Reviews to date have grouped psychological therapies together based on similar theoretical underpinnings and overlapping techniques. A broad distinction has been made between therapies that focus on the traumatic event and those that aim to reduce traumatic stress symptoms without directly targeting the trauma memory or related thoughts, with the strongest evidence for the effect of those with a trauma-focus [5-8]. A further distinction has been made based on the theoretical model from which a therapy stems, for example grouping those based on cognitive behavioural principles. Despite the benefits to the methodology in terms of detecting differences between broadly different therapeutic approaches, categorising interventions for meta-analysis has hindered the reporting of effect sizes for specific manualised therapies.

A recent proliferation of randomised controlled trials (RCTs) has resulted in adequate data to move beyond grouping therapies for meta-analysis, allowing the estimation of effect sizes for specific manualised therapies. In addition to the benefits of being able to inform more detailed and precise treatment recommendations, this approach may indicate the procedures shared by the most effective interventions to inform an understanding of the crucial components when developing and modifying therapies. An in-depth understanding is also required to aid patients and clinicians in the co-production of treatment plans. These should take patient characteristics and preferences into account, alongside the evidence-base for the many psychological therapies currently available for the treatment of PTSD in adults.

We conducted a comprehensive systematic review and meta-analyses of RCTs of all psychological therapies for PTSD. The aim was to determine effect sizes for specific

manualised therapies for PTSD and to apply a pre-determined definition of clinically important effect in order to inform a detailed understanding of the relative efficacy of the specific psychological therapies commonly applied to the treatment of PTSD. The review informed the 2018 update of the International Society for Traumatic Stress Studies (ISTSS) treatment guidelines [10].

## Method

### Selection Criteria

The review included RCTs of any defined psychological therapy aimed at the reduction of PTSD-symptoms in comparison with a control group (e.g. usual care / waiting list); other psychological therapy; or psychosocial intervention (e.g. psychoeducation / relaxation training). At least 70% of study participants were required to be diagnosed with PTSD with a duration of three months or more, according to DSM or ICD criteria determined by clinician diagnosis or an established diagnostic interview. This review considered studies of adults aged 18 or over, only. There were no restrictions based on symptom-severity or trauma-type. The diagnosis of PTSD was required to be primary, but there were no other exclusions based on co-morbidity. Studies that conducted secondary analyses of data already included in the meta-analyses were excluded. Studies were also excluded if a continuous measure of PTSD severity post-treatment was not available.

### Search Strategy

This systematic review was undertaken alongside a number of reviews for an update of the ISTSS Treatment Guidelines [10]. A search was conducted by the Cochrane Collaboration, which updated a previously published Cochrane review with the same inclusion criteria, which was published in 2013 [5]. The updated search aimed to identify all RCTs related to the prevention and treatment of PTSD, published from January 2008 to the 31st May 2018, using the search terms PTSD or posttrauma\* or post-trauma\* or "post trauma\*" or "combat disorder\*" or "stress disorder\*". The searches included results from PubMed, PsycINFO, Embase and the Cochrane database of randomised trials. This produced a group of papers related to the psychological treatment of PTSD in adults. We checked reference lists of the included studies. We searched the World Health Organization's, and the U.S. National Institutes of Health's trials portals to identify additional unpublished or ongoing studies. We contacted experts in the field with the aim of identifying unpublished studies and studies that

were in submission. A complementary search of the Published International Literature on Traumatic Stress (PILOTS) was also conducted.

### Data Extraction

Study characteristics and outcome data were extracted by two reviewers using a form that had been piloted on five of the included studies. In order to categorise therapies, information on the protocol used was sought from the methods sections of the included studies and authors were contacted if there was uncertainty regarding the type of therapy delivered. The outcome measure for the review was reduction in the severity of PTSD symptoms post-treatment using a standardised measure. When available, clinician rated measures were included in meta-analyses (e.g. the Clinician Administered PTSD Scale (CAPS) [11]). If no clinician rated measure was used or reported, self-report measures were included (e.g. the PTSD Checklist for DSM-5 (PCL-5) [12]). Study authors were contacted to obtain missing data. Therapy classifications were agreed with the ISTSS treatment guidelines committee.

### Risk of Bias Assessment

All included studies were assessed for risk of bias using Cochrane criteria [13]. This included: (1) sequence allocation for randomisation (the methods used for randomly assigning participants to the treatment arms and the extent to which this was truly random); (2) allocation concealment (whether or not participants or personnel were able to foresee allocation to a specific group); (3) assessor blinding (whether the assessor was aware of group allocation); (4) incomplete outcome data (whether missing outcome data was handled appropriately); (5) selective outcome reporting (whether reported outcomes matched with those that were pre-specified); and (6) any other notable threats to validity (for example, baseline imbalances between groups, small sample size, or premature termination of the study). Two researchers independently assessed each study and any conflicts were discussed with a third researcher with the aim of reaching a unanimous decision.

### Quality of Evidence Assessment

The quality of evidence for each comparison was assessed using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system [14]. Evidence was categorised as high quality (indicating that further research is very unlikely to change confidence in the estimate of effect); moderate quality (indicating that further research is

likely to have an important impact on our confidence in the estimate of effect and may change the estimate); low quality (indicating that further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate) or very low quality (indicating that we are very uncertain about the estimate).

### Data Synthesis

Meta-analyses were conducted using the Cochrane's Review Manager 5 (RevMan) software [15]. Continuous measures of post-treatment PTSD severity were analysed as standardised mean differences (SMDs). All outcomes were presented using 95% confidence intervals. Clinical heterogeneity was assessed in terms of variability in the experimental and control interventions; participants; settings; and outcomes. Heterogeneity was assessed further using both the  $I^2$  statistic and the chi-squared test of heterogeneity, as well as visual inspection of the forest plots. Data were pooled using fixed-effect meta-analyses, except where heterogeneity was present, when random-effect models were used. Since combining waitlist and usual care in a single comparison was a potential limitation of the review, sensitivity analyses looked at the influence of removing studies that adopted a usual care control group from meta-analyses making this comparison. To determine the impact of risk of bias within the included studies on outcome, sensitivity analyses were conducted by removing studies with high risk of bias in three or more domains. Sensitivity analyses were only conducted for meta-analyses including 10 or more studies, since it was unlikely that meaningful differences would be determined among a smaller number of studies. A funnel plot was constructed for the meta-analysis containing the largest number of studies and visually inspected, with signs of asymmetry taken to indicate publication bias.

### Clinical Importance

A definition of clinical importance, which was developed by the ISTSS treatment guidelines committee, after consultation with the ISTSS membership, and approved by the ISTSS Board, was applied to the meta-analytic results [10]. To be rated as clinically important, an intervention had to demonstrate an effect size of  $> 0.80$  for wait list control comparisons;  $> 0.5$  for attention control comparisons;  $> 0.4$  for placebo control comparisons; and  $> 0.2$  for active treatment control comparisons. If there was only one RCT, an intervention was not rated as clinically important unless it included over 300 participants. Non-inferiority RCT evidence alone was not enough to rate an intervention as clinically important.

## Results

The original Cochrane review included 70 RCTs. The update search identified 5500 potentially eligible studies published since 2008. Abstracts were reviewed and full text copies obtained for 203 potentially relevant studies. Forty-four new RCTs met inclusion criteria for the review. This resulted in a total of 114 RCTs of 8171 participants. Figure 1 presents a flow diagram for study selection.

[FIGURE 1 HERE]

### Study Characteristics

Study characteristics are summarised in table 1. Twenty-nine defined psychological therapies were evaluated. Eight of these were broadly categorized as CBT-T delivered on an individual basis: Brief Eclectic Psychotherapy (BEP); Cognitive Processing Therapy (CPT); Cognitive Therapy (CT); Narrative Exposure Therapy (NET); Prolonged Exposure (PE); Single Session CBT; Reconsolidation of Traumatic Memories (RTM); Virtual Reality Exposure Therapy (VRE). Twelve other therapies delivered to individuals, were evaluated: EMDR; CBT without a Trauma Focus; Present Centred Therapy (PCT); Supportive Counselling; Written Exposure Therapy; Observed and Experiential Integration (OEI); Interpersonal Psychotherapy; Psychodynamic Psychotherapy; Relaxation Training; REM Desensitisation; Emotional Freedom Technique (EFT); Dialogical Exposure Therapy (DET); Relaxation Training; Psychoeducation; Guided Internet-based CBT with a Trauma Focus. There were five different types of group therapy: Group CBT-T; Group and Individual CBT-T; Group Interpersonal Therapy; Group Stabilising Treatment; Group Supportive Counselling. Couples CBT with a Trauma Focus was also evaluated. It was decided a priori that therapies delivered in a group format would be grouped, due to the small number of studies.

The number of randomised participants ranged from 10 to 366. Studies were conducted in Australia (9), Canada (2), China (2), Denmark (1), Germany (5), Iran (2), Israel (1), Italy (2), Japan (1), the Netherlands (4), Norway (1), Portugal (1), Romania (1), Rwanda (1), Spain (1), Sweden (3), Switzerland (1), Syria (1), Thailand (1), Turkey (3), Uganda (2), UK (11), USA (61). Participants were traumatised by military combat (27 studies), sexual assault or rape (11 studies), war/persecution (8 studies), road traffic accidents (6 studies), earthquakes (4



studies), childhood sexual abuse (7 studies), political detainment (1 study), terrorism (2 studies), physical assault (2 studies), domestic violence (4 studies), trauma from a medical diagnosis/emergency (4 studies) and crime/organised violence (4 studies). The remainder (41 studies) included individuals traumatised by a variety of different traumatic events. There were 27 studies of females only and 9 of only males; the percentage of females in the remaining studies ranged from 1.75% to 96%. The percentage with a University education ranged from 4% to 90%. Exclusion criteria varied across studies, with the most common being: current or lifetime psychosis (69 studies); bipolar disorder (18 studies) or severe depression (12 studies); substance use (63 studies); suicidal ideation (55 studies). Participants were recruited from health or social care settings (71 studies); from the general public via advertisements (21); or through a combination of the two approaches (7 studies).

[TABLE 1 HERE]

#### Risk of Bias

Risk of bias assessments for the included studies are summarised in table 2. Fifty-three studies reported a method of sequence allocation judged to pose a "low" risk of bias; four reported a method with a "high" risk of bias; the remainder reported insufficient details and were, therefore, rated as "unclear". Forty-one studies reported methods of allocation concealment representing a "low" risk of bias; one a method with a "high" risk of bias; with the remainder rated as "unclear". The outcome assessor was aware of the participant's allocation in 12 of the included studies; it was unclear whether the outcome assessor was aware of group allocation in 18 studies; with the remainder using blind-raters or self-report questionnaires delivered in a way that could not be influenced by members of the research team. Twenty-three studies were judged as posing a "high" risk of bias in terms of incomplete outcome data; 80 studies were felt to have dealt with dropouts appropriately ("low" risk of bias); it was unclear in the remaining studies. The majority of studies failed to reference a published protocol, resulting in an 'unclear' risk of selective reporting for 78 studies; risk of bias was judged as "high" in five studies and low in the remainder. Seventy of the included studies presented a "high" risk of bias in other areas, for example, in relation to sample size, baseline imbalances between groups, or other methodological shortfalls. We could not rule out potential researcher allegiance, since treatment originators were involved in the evaluation of their own intervention in many of the included studies.

[TABLE 2 HERE]

## Efficacy

Results of the meta-analyses are summarised in tables 3 and 4. The strongest evidence of effect was for the studies broadly categorised as CBT-T, and EMDR. Meta-analyses of specific manualised CBT-Ts found that CPT; CT; and PE had the strongest evidence of effect. There was also some evidence supporting the effect of NET (a variant of CBT-T); CBT without a trauma focus; PCT; Group CBT-T and guided internet-based CBT. There was emerging evidence to support the effect of single session CBT; RTM; VRE (all variants of CBT-T); as well as Written Exposure Therapy; combined group and individual CBT-T; and couples CBT-T. There was insufficient evidence to support the efficacy of BEP (a variant of CBT-T); Supportive Counselling; Group Interpersonal Therapy; Group Stabilising Treatment; Group Supportive Counselling; Group Interpersonal Therapy; OEI; Psychodynamic Therapy; Relaxation Training; or Psychoeducation.

[TABLE 3 HERE]

[TABLE 4 HERE]

## Sensitivity Analyses

Four of the meta-analyses included 10 or more studies (CBT-T versus waitlist/usual care/minimal attention; PE versus waitlist/usual care/minimal attention; EMDR versus waitlist/usual care/minimal attention; and EMDR versus CBT-T). Sensitivity analyses that removed studies with high risk of bias in three or more domains gave similar SMDs and confidence intervals. Sensitivity analyses that removed studies with a usual care control group found that SMDs and confidence intervals in the analyses of CBT-T and PE, but evidence of improved effect in the case of EMDR.

## Heterogeneity

There was evidence of substantial clinical heterogeneity across studies in terms of the inclusion and exclusion criteria of the studies; the populations from which the samples were drawn; the nature and duration of therapy; the qualifications and experience of therapists;

the predominant trauma type; the mean age of participants; and the proportion of female versus male participants. Considerable statistical heterogeneity was also evident in many of the pooled comparisons. This resulted in regular use of a random-effects model.

### Publication Bias

All of the included studies were published. There was evidence of some publication bias, demonstrated by a funnel plot using data from the comparison of CBT-T versus waitlist/usual care/minimal attention.

## **Discussion**

### Main Findings

In agreement with previous reviews and in continued support of existing treatment guidelines [16-19], there was robust evidence for the clinically important effect of the therapies broadly defined as CBT-T, as well as EMDR. A substantial increase in the number of RCTs published in recent years, resulted in a greater level of confidence in these findings. This review went further, and we conducted meta-analyses of specific manualised therapies. By applying pre-determined definitions of clinically important effect, we found that the CBT-Ts with the strongest evidence were PE, CPT and CT. There was also some evidence in support of NET; and emerging evidence in support of other CBT-Ts, namely, single session CBT-T; RTM; VRE; and WRT. There was insufficient evidence to support the efficacy of BEP. Although CBT-Ts and EMDR demonstrated the strongest evidence of effect, there was also evidence supporting the effect of CBT without a trauma focus; PCT; Group CBT-T; and guided internet-based CBT, as well as emerging evidence in support of combined group and individual CBT with a trauma focus; couples CBT with a trauma focus. There was insufficient evidence to support Group therapies without a trauma focus; OEI; Psychodynamic Therapy; Relaxation Training; or psychoeducation.

The comparison of effect sizes across meta-analyses was not straightforward. Although we can draw conclusions in relation to the treatments most strongly supported by the evidence-base, this does not equate to evidence that other interventions were ineffective. Some comparisons may have lacked sufficient statistical power to demonstrate clinically important effect. On occasion, therapies were delivered to act as an active control and may not have

been optimally effective. As an example, supportive counselling often barred discussion of the trauma, which diverges from standard practice. There were many more RCTs of CBT-T and EMDR than those without a trauma-focus, and greater number of studies of therapies delivered on an individual basis than those delivered to couples or groups. Although it is unlikely new studies will substantially alter the estimated pooled-effect of CBT-T or EMDR, it is probable that further research will modify the evidence base for therapies currently represented by fewer studies. Although not as strong as the evidence for CBT-T and EMDR, emerging evidence for interventions such as guided internet-based CBT and PCT advances the field by providing a greater choice of evidence-based therapies.

### Strengths and Limitations

The review followed Cochrane guidelines for the identification of relevant studies; data extraction and synthesis; risk of bias assessment; and interpretation of findings [27]. The review moves the field forward, by estimating the effect of specific manualised therapies when available data allowed, rather than grouping similar approaches. Despite the many strengths of the review, there were inevitable limitations. The small number of studies evaluating interventions delivered to a group or to couples, precluded analyses of these therapies, as was previously the case for therapies delivered on an individual basis. All included studies were published, resulting in the possibility of publication bias. A funnel plot constructed from the meta-analysis of CBT-T versus waitlist or usual care, found some evidence of publication bias, indicating that the currently-available evidence may overestimate the effect of CBT-T. Several studies reported incomplete data and although authors were contacted, it was not always possible to obtain missing information, resulting in the exclusion of otherwise eligible studies. The majority of studies included in the review excluded individuals with comorbidities of substance dependence, psychosis, and severe depression; we are not, therefore, able to draw any conclusions beyond the efficacy of psychological therapies for relatively simple presentations of PTSD. Waitlist and treatment as usual were included as a single comparison group in meta-analyses, giving a more conservative estimate of effect than reviews that have separated the two. It is acknowledged that usual care, especially in more recent studies, may have included evidence-based therapies. This said, sensitivity analyses, which excluded studies with a usual care control group from comparisons with more than ten studies, revealed little difference in the outcome in two of three eligible analyses. The methodological quality of included studies varied considerably, and risk of bias was high/unclear in several domains of many studies. However,

sensitivity analyses removing studies with high risk of bias in at least three or more domains, revealed little influence. Most of the trials to date have been conducted on DSM-IV PTSD. We are not therefore able to draw conclusions regarding the performance of therapies on the additional cluster of symptoms (alterations in mood and cognitions) that was introduced by DSM-5. Data on the competence of the therapists and the number of therapy sessions was not extracted from the included studies and we cannot therefore comment on these as factor that may have impacted efficacy. Sample sizes were often small, however the pooled comparisons included data from 8171 participants.

### Clinical Implications

The psychological therapies with the strongest evidence of effect should be those prioritised for clinical use when available and acceptable to the patient. It is, however, unlikely that any given therapy is universally appropriate for all individuals with PTSD. There is a need to consider predictors of outcome that may indicate the suitability of particular therapies for specific subgroups of patients. We should also consider the skills and therapeutic style of the therapist, given the likelihood that some are better at delivering certain types of therapy than others. Since there is evidence for the effect of numerous psychological therapies, the evidence-base should be used to guide shared decision making between patient and clinician. There is a need for detailed assessment; followed by discussion surrounding the evidence; resulting in the co-production of treatment plans that consider patient-preference[28]. Although the strongest evidence of effect was for CBT-T and EMDR, there was also evidence in support of CBT without a trauma focus and PCT. This indicates a role for these therapies as alternatives to trauma focused intervention, if the latter are not available; if patient preference dictates; or if exposure work is contraindicated, for example if an individual is unable to tolerate the treatment.

Despite the current review giving a good indication of the therapies most strongly supported by the current evidence-base, these are not always widely available or accessible. There is growing evidence in support of group and internet-based therapies, which are potential avenues for widening access to low-cost treatment and disseminating evidence-based therapies more efficiently. At least a proportion of individuals are likely to respond to these minimally intensive treatments and require no further intervention, which fits well with the principles of prudent healthcare. It is hoped that future work will identify the characteristics of those unlikely to respond to less intensive interventions, allowing a more stratified or

personalised approach to treatment. Work is needed to develop optimal clinical pathways that deliver appropriate evidence-based therapies in the most efficient way possible, whilst ensuring the acceptability of the approach to patients. There are additional factors to take into account when considering clinical implications, including rates of attrition from treatment; adverse events; the acceptability of treatment approaches; and cost-effectiveness. Considering these factors was beyond the scope of this review, but they should inform clinical practice.

### Research Implications

Although we report effect sizes across a range of therapies, further high-quality head-to-head RCTs of the most effective interventions are necessary to determine comparative efficacy among participants drawn from the same population. We know little about the predictors of outcome and acceptability of psychological therapies, and a greater understanding would enable targeted recommendation of particular treatments to specific sub-groups of patients. PTSD is a highly heterogeneous condition [30, 31] and work is needed to develop more personalised approaches. We do not have a sufficient understanding of the efficacy of current therapies for those with a diagnosis of ICD-11 complex PTSD [32-34]. Further research is needed to evaluate existing therapies among those with complex PTSD, and to modify or develop new therapies, as appropriate. Work is also needed to determine the efficacy of therapies in addressing the DSM-5 symptom-cluster related to mood and cognition. Therapies delivered in a group format and to couples, have shown promise, but there are currently an insufficient number of studies to conduct meta-analyses beyond those grouping interventions into broad categories. There is a need for established standards for the reporting of psychological therapy trials to ensure that methods are transparent and any risk of bias clear. This would also ensure a clearer definition of control groups. In many studies it was unclear what constituted usual care and what intervention, if any, was permitted in wait-list control groups. We know very little about the acceptability of psychological therapies for PTSD and more work should focus on patient preference.

## References

1. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders (5th Edition)*. 2013, (4th ed. Text Revision). Washington, DC.
2. World Health Organisation, *ICD-11 for Mortality and Morbidity Statistics*. Available from <https://icd.who.int/browse11/l-m/en> [Accessed 8th January 2019], 2018.
3. Kessler, R.C., *Posttraumatic stress disorder: the burden to the individual and to society*. *Journal of Clinical Psychiatry*, 2000. **61**(5): p. 4-14.
4. Kessler, R.C., et al., *Posttraumatic stress disorder in the National Comorbidity Survey*. *Archives of General Psychiatry*, 1995. **52**(12): p. 1048-1060.
5. Bisson, J., et al., *Psychological therapies for chronic post-traumatic stress disorder (PTSD) in adults (Review)*. *Cochrane Database of Systematic Reviews* 2013. **12**(CD003388).
6. Bradley, R., et al., *A multidimensional meta-analysis of psychotherapy for PTSD*. *American journal of Psychiatry*, 2005. **162**(2): p. 214-227.
7. Jonas, D., et al., *Psychological and pharmacological treatments for adults with posttraumatic stress disorder (PTSD)*. *Comparative Effectiveness Review No. 92*. 2013.
8. Cusack, K.J., et al., *Unrecognized trauma and PTSD among public mental health consumers with chronic and severe mental illness*. *Community Mental Health Journal*, 2006. **42**(5): p. 487-500.
9. Watts, B.V., et al., *Meta-analysis of the efficacy of treatments for posttraumatic stress disorder*. *J Clin Psychiatry*, 2013. **74**(6): p. e541-e550.
10. International Society of Traumatic Stress Studies (ISTSS). *New ISTSS Prevention and Treatment Guidelines [Online]*. 2018 [Accessed 26/11/18]; Available from: <http://www.istss.org/treating-trauma/new-istss-guidelines.aspx>.
11. Blake, D.D., et al., *The development of a clinician-administered PTSD scale*. *Journal of Traumatic Stress*, 1995. **8**: p. 75-90.
12. Weathers, F., et al. *The PTSD Checklist for DSM-5 (PCL-5)*. . 2013.
13. Higgins, J.P., et al., *The Cochrane Collaboration's tool for assessing risk of bias in randomised trials*. *BMJ*, 2011. **343**: p. d5928.
14. GRADE. [Accessed 29 November 2018]; Available from: <http://www.gradeworkinggroup.org>.
15. RevMan, *Review Manager 5 (RevMan 5) [Computer program] Version 5.3*. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2014.
16. American Psychological Association, *Clinical Practice Guideline for the Treatment of Posttraumatic Stress Disorder (PTSD) in Adults*. 2017, American Psychological Association: Washington, DC.
17. Australian Centre for Posttraumatic Mental Health, *Australian guidelines for the treatment of adults with acute stress disorder and posttraumatic stress disorder*. 2007, Melbourne, Victoria: ACPMH.
18. National Collaborating Centre for Mental Health, *Post-traumatic stress disorder (PTSD): The management of PTSD in adults and children in primary and secondary care - National cost impact report*. 2005, National Institute for Health and Clinical Excellence: London.

19. US Department of Veterans Affairs, *VA/DOD Clinical Practice Guideline for the Management of posttraumatic stress disorder and acute stress disorder*. VA/DOD Web site. June 2017  
<https://www.healthquality.va.gov/guidelines/MH/ptsd/VADoDPTSDCPGClinicaliaSummaryFinal.pdf>. 2017.
20. Adenauer, H., et al., *Narrative exposure therapy for PTSD increases top-down processing of aversive stimuli - evidence from a randomized controlled treatment trial*. BMC neuroscience, 2011. **12**(127): p. 1-13.
21. Hensel-Dittmann, D., et al., *Treatment of traumatized victims of war and torture: A randomized controlled comparison of narrative exposure therapy and stress inoculation training*. Psychotherapy and psychosomatics, 2011. **80**(6): p. 345-352.
22. Morath, J., et al. *Effects of psychotherapy on DNA strand break accumulation originating from traumatic stress*. 2014. **83**, 289-297 DOI: 10.1159/000362739.
23. Neuner, F., Kurreck, S., Ruf, M., Odenwald, M., Elbert, T., Schauer, M.. A randomized controlled pilot study *Can asylum seekers with posttraumatic stress disorder be successfully treated?* Cognitive Behaviour Therapy 2010. **39**(2): p. 81-91.
24. Neuner, F., et al., *Treatment of posttraumatic stress disorder by trained lay counselors in an African refugee settlement: a randomized controlled trial*. Journal of consulting and clinical psychology, 2008. **76**(4): p. 686.
25. Neuner, F., et al., *A comparison of narrative exposure therapy, supportive counselling, and psychoeducation for treating posttraumatic stress disorder in an African refugee settlement* Journal of Consulting and Clinical Psychology 2004. **72**(4): p. 579-587.
26. Stenmark, H., et al., *Treating PTSD in refugees and asylum seekers within the general health care system. A randomized controlled multicenter study*. Behaviour research and therapy, 2013. **51**: p. 641-647.
27. Higgins, J. and S. Green, *Cochrane Handbook for Systematic Reviews of Interventions*. The Cochrane Collaboration, 2011. Available from [www.cochrane-handbook.org](http://www.cochrane-handbook.org), 2011.
28. National Institute for Health and Care Excellence (NICE), *Post-traumatic stress disorder (NICE guideline NG116)*. Retrieved from <https://www.nice.org.uk/guidance/ng116>, 2018.
29. Bower, P. and S. Gilbody, *Stepped care in psychological therapies: access, effectiveness and efficiency: narrative literature review*. The British Journal of Psychiatry, 2005. **186**(1): p. 11-17.
30. DiMauro, J., et al., *A historical review of trauma-related diagnoses to reconsider the heterogeneity of PTSD*. Journal of anxiety disorders, 2014. **28**(8): p. 774-786.
31. Murphy, D., et al., *A latent profile analysis of PTSD symptoms among UK treatment seeking veterans*. European journal of psychotraumatology, 2019. **10**(1): p. 1558706.
32. Dorrepaal, E., et al., *Evidence-based treatment for adult women with child abuse-related complex PTSD: A quantitative review*. European journal of psychotraumatology, 2014. **5**(1): p. 23613.



33. Karatzias, T., et al., *Psychological interventions for ICD-11 complex PTSD symptoms: systematic review and meta-analysis*. *Psychological medicine*, 2019: p. 1-15.
34. Dorrepaal, E., et al., *Treatment compliance and effectiveness in complex PTSD patients with co-morbid personality disorder undergoing stabilizing cognitive behavioral group treatment: a preliminary study*. *European journal of psychotraumatology*, 2013. **4**(1): p. 21171.
35. Acarturk, C., 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*. *Psychological medicine*, 2016. **46**(12): p. 2583-2593.
36. Ahmadi, K., et al., *REM desensitization as a new therapeutic method for post-traumatic stress disorder: a randomized controlled trial*. *Acta Medica Indonesiana*, 2015. **47**(2): p. 111-9.
37. Akbarian, F., et al., *The effectiveness of cognitive behavioral therapy with respect to psychological symptoms and recovering autobiographical memory in patients suffering from post-traumatic stress disorder*. *Neuropsychiatric disease and treatment*, 2015. **11**: p. 395-404.
38. Asukai, N., et al., *Efficacy of exposure therapy for Japanese patients with posttraumatic stress disorder due to mixed traumatic events: A randomized controlled study*. *Journal of traumatic stress*, 2010. **23**(6): p. 744-750.
39. Basoglu, H., et al., *Single session behavioural treatment of earthquake related posttraumatic stress disorder: A randomised waiting list controlled trial*. *Journal of Traumatic Stress*, 2005. **18**(1): p. 1-11.
40. Basoglu, M., E. Salcioglu, and M. Livanou, *A randomized controlled study of single-session behavioural treatment of earthquake-related post-traumatic stress disorder using an earthquake simulator*. *Psychological Medicine*, 2007. **37**: p. 203-213.
41. Beck, J., et al., *Group cognitive behavior therapy for chronic posttraumatic stress disorder: an initial randomized pilot study*. *Behavior Therapy*, 2009. **40**: p. 82-92.
42. Bichescu, D., et al., *Narrative exposure therapy for political imprisonment related chronic posttraumatic stress disorder and depression*. *Behaviour Research and Therapy*, 2007. **45**: p. 2212-2220.
43. Blanchard, E., et al., *A controlled evaluation of cognitive behavioral therapy for posttraumatic stress in motor vehicle accident survivors*. *Behaviour Research and Therapy*, 2003. **41**(1): p. 79-96.
44. Bradshaw, R.A., et al., *A randomized clinical trial of Observed and Experiential Integration (OEI): A simple, innovative intervention for affect regulation in clients with PTSD*. *Traumatology traumatology: an international journal*, 2014. **20**: p. 161-171.
45. Brom, D., R. Kleber, and P. Defares, *Brief psychotherapy for posttraumatic stress disorders*. *Journal of Consulting & Clinical Psychology*, 1989. **57**(5): p. 607-612.
46. Bryant, R., et al., *Imaginal exposure alone and imaginal exposure with cognitive restructuring in treatment of posttraumatic stress disorder*. *Journal of Consulting and Clinical Psychology*, 2003. **71**: p. 706-12.

47. Bryant, R.A., et al., *A randomized controlled effectiveness trial of cognitive behavior therapy for post-traumatic stress disorder in terrorist-affected people in Thailand*. World psychiatry, 2011. **10**(3): p. 205-209.
48. Buhmann, C., 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*. 2016. **208**, 252-259 DOI: 10.1192/bjp.bp.114.150961.
49. Butollo, W., et al., *A randomized controlled clinical trial of dialogical exposure therapy versus cognitive processing therapy for adult outpatients suffering from PTSD after type I trauma in adulthood*. Psychotherapy and psychosomatics, 2016. **85**(1): p. 16-26.
50. Capezzani, L., et al., *EMDR and CBT for cancer patients: Comparative study of effects on PTSD, anxiety, and depression*. Journal of EMDR practice and research, 2013. **7**: p. 134-143.
51. Carletto, S., et al., *Treating post-traumatic stress disorder in patients with multiple sclerosis: A randomized controlled trial comparing the efficacy of eye movement desensitization and reprocessing and relaxation therapy*. Frontiers in Psychology, 2016. **7**.
52. Carlson, J., et al., *Eye movement desensitization and reprocessing (EMDR) treatment for combat-related posttraumatic stress disorder*. Journal of Traumatic Stress 1998. **11**(1): p. 3-32.
53. Castillo, D.T., et al., *Group-Delivered Cognitive/Exposure Therapy for PTSD in Women Veterans: A Randomized Controlled Trial*. Psychological trauma : theory, research, practice and policy, 2016: p. No-Specified.
54. Chard, K.M., *An evaluation of cognitive processing therapy for the treatment of posttraumatic stress disorder related to childhood sexual abuse*. Journal of consulting and clinical psychology, 2005. **73**(5): p. 965.
55. Cloitre, M., et al., *Skills training in affective and interpersonal regulation followed by exposure: a phase-based treatment for PTSD related to childhood abuse*. Journal of Consulting and Clinical Psychology, 2002. **70**: p. 1067-1074.
56. Cloitre, M., et al., *Treatment for PTSD related to childhood abuse: A randomized controlled trial*. American Journal of Psychiatry, 2010.
57. Devilly, G., S. Spence, and R. Rapee, *Statistical and reliable change with eye movement desensitization and reprocessing: treating trauma within a veteran population*. Behavior Therapy, 1998. **29**: p. 435-455.
58. Devilly GJ, S.S., *The relative efficacy and treatment distress of EMDR and a cognitive-behavior trauma treatment protocol in the amelioration of posttraumatic stress disorder*. Journal of Anxiety Disorders, 1999. **13**(1-2): p. 131-157.
59. Dorrepaal, E., et al., *Stabilizing group treatment for complex posttraumatic stress disorder related to child abuse based on psychoeducation and cognitive behavioural therapy: a multisite randomized controlled trial*. Psychotherapy and psychosomatics, 2012. **81**: p. 217-225.
60. Duffy, M., K. Gillespie, and D. Clark, *Post-traumatic stress disorder in the context of terrorism and other civil conflict in Northern Ireland: Randomised Controlled Trial*. British Medical Journal, 2007. **334**: p. 1147-1150.

61. Dunne, R.L., J. Kenardy, and M. Sterling, *A randomized controlled trial of cognitive-behavioral therapy for the treatment of PTSD in the context of chronic whiplash*. *The Clinical journal of pain*, 2012. **28**(9): p. 755-765.
62. Echeburua, E., I. Zubizarreta, and B. Sarasua, *Psychological treatment of chronic posttraumatic stress disorder in victims of sexual aggression*. *Behavior Modification*, 1997. **21**: p. 433-56.
63. Ehlers, A., et al., *Cognitive therapy for post-traumatic stress disorder: development and evaluation*. *Behaviour Research and Therapy*, 2005. **43**: p. 413-431.
64. Ehlers, A., et al., *A randomized controlled trial of cognitive therapy, a self-help booklet, and repeated assessments as early interventions for posttraumatic stress disorder*. *Archives of General Psychiatry*, 2003. **60**(10): p. 1024-1032.
65. Ehlers, A., et al., *A randomized controlled trial of 7-day intensive and standard weekly cognitive therapy for PTSD and emotion-focused supportive therapy*. *American journal of psychiatry*, 2014. **171**: p. 294-304.
66. Falsetti, S., H. Resnick, and J. Davis, *Multiple channel exposure therapy for women with PTSD and comorbid panic attacks*. *Cognitive behaviour therapy*, 2008. **37**: p. 117-130.
67. Fecteau, G. and R. Nicki, *Cognitive behavioural treatment of post traumatic stress disorder after motor vehicle accident*. *Behavioural & Cognitive Psychotherapy*, 1999. **27**(3): p. 201-214.
68. Feske, U., *Treating Low-Income and Minority Women With Posttraumatic Stress Disorder A Pilot Study Comparing Prolonged Exposure and Treatment as Usual Conducted by Community Therapists*. *Journal of interpersonal violence*, 2008. **23**(8): p. 1027-1040.
69. Foa, E., et al., *Treatment of posttraumatic stress disorder in rape victims: a comparison between cognitive-behavioral procedures and counseling*. *Journal of Consulting and Clinical Psychology*, 1991. **59**(5): p. 715-723.
70. Foa, E., et al., *A comparison of exposure therapy, stress inoculation training, and their combination for reducing posttraumatic stress disorder in female assault victims*. *Journal of Consulting and Clinical Psychology*, 1999. **67**(2): p. 194-200.
71. Foa, E., et al., *Randomized trial of prolonged exposure for posttraumatic stress disorder with and without cognitive restructuring: Outcome at academic and community clinics*. *Journal of Consulting and Clinical Psychology*, 2005. **73**: p. 953-964.
72. Foa, E., et al. *Effect of Prolonged Exposure Therapy Delivered Over 2 Weeks vs 8 Weeks vs Present-Centered Therapy on PTSD Symptom Severity in Military Personnel: a Randomized Clinical Trial*. 2018. **319**, 354-364 DOI: 10.1001/jama.2017.21242.
73. Fonzo, G., et al. *PTSD Psychotherapy Outcome Predicted by Brain Activation During Emotional Reactivity and Regulation*. 2017. **174**, 1163-1174 DOI: 10.1176/appi.ajp.2017.16091072.
74. Forbes, D., et al., *A multisite randomized controlled effectiveness trial of cognitive processing therapy for military-related posttraumatic stress disorder*. *Journal of Anxiety Disorders*, 2012. **26**(3): p. 442-452.

75. Ford, J.D., K.L. Steinberg, and W. Zhang, *A randomized clinical trial comparing affect regulation and social problem-solving psychotherapies for mothers with victimization-related PTSD*. Behavior Therapy, 2011. **42**(4): p. 560-578.
76. Ford, J.D., et al., *Randomized clinical trial comparing affect regulation and supportive group therapies for victimization-related PTSD with incarcerated women*. Behavior Therapy, 2013. **44**(2): p. 262-276.
77. Galovski, T.E., et al., *Manualized therapy for PTSD: Flexing the structure of cognitive processing therapy*. Journal of Consulting and Clinical Psychology, 2012. **80**(6): p. 968.
78. Gamito, P., et al., *PTSD elderly war veterans: a clinical controlled pilot study*. Cyberpsychology, Behavior and Social Networking, 2010. **13**(1): p. 43-48.
79. Gersons BP, C.I., Lamberts RD, Van der Kolk BA. , *Randomized clinical trial of brief eclectic psychotherapy for police officers with posttraumatic stress disorder*. Journal of Traumatic Stress 2000. **13**(2): p. 333-347.
80. Gray, R., D. Budden-Potts, and F. Bourke, *Reconsolidation of Traumatic Memories for PTSD: A randomized controlled trial of 74 male veterans*. Psychotherapy Research, 2017: p. 1-19.
81. Hinton, D., Chhean, D, Pich, V, Safren, SA, Hofmann, SG, Pollack, MH, *A randomised controlled trial of cognitive behaviour therapy for Cambodian refugees with treatment resistant PTSD and panic attacks: a cross over design*. Journal of Traumatic Stress, 2005. **18**: p. 617-629.
82. Hinton, D.E., et al., *Culturally adapted CBT (CA-CBT) for Latino women with treatment-resistant PTSD: A pilot study comparing CA-CBT to applied muscle relaxation*. Behaviour research and therapy, 2011. **49**(4): p. 275-280.
83. Hogberg, G., Pagani, M, Sundin, O, Soares, J, Aberg-Wistedt, A, Tarnell, B, Hallstrom, T. , *On treatment with eye movement desensitization and reprocessing of chronic post-traumatic stress disorder in public transportation workers - a randomized controlled trial*. Nordic Journal of Psychiatry, 2007. **61**(1): p. 54-60.
84. Hollifield, M., Sinclair-Lian, N., Warner, T.D., Hammerschlag, R, *Acupuncture for posttraumatic stress disorder* The Journal of Nervous and Mental Disease 2007. **195**(6): p. 504-513.
85. Ironson, G., Freund, B, Strauss, JL, Williams, J. , *Comparison of two treatments for traumatic stress: a community based study of EMDR and prolonged exposure*. Journal of Clinical Psychology 2002. **58**: p. 113-128.
86. Ivarsson, D., et al., *Guided internet-delivered cognitive behavior therapy for post-traumatic stress disorder: A randomized controlled trial*. Internet interventions, 2014. **1**: p. 33-40.
87. Jacob, N., et al., *Dissemination of psychotherapy for trauma spectrum disorders in postconflict settings: A randomized controlled trial in Rwanda*. Psychotherapy and psychosomatics, 2014. **83**: p. 354-363.
88. Jensen, J., *An investigation of eye movement desensitisation and reprocessing as a treatment for posttraumatic stress disorder symptoms of vietnam combat veterans*. Behavior Therapy, 1994. **25**: p. 311-325.
89. Johnson, D.M., C. Zlotnick, and S. Perez, *Cognitive behavioral treatment of PTSD in residents of battered women's shelters: Results of a randomized clinical trial*. Journal of consulting and clinical psychology, 2011. **79**(4): p. 542.

90. Johnson, D., et al. *Comparison of Adding Treatment of PTSD During and After Shelter Stay to Standard Care in Residents of Battered Women's Shelters: results of a Randomized Clinical Trial*. 2016. **29**, 365-373 DOI: 10.1002/jts.22117.
91. Karatzias, T., et al., *A controlled comparison of the effectiveness and efficiency of two psychological therapies for posttraumatic stress disorder: eye movement desensitization and reprocessing vs. emotional freedom techniques*. Journal of nervous and mental disease, 2011. **199**: p. 372-8.
92. Keane, T., Fairbank, JA, Caddell, JM, Zimering, RT, *Implosive (flooding) therapy reduces symptoms of PTSD in Vietnam combat veterans*. Behavior Therapy, 1989. **20**(2): p. 245-260.
93. Krupnick, J.L., et al., *Group interpersonal psychotherapy for low-income women with posttraumatic stress disorder*. Psychotherapy Research, 2008. **18**(5): p. 497-507.
94. Kubany, E., Hill, EE, Owens, JA *Cognitive trauma therapy for battered women with PTSD: preliminary findings*. Journal of Traumatic Stress 2003. **16**: p. 81-91.
95. Kubany, E., E. Hill, and J. Owens, *Cognitive trauma therapy for battered women with PTSD (CTT-BW)* Journal of Consulting and Clinical Psychology, 2004. **72**(1): p. 3-18.
96. Laugharne, J., et al. *Amygdala volumetric change following psychotherapy for posttraumatic stress disorder*. 2016. **28**, 312-318 DOI: 10.1176/appi.neuropsych.16010006.
97. Lee, C., Gavriel, H, Drummond, P, Richards, J, Greenwald, R, *Treatment of PTSD: stress inoculation training with prolonged exposure compared to EMDR*. Journal of Clinical Psychology 2002. **58**: p. 1071-1089.
98. Lewis, et al., *Internet-based guided self-help for posttraumatic stress disorder (PTSD): Randomized controlled trial*. Depression and anxiety, 2017. **34**(6): p. 555-565.
99. Littleton, H., et al., *The From Survivor to Thriver program: RCT of an online therapist-facilitated program for rape-related PTSD*. Journal of anxiety disorders, 2016. **43**: p. 41-51.
100. Litz, B.T., et al., *A randomized, controlled proof-of-concept trial of an Internet-based, therapist-assisted self-management treatment for posttraumatic stress disorder*. American journal of psychiatry, 2007. **164**: p. 1676-1683.
101. Marcus, S., Marquis, P, Sakai, C, *Controlled study of treatment of PTSD using EMDR in an HMO setting* Psychotherapy Theory, Research and Practice 1997. **34**: p. 307-315.
102. Markowitz, J., et al., *Is exposure necessary? A randomized clinical trial of interpersonal psychotherapy for PTSD*. American journal of psychiatry, 2015. **172**: p. 430-440.
103. Marks, I., et al., *Treatment of posttraumatic stress disorder by exposure and/or cognitive restructuring: a controlled study*. Archives of General Psychiatry 1998. **55**(4): p. 317-325.
104. McDonagh, A., et al., *Randomized controlled trial of cognitive-behavioural therapy for chronic posttraumatic stress disorder in adult female survivors of childhood sexual abuse* Journal of Consulting and Clinical Psychology 2005. **73**: p. 515-524.

105. McLay, R., et al., *A randomized, controlled trial of virtual reality-graded exposure therapy for post-traumatic stress disorder in active duty service members with combat-related post-traumatic stress disorder*. *Cyberpsychology, behavior and social networking*, 2011. **14**: p. 223-229.
106. McLay, R., et al. *A Randomized, Head-to-Head Study of Virtual Reality Exposure Therapy for Posttraumatic Stress Disorder*. 2017. **20**, 218-224 DOI: 10.1089/cyber.2016.0554.
107. Monson, C., et al., *Effect of cognitive-behavioral couple therapy for PTSD: a randomized controlled trial Comment in: JAMA*. 2012 Aug 15;308(7):714-6; PMID: 22893170. *Jama*, 2012. **308**: p. 700-709.
108. Monson, C., Schnurr, PP, Resick, PA, Friedman, MJ, Young-Xu, Y, Stevens, SP *Cognitive processing therapy for veterans with military related posttraumatic stress disorder*. *Journal of Consulting and Clinical Psychology* 2006. **74**: p. 898-907.
109. Mueser, K.T., Rosenburg, S.D. Xie, H., Jankowski, M. K. Bolton, E. E., Lu, W., Hamblen, J. L., Rosenburg, H. J., McHugo., Wolfe, R *A randomized controlled trial of cognitive-behavioral treatment for posttraumatic stress disorder in severe mental illness* *Journal of Consulting and Clinical Psychology*76(2):259-271., 2008. **76**: p. 259-271.
110. Nacasch, N., et al., *Prolonged exposure therapy for combat- and terror-related posttraumatic stress disorder: A randomized control comparison with treatment as usual NCT00229372*. *Journal of clinical psychiatry*, 2011. **72**: p. 1174-1180.
111. Nijdam, M.J., et al., *Brief eclectic psychotherapy v. eye movement desensitisation and reprocessing therapy for post-traumatic stress disorder: randomised controlled trial*. *The British Journal of Psychiatry*, 2012. **200**(3): p. 224-231.
112. Pacella, M.L., et al., *The impact of prolonged exposure on PTSD symptoms and associated psychopathology in people living with HIV: A randomized test of concept*. *AIDS and Behavior*, 2012. **16**(5): p. 1327-1340.
113. Paunovic, N., *Exposure Inhibition Therapy as a Treatment for Chronic Posttraumatic Stress Disorder: A Controlled Pilot Study*. *Psychology*, 2011. **2**(6): p. 605.
114. Peniston, E.G. and P.J. Kulkosky, *Alpha-theta brainwave neurofeedback for Vietnam veterans with combat-related post-traumatic stress disorder*. *Medical Psychotherapy*, 1991. **4**(1): p. 47-60.
115. Power, K., McGoldrick, T, Brown, K, Buchanan, R, Sharp, D, Swanson, V et al. , *A controlled comparison of eye movement desensitisation and reprocessing versus exposure plus cognitive restructuring versus waiting list in the treatment of post-traumatic stress disorder*. *Clinical Psychology and Psychotherapy*, 2002. **9**: p. 229-318.
116. Rauch, S., et al., *Biological and symptom changes in posttraumatic stress disorder treatment: A randomized clinical trial*. *Depression and anxiety*, 2015. **32**: p. 204-212.
117. Ready, D.J., Gerardi, R.J., Backscheider, A. G., Mascaró, N., Rothbaum, B. O. , *Comparing virtual reality exposure therapy to present centred therapy with 11*

- US Vietnam Veterans with PTSD Cyberpsychology, Behavior and Social Networking*, 2010. **13**(1): p. 49-54.
118. Reger, G., et al. *Randomized controlled trial of prolonged exposure using imaginal exposure vs. virtual reality exposure in active duty soldiers with deployment-related posttraumatic stress disorder (PTSD)*. 2016. **84**, 946-959 DOI: 10.1037/ccp0000134.
  119. Resick, P.A., et al., *A Randomized Clinical Trial of Group Cognitive Processing Therapy Compared With Group Present-Centered Therapy for PTSD Among Active Duty Military Personnel*. *Journal of consulting and clinical psychology journal of consulting psychology*, 2015: p. [Epub ahead of print].
  120. Resick, P., et al., *A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims*. *Journal of Consulting and Clinical Psychology*, 2002. **70**(4): p. 867-879.
  121. Resick, P.A., et al., *Effect of group vs individual cognitive processing therapy in active-duty military seeking treatment for posttraumatic stress disorder: A randomized clinical trial*. *JAMA psychiatry*, 2017. **74**(1): p. 28-36.
  122. Rothbaum, B., *A controlled study of eye movement desensitization and reprocessing in the treatment of posttraumatic stress disorder sexual assault victims* *Bulletin of the Menninger Clinic* 1997. **61**(61): p. 317-334.
  123. Rothbaum, B., Astin, MC, Marsteller, F. , *Prolonged exposure versus eye movement desensitisation and reprocessing (EMDR) for PTSD rape victims*. . *Journal of Traumatic Stress* 2005. **18**: p. 607-616.
  124. Sautter, F.J., et al., *Efficacy of structured approach therapy in reducing PTSD in returning veterans: A randomized clinical trial*. *Psychological services*, 2015. **12**(3): p. 199-212.
  125. Scheck, M., Schaeffer, JA, Gillette, C. , *Brief psychological intervention with traumatized young women: the efficacy of eye movemebnt desensitisation and reprocessing*. *Journal of Traumatic Stress*, 1998. **11**: p. 25-44.
  126. Schnurr, P., Friedman, MJ, Foy, DW, Shea, MT, Hsieh, FY, Lavori, PW et al. , *Randomized trial of trauma-focused group therapy for posttraumatic stress disorder*. . *Archives of General Psychiatry* 2003. **60**: p. 481-489.
  127. Schnurr, P., Friedman MJ, Engel CC, Foa EB, Shea MT, Chow BK, Resick PA, Thurston V, Orsillo SM, Haug R, Turner C, Bernardy N. , *Cognitive behavioural therapy for posttraumatic stress disorder in women*. . *JAMA* 2007. **28**: p. 820-830.
  128. Schnyder, U., et al., *Brief eclectic psychotherapy for PTSD: A randomized controlled trial*. *Journal of Clinical Psychiatry* 2011. **72**(564-566).
  129. Sloan, D., et al., *Written exposure as an intervention for PTSD: A randomized clinical trial with motor vehicle accident survivors*. *Behaviour research and therapy*, 2012. **50**(10): p. 627-635.
  130. Sloan, D., et al., *A Brief Exposure-Based Treatment vs Cognitive Processing Therapy for Posttraumatic Stress Disorder: A Randomized Noninferiority Clinical Trial*. *JAMA Psychiatry*, 2018.
  131. Spence, J., et al., *Randomised controlled trial of internet delivered cognitive behavioural therapy for posttraumatic stress disorder*. *Depression and anxiety*, 2011. **28**: p. 541-550.

132. Suris, A., et al., *A randomized clinical trial of cognitive processing therapy for veterans with PTSD related to military sexual trauma*. . Journal of traumatic stress, 2013. **26**: p. 28-37.
133. Taylor, S., Thordarson, DS, Maxfield, L, Fedoroff, IC, Lovell, K, Ogradniczuk, J. , *Comparative efficacy, speed, and adverse effects of three PTSD treatments: exposure therapy, EMDR, and relaxation training* Journal of Consulting and Clinical Psychology 2003. **71**: p. 330-338.
134. Tylee, D.S., et al., *Evaluation of the reconsolidation of traumatic memories protocol for the treatment of PTSD: a randomized, wait-list-controlled trial*. Journal of Military, Veteran and Family Health, 2017. **3**(1): p. 21-33.
135. Vaughan, K., Armstrong, MS, Gold, R, O'Connor, N, Jenneke, W, Tarrier, N, *A trial of eye movement desensitization compared to image habituation training and applied muscle relaxation in post-traumatic stress disorder*. Journal of Behavior Therapy and Experimental Psychiatry 1994. **25**: p. 283-91.
136. Wells, A., et al., *Metacognitive therapy versus prolonged exposure in adults with chronic post-traumatic stress disorder: A parallel randomized controlled trial*. Cognitive therapy and research, 2015: p. No-Specified.
137. Wells, A. and S. Sembi, *Metacognitive therapy for PTSD: A preliminary investigation of a new brief treatment*. Journal of Behavior Therapy and Experimental Psychiatry, 2012. **35**(4): p. 307-318.
138. Yehuda, R., et al., *Glucocorticoid-related predictors and correlates of post-traumatic stress disorder treatment response in combat veterans*. Interface Focus, 2014. **4**(5): p. 20140048.
139. Zang, Y., N. Hunt, and T. Cox, *Adapting narrative exposure therapy for Chinese earthquake survivors: A pilot randomised controlled feasibility study*. BMC psychiatry, 2014. **14**.
140. Zang, Y., N. Hunt, and T. Cox, *A randomised controlled pilot study: the effectiveness of narrative exposure therapy with adult survivors of the Sichuan earthquake*. BMC psychiatry, 2013. **13**(1): p. 1.
141. Zlotnick, C., et al., *An affect-management group for women with posttraumatic stress disorder and histories of childhood sexual abuse*. Journal of traumatic stress, 1997. **10**(3): p. 425-436.



Table 1: Study Characteristics

Study	N	Country	Intervention 1	Intervention 2	Intervention 3	Intervention 4	Population	Trauma type	% Female	% Unemployed	% University Educated
Acarturk 2016 [35]	98	Turkey/Syria	EMDR	WL			Refugees	War/Persecution	74	Unknown	4
Adenauer 2011 [20]	34	Germany	NET (CBT-T)	WL			Refugees	War/Persecution	44	Unknown	Unknown
Ahmadi 2015 [36]	48	Iran	EMDR	REM Desensitization	WL		Military Personnel/Veterans	Military Trauma	0	Unknown	33.3
Akbarian 2015 [37]	40	Iran	Group CBT-T	MC/RA			General Population	Various	79	Unknown	Unknown
Asukai 2010 [38]	24	Japan	PE (CBT-T)	TAU			General Population	Various	88	Unknown	Unknown
Basoglu 2005 [39]	59	Turkey	Single-session CBT-T	WL			General Population	Earthquake	85	Unknown	5.1
Basoglu 2007 [40]	31	Turkey	Single-session CBT-T	MC/RA			General Population	Earthquake	93	Unknown	10
Beck 2009 [41]	44	USA	Group CBT-T	MC/RA			General Population	Road Traffic Accident	82	54	Unknown
Bichescu 2007 [42]	18	Romania	NET (CBT-T)	Psychoeducation			General Population	Political detainment	94	0%	72
Blanchard 2003 [43]	98	USA	CBT-T	SC	WL		General Population	Road Traffic Accident	73	Unknown	Unknown
Bradshaw 2014 [44]	10	Canada	OEI	WL			General Population	Various	70	0	Unknown
Brom 1989 [45]	83	Netherlands	CBT-T	Psychodynamic Therapy	WL		General Population	Various	79	49	Unknown
Bryant 2003 [46]	58	Australia	CBT-T	SC			General Population	Various	52	Unknown	Unknown

<b>Bryant 2011 [47]</b>	28	Thailand	CBT-T	SC			General Population	Terrorist Attack	96	84%	Unknown
<b>Buhmann 2016 [48]</b>	138	Denmark	CBT-T	WL			Refugees	Organised Violence	41	Unknown	Unknown
<b>Buttolo 2016 [49]</b>	148	Germany	CPT (CBT-T)	DET			General Population	Various	66	Unknown	Unknown
<b>Capezzani 2013 [50]</b>	21	Italy	EMDR	CBT-T			General Population	Cancer	90	Unknown	Unknown
<b>Carletto 2016 [51]</b>	50	Italy	EMDR	Relaxation Training			General Population	Multiple Sclerosis	81	Unknown	Unknown
<b>Carlson 1998 [52]</b>	35	USA	EMDR	Relaxation Training	TAU		Military Personnel/Veterans	Military Trauma	0	62	Unknown
<b>Castillo 2016 [53]</b>	86	USA	Group CBT-T	WL			Military Personnel/Veterans	Military Trauma	100	44%	Unknown
<b>Chard 2005 [54]</b>	71	USA	CPT (CBT-T)	WL			General Population	Child Sexual Abuse	100	Unknown	Unknown
<b>Cloitre 2002 [55]</b>	58	USA	CBT-T	WL			General Population	Child Abuse	100	24%	52
<b>Cloitre 2010 [56]</b>	71	USA	CBT-T	CBT without a trauma focus			General Population	Child Abuse	100	31%	Unknown
<b>Deville 1998 [57]</b>	35	Australia	EMDR	TAU			Military Personnel/Veterans	Military Trauma	0	Unknown	Unknown
<b>Deville 1999 [58]</b>	32	Australia	EMDR	CBT-T			General Population	Various	100	Unknown	Unknown
<b>Dorrepaal 2012 [59]</b>	71	Netherlands	Group Stabilising Treatment	TAU			General Population	Child Abuse	Unknown	83%	Unknown
<b>Duffy 2007 [60]</b>	58	UK	CT (CBT-T)	WL			General Population	Various	40	Unknown	Unknown
<b>Dunne 2012 [61]</b>	26	Australia	CBT-T	WL			General Population	Road Traffic Accident	50	31%	73
<b>Echeburua 1997 [62]</b>	20	Spain	CBT-T	Relaxation Training			General Population	Child Abuse or Adult RaPE (CBT-T)	100	Unknown	20

Ehlers 2005 [63]	28	UK	CT (CBT-T)	WL			General Population	Various	50	25%	35
Ehlers 2003 [64]	57	UK	CT (CBT-T)	MC/RA			General Population	Road Traffic Accident	Unknown	Unknown	Unknown
Ehlers 2014 [65]	91	UK	CT (CBT-T)	SC	WL		General Population	Various	58.7	23	26
Falsetti 2008 [66]	60	USA	Group CBT-T	WL			General Population	Various	100	Unknown	Unknown
Fecteau 1999 [67]	20	Canada	CBT-T	WL			General Population	Road Traffic Accident	70	Unknown	Unknown
Feske 2008 [68]	21	USA	PE (CBT-T)	TAU			General Population	Various	100	29%	90%
Foa 1991 [69]	45	USA	PE (CBT-T)	CBT without a trauma focus	Supportive counselling	WL	General Population	Sexual Assault	100	Unknown	Unknown
Foa 1999 [70]	66	USA	PE (CBT-T)	CBT without a trauma focus	WL		General Population	Assault/Sexual assault	100	38%	41%
Foa 2005 [71]	179	USA	PE (CBT-T)	WL			General Population	Assault	100	17%	34%
Foa 2018 [72]	256	USA	Spaced PE (CBT-T)	PCT	MC/RA		Military Personnel/Veterans	Military Trauma	12	100%	66%
Fonzo 2017 [73]	66	USA	PE (CBT-T)	WL			General Population	Various	65	Unknown	Unknown
Forbes 2012 [74]	59	Australia	CPT (CBT-T)	TAU			Military Personnel/Veterans	Military Trauma	4	36%	Unknown
Ford 2011 [75]	146	USA	CBT without a trauma focus	PCT	WL		General Population	Various	100	Unknown	22%
Ford 2013 [76]	80	USA	Group CBT-T	Group Supportive Counselling			Incarcerated Women	Various	100	Unknown	Unknown
Galovski 2012 [77]	100	USA	CPT (CBT-T)	MC/RA			General Population	Various	69	Unknown	Unknown
Gamito 2010 [78]	10	Portugal	VRE (CBT-T)	Control Exposure	WL		Military Personnel/Veterans	Military Trauma	0	Unknown	Unknown

Gersons 2000 [79]	42	Netherlands	BEP (CBT-T)	WL			General Population	Various	Unknown	Unknown	Unknown
Gray 2017 [80]	74	USA	RTM (CBT-T)	WL			Military Personnel/Veterans	Military Trauma	0	Unknown	Unknown
Hensel-Dittmann 2011 [21]	28	Germany	NET (CBT-T)	CBT without a trauma focus			Asylum Seekers	Organised Violence	Unknown	Unknown	Unknown
Hinton 2005 [81]	40	USA	CBT-T	WL			Refugees	Genocide	60	Unknown	Unknown
Hinton 2011 [82]	24	USA	Group CBT-T	WL			General Population	Various	100	Unknown	Unknown
Hogberg 2007 [83]	24	Sweden	EMDR	WL			General Population	Various	38	Unknown	Unknown
Hollifield 2007 [84]	55	USA	Group trauma-focused CBT	WL			General Population	Various	68	Unknown	40%
Ironson 2002 [85]	22	USA	EMDR	PE (CBT-T)			General Population	Various	77	Unknown	Unknown
Ivarsson 2014 [86]	62	Sweden	I-CBT	WL			General Population	Various	82	8%	65%
Jacob 2014 [87]	76	Rwanda	NET (CBT-T)	WL			Genocide Survivors	Genocide	92	Unknown	Unknown
Jensen 1994 [88]	25	USA	EMDR	WL			Military Personnel/Veterans	Military Trauma	0	68	Unknown
Johnson 2011 [89]	70	USA	CBT without a trauma focus	TAU			General Population	Intimate Partner Violence	100	73	7%
Johnson 2016 [90]	60	USA	CBT without a trauma focus	TAU			General Population	Intimate Partner Violence	100	77	5%
Karatzias 2011 [91]	46	UK	EMDR	EFT			General Population	Various	57	37	47%
Keane 1989 [92]	24	USA	CBT-T	WL			Military Personnel/Veterans	Military Trauma	0	Unknown	Unknown

Krupnick 2008 [93]	48	USA	Group IPT	WL			General Population	Interpersonal Trauma	100	80	13%
Kubany 2003 [94]	37	USA	CBT-T	WL			General Population	Domestic Abuse	100	Unknown	Unknown
Kubany 2004 [95]	107	USA	CBT-T	WL			General Population	Domestic Abuse	100	Unknown	Unknown
Laugharne 2016 [96]	20	Australia	EMDR	PE (CBT-T)			General Population	Various	70	Unknown	Unknown
Lee 2002 [97]	24	Australia	CBT-T	EMDR			General Population	Various	46	Unknown	Unknown
Lewis 2017 [98]	42	UK	I-CBT	WL			General Population	Various	57	19	62%
Littleton 2016 [99]	87	USA	I-CBT	I- Psychoeducation			General Population	Rape	100	Unknown	Unknown
Litz 2007 [100]	45	USA	I-CBT	I-SC			Military Personnel/Veterans	Terrorism / Military Trauma	Unknown	Unknown	Unknown
Marcus 1997 [101]	67	USA	EMDR	TAU			General Population	Various	79	Unknown	Unknown
Markowitz 2015 [102]	110	USA	IPT	PE (CBT-T)	Relaxation Therapy		General Population	Various	70	21	Unknown
Marks 1998 [103]	87	UK	PE (CBT-T)	Cognitive Restructuring	PE (CBT-T) (CBT-T)(CBT-T)and Cognitive Restructuring	Relaxation without PE (CBT-T) (CBT-T)(CBT-T)or CR	General Population	Various	36	54	Unknown
McDonagh 2005 [104]	74	USA	PE (CBT-T)	PCT	WL		General Population	Child Sexual Abuse	100	17	Unknown
McLay 2011 [105]	20	USA	VRE (CBT-T)	TAU			Military Personnel/Veterans	Military Trauma	5	Unknown	Unknown
McLay 2017 [106]	81	USA	VRE (CBT-T)	Control Exposure Therapy			Military Personnel/Veterans	Military Trauma	4	Unclear	Unclear

Monson 2012 [107]	20	USA	Couples CBT-T	WL			General Population	Various	25	40	Unknown
Monson 2006 [108]	60	USA	CPT (CBT-T)	WL			Military Personnel/Veterans	Military Trauma	10	Unknown	Unknown
Morath 2014 [22]	38	Germany	NET (CBT-T)	WL			Refugees	Organised Violence	32	Unknown	Unknown
Meuser 2008 [109]	108	USA	CBT-T	TAU			General Population	Various	79	Unknown	Unknown
Nacasch 2011 [110]	30	Israel	PE (CBT-T)	TAU			Military Personnel/Veterans	Military Trauma	Unknown	63	Unknown
Neuner 2010 [23]	32	Germany	NET (CBT-T)	TAU			Refugees	Torture	31	Unknown	Unknown
Neuner 2008 [24]	277	Uganda	NET (CBT-T)	SC	Monitoring		Refugees	War	51	49	Unknown
Neuner 2004 [25]	43	Uganda	NET (CBT-T)	SC	Psychoeducation		Refugees	War	60	28	Unknown
Nijdam 2012 [111]	140	Netherlands	BEP (CBT-T)	EMDR			General Population	Various	56	Unknown	30
Pacella 2012 [112]	66	USA	PE (CBT-T) (CBT-T)	MC/RA			General Population	HIV Diagnosis	37	Unknown	Unknown
Paunovic 2011 [113]	29	Sweden	CBT-T	WL			General Population	Crime	63	74	11
Peniston 1991 [114]	29	USA	CBT-T	TAU			Military Personnel/Veterans	Military Trauma	Unknown	Unknown	Unknown
Power 2002 [115]	105	UK	EMDR	CBT-T	WL		General Population	Various	42	Unknown	Unknown
Rauch 2015 [116]	36	USA	PE (CBT-T) (CBT-T)	PCT			Military Personnel/Veterans	Military Trauma	9	Unknown	Unknown
Ready 2010 [117]	11	USA	VRE (CBT-T)	PCT			Military Personnel/Veterans	Military Trauma	Unknown	Unknown	Unknown
Reger 2016 [118]	162	USA	VRE (CBT-T)	PE (CBT-T)	WL		Military Personnel/Veterans	Military Trauma	4	Active duty	7

Resick 2015 [119]	108	USA	Group CBT-T	Group PCT			Military Personnel/Veterans	Military Trauma	8	0	8
Resick 2002 [120]	171	USA	CPT (CBT-T) (CBT-T)	PE (CBT-T)	Minimal Attention		General Population	Rape	100	Unknown	Unknown
Resick 2017 [121]	268	USA	CPT (CBT-T) (CBT-T)	Group CBT-T			Military Personnel/Veterans	Military Trauma	9	100	19
Rothbaum 1997 [122]	18	USA	EMDR	WL			General Population	Sexual Assault	100	19	43
Rothbaum 2005 [123]	60	USA	PE (CBT-T)	EMDR	WL		General Population	Rape	100	Unknown	Unknown
Sautter 2015 [124]	57	USA	Couples CBT without a trauma focus	Couples Psychoeducation			Military Personnel/Veterans	Military Trauma	1.75	12	75
Scheck 1998 [125]	60	USA	EMDR	SC			General Population	Various	100	Unknown	Unknown
Schnurr 2003 [126]	360	USA	Group CBT-T	Group PCT			Military Personnel/Veterans	Military Trauma	0	51	Unknown
Schnurr 2007 [127]	284	USA	PE (CBT-T) (CBT-T)	Group PCT			Military Personnel/Veterans	Military Trauma	100	38	Unknown
Schnyder 2011 [128]	30	Switzerland	BEP (CBT-T)	MC/RA			General Population	Various	46.7	Unknown	Unknown
Sloan 2012 [129]	46	USA	WET	WL			General Population	Road Traffic Accident	Unclear	78	41
Sloan 2018 [130]	126	USA	WET	CPT (CBT-T)			General Population	Various	49	Unknown	13
Spence 2011 [131]	42	Australia	I-CBT	WL			General Population	Various	81	41	Not Cle
Stenmark 2013 [26]	81	Norway	NET (CBT-T)	TAU			Refugees	Various	31	Unknown	25
Suris 2013 [132]	86	USA	CPT (CBT-T)	PCT			Military Personnel/Veterans	Military Sexual Trauma	85	43	16
Taylor 2003 [133]	60	USA	PE (CBT-T)	Relaxation Therapy	EMDR		General Population	Various	75	13	Unknown

<b>Tylee 2017 [134]</b>	30	USA	RTM (CBT-T)	WL			General Population	Military Trauma	0	Unknown	Unknown
<b>Vaughan 1994 [135]</b>	36	Australia	CBT-T	Relaxation Training	EMDR		General Population	Various	64	Unknown	Unknown
<b>Wells 2015 [136]</b>	32	UK	PE (CBT-T)	CBT without a trauma focus	WL		General Population	Various	38	6	Unknown
<b>Wells 2012 [137]</b>	20	UK	CBT without a trauma focus	WL			General Population	Various	55	Unknown	Unknown
<b>Yehuda 2014 [138]</b>	52	USA	PE (CBT-T)	MC/RA			Military Personnel/Veterans	Military Trauma	Unclear	Unknown	Unknown
<b>Zang 2014 [139]</b>	20	China	NET (CBT-T)	WL			General Population	Earthquake	90	Unknown	Unknown
<b>Zang 2013 [140]</b>	22	China	NET (CBT-T)	WL			General Population	Earthquake	77	Unknown	Unknown
<b>Zlotnick 1997 [141]</b>	48	USA	Group CBT-T	WL			General Population	Child Sexual Abuse	100	Unknown	33

**BEP** = Brief Eclectic Psychotherapy

**CBT** = Cognitive Behavioural Therapy

**CBT-T** = Cognitive Behavioural Therapy with a Trauma focus

**CPT** = Cognitive Processing Therapy

**CR** = Cognitive Restructuring

**CT** = Cognitive Therapy

**DET** = Dialogical Exposure Therapy

**EFT** = Emotional Freedom Technique

**EMDR** = Eye Movement Desensitisation and Reprocessing

**I-CBT** = Internet-based Cognitive Behavioural Therapy

**I-Psychoeducation** = Internet based Psychoeducation

**IPT** = Interpersonal Psychotherapy

**I-SC** = Internet based Supportive Counselling

**MC/RA** = Medical Checks/Repeated Assessments

**NET** = Narrative Exposure Therapy

**OEI** = Observed and Experimental Integration

**PCT** = Present Centred Therapy

**PE** = Prolonged Exposure

**REM Desensitization** = Rapid Eye Movement Desensitization

**RTM** = Reconsolidation of Traumatic Memories

**SC** = Supportive Counselling

**TAU** = Treatment as Usual

**VRE** = Virtual Reality Exposure

**WET** = Written Emotion Therapy

**WL** = Waiting List



Table 2: Risk Assessment

	Random sequence generation	Allocation concealment	Incomplete outcome data assessment	Blinding of outcome	Selective reporting	Other sources of bias	Total no. high risk
Acarturk 2016	Low	Low	Low	Low	Low	Low	0
Adenauer 2011	Low	Low	Low	Low	High	High	2
Ahmadi 2015	Unclear	Unclear	High	Unclear	Unclear	High	2
Akbarian 2015	Low	High	Low	Low	Unclear	High	2
Asukai 2010	Low	Low	Low	Low	Unclear	High	1
Basoglu 2005	Low	Low	Low	Low	Unclear	High	1
Basoglu 2007	Low	Low	High	High	Unclear	High	3
Beck 2009	Unclear	Unclear	High	Low	Unclear	High	2
Bichescu 2007	High	Unclear	Low	Low	Unclear	High	2
Blanchard 2003	High	Unclear	Low	Low	Unclear	Low	1
Bradshaw 2014	Unclear	Unclear	Low	High	Unclear	High	2
Brom 1989	Unclear	Unclear	High	Unclear	Unclear	High	2
Bryant 2003	Low	Unclear	Low	Low	Low	High	1
Bryant 2011	Low	Low	Low	Low	Unclear	High	1
Buhmann 2016	Low	Low	Unclear	Low	Low	Low	0
Buttolo 2016	Unclear	Unclear	Low	Low	Unclear	High	1

Capezzani 2013	Unclear	Unclear	Low	Low	Unclear	High	1
Carletto 2016	Low	Low	High	Low	Low	Low	1
Carlson 1998	Unclear	Unclear	High	Unclear	Unclear	Low	1
Castillo 2016	Unclear	Unclear	Low	Low	Unclear	High	1
Chard 2005	Unclear	Unclear	Low	Low	Unclear	High	1
Cloitre 2002	Unclear	Unclear	Low	Low	High	Low	1
Cloitre 2010	Unclear	Low	Low	Low	Low	Low	0
Deville 1998	Unclear	Unclear	High	Low	Unclear	Low	1
Deville 1999	High	Unclear	High	Unclear	Unclear	High	3
Dorrepaal 2012	Unclear	Low	Low	Low	High	High	2
Duffy 2007	Low	Low	Low	Unclear	Low	High	1
Dunne 2012	Unclear	Unclear	Low	Unclear	Unclear	High	1
Echeburua1997	Unclear	Unclear	Low	Unclear	Unclear	High	1
Ehlers 2003	Low	Low	High	Low	Unclear	High	2
Ehlers 2005	Unclear	Unclear	Low	Low	Unclear	High	2
Ehlers 2014	Unclear	Low	Low	Low	Low	Low	0
Falsetti 2008	Unclear	Unclear	Low	Low	High	High	2
Fecteau 1999	Low	Unclear	High	Unclear	Unclear	High	2
Feske 2008	Unclear	Unclear	Low	Unclear	Unclear	High	1
Foa 1991	Unclear	Unclear	High	Low	Unclear	High	2

Foa 1999	Unclear	Unclear	Low	Low	Unclear	High	1
Foa 2005	Low	Low	Low	Low	Unclear	Low	0
Foa 2018	Low	Low	Low	Low	Low	Low	0
Fonzo 2017	Low	Unclear	Low	Unclear	Low	Low	0
Forbes 2012	Unclear	Low	Low	Unclear	Unclear	High	1
Ford 2011	Low	Low	Low	Low	Unclear	High	1
Ford 2013	Low	Low	High	Low	Unclear	High	2
Galovski 2012	Unclear	Unclear	Low	Low	Unclear	Low	0
Gamito 2010	Unclear	Unclear	Unclear	Unclear	High	High	2
Gersons 2000	Unclear	Unclear	Low	Low	Unclear	Low	0
Gray 2017	Low	Low	Unclear	Unclear	Unclear	Unclear	0
Hensel-Dittmann 2011	Low	Low	Low	Low	Unclear	Low	0
Hinton 2005	Low	Unclear	Low	Low	Unclear	High	1
Hinton 2011	Unclear	Unclear	Low	Unclear	Unclear	High	1
Hogberg 2007	Low	Unclear	High	Low	Unclear	High	2
Hollifield 2007	Low	Low	Low	Low	Unclear	High	1
Ironson 2002	Unclear	Unclear	Low	High	Unclear	High	2
Ivarsson 2014	Low	Unclear	Low	Low	Low	High	1

Jacob 2014	Low	Low	Low	Low	Unclear	High	1
Jensen 1994	Unclear	Unclear	High	Unclear	Unclear	High	2
Johnson 2011	Low	Unclear	Low	High	Unclear	Low	1
Johnson 2016	Low	Low	Low	Low	Unclear	Low	0
Karatzias 2011	Low	Low	Low	Low	Unclear	High	1
Keane 1989	Unclear	Unclear	Unclear	High	Unclear	High	2
Krupnick 2008	Unclear	Unclear	Low	Unclear	Unclear	High	1
Kubany 2003	Unclear	Unclear	Low	Low	Unclear	High	1
Kubany 2004	Unclear	Unclear	Low	Low	Low	High	1
Laugharne 2016	Low	Low	Low	Low	Unclear	High	1
Lee 2002	Unclear	Unclear	Low	Low	Unclear	High	1
Lewis 2017	Low	Low	Low	Low	Low	High	1
ylittleton 2016	Low	Unclear	Low	High	Low	Low	1
Litz 2007	Unclear	Unclear	High	Low	Low	High	2
Marcus 1997	Unclear	Unclear	Unclear	High	Unclear	High	2
Markowitz 2015	Low	Low	Low	Low	Low	High	1
Marks 1998	Unclear	Unclear	Low	Low	Unclear	Low	0
McDonagh 2005	Unclear	Unclear	Low	Low	Unclear	Low	0
McLay 2011	Low	Low	Unclear	High	Unclear	High	2
McLay 2017	Low	Unclear	Low	Low	Low	Low	0

Monson 2012	Low	Low	Low	Low	Low	Low	0
Monson 2006	Low	Low	Low	Low	Unclear	Low	0
Morath 2014	Low	Low	Unclear	Low	Low	Low	0
Meuser 2008	Low	Low	Low	Low	Unclear	High	1
Nacasch 2011	Low	Unclear	Low	Low	Low	High	1
Neuner 2004	Low	Unclear	Low	Low	Low	High	1
Neuner 2008	Unclear	Unclear	Low	Low	Unclear	Low	0
Neuner 2010	Unclear	Unclear	Low	Low	Unclear	High	1
Nijdam 2012	Unclear	Low	Low	Low	Low	Low	0
Pacella 2015	Low	Unclear	Low	Low	Unclear	Low	0
Paunovic 2011	Unclear	Unclear	Low	High	Unclear	High	2
Peniston 1991	Unclear	Unclear	Unclear	Low	Unclear	Unclear	0
Power 2002	Low	Low	High	Low	Unclear	Low	1
Rauch 2015	Unclear	Unclear	Low	Low	Unclear	High	1
Ready 2010	Unclear	Unclear	Unclear	Low	Unclear	High	1
Reger 2016	Low	Low	Low	Low	Unclear	Low	0
Resick 2002	Unclear	Unclear	Low	Low	Unclear	High	1
Resick 2015	Unclear	Unclear	Low	Low	Unclear	Low	0
Resick 2017	Low	Unclear	Low	Low	Low	Low	0
Rothbaum 1997	Unclear	Unclear	High	Low	Unclear	High	2

Rothbaum 2005	Unclear	Unclear	High	Low	Unclear	Low	1
Sautter 2015	Unclear	Unclear	Low	Low	Unclear	Low	0
Scheck 1998	Low	Low	High	Unclear	Unclear	High	2
Schnurr 2003	High	Unclear	Low	Low	Low	Low	1
Schnurr 2007	Low	Low	Low	Low	Low	Low	0
Schnyder 2011	Low	Unclear	Low	Low	Unclear	Unclear	0
Sloan 2012	Low	Low	Unclear	Low	Unclear	Low	0
Sloan 2018	Low	Low	Low	Low	Low	Low	0
Spence 2011a	Low	Unclear	High	High	Low	Unclear	2
Stenmark 2013	Unclear	Unclear	Low	High	Low	High	2
Suris 2013	Unclear	Unclear	Low	Low	Low	High	1
Taylor 2003	Unclear	Unclear	Low	Low	Unclear	Low	0
Tylee 2017	Unclear	Unclear	Unclear	Low	Unclear	High	1
Vaughan 1994	Unclear	Unclear	Low	Low	Unclear	Low	0
Wells 2012	Low	Low	Low	Low	Unclear	High	1
Wells 2015	Low	Low	High	High	Unclear	High	3
Yehuda 2014	Unclear	Unclear	High	Unclear	Unclear	Unclear	1
Zang 2013	Unclear	Unclear	Low	Low	Low	High	1
Zang 2014	Low	Unclear	Low	Low	Low	High	1
Zlotnick 1997	Unclear	Unclear	High	Low	Low	High	2

Table 3:

	Severity of PTSD symptoms post-treatment	<i>GRADE judgement for quality of evidence</i>
1) CBT with a trauma focus versus wait list or treatment as usual.	CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 51; N=1380; SMD -1.32 CI -1.57 to -1.08].	<b><i>MODERATE QUALITY</i></b>
2) Brief Eclectic Psychotherapy versus wait list or treatment as usual.	Brief Eclectic Psychotherapy showed no benefit when compared with wait list or treatment as usual [k = 2; N=72; SMD -0.38 CI -0.85 to 0.09].	<b><i>VERY LOW QUALITY</i></b>
3) Cognitive Processing Therapy versus wait list or treatment as usual.	Cognitive Processing Therapy showed a positive effect when compared with wait list or treatment as usual [k = 4; N=298; SMD -1.03 CI -1.45 to -0.61].	<b><i>LOW QUALITY</i></b>

4) Cognitive Therapy versus wait list or treatment as usual.	Cognitive Therapy showed a positive effect when compared with wait list or treatment as usual [k = 4; N=189; SMD -1.33 CI -1.80 to -0.86].	<i>LOW QUALITY</i>
5) Narrative Exposure Therapy (NET) versus wait list or treatment as usual.	Narrative Exposure Therapy (NET) showed a positive effect when compared with wait list or treatment as usual [k = 8; N=241; SMD -1.06 CI -1.61 to -0.52].	<i>LOW QUALITY</i>
6) Prolonged Exposure versus wait list or treatment as usual.	Prolonged exposure (PE) showed a positive effect when compared with wait list or treatment as usual [k = 12; N=772; SMD -1.59 CI -2.05 to -1.13].	<i>LOW QUALITY</i>
7) Single Session CBT with a trauma focus versus wait list or treatment as usual.	Single Session CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 2; N=90; SMD -0.57 CI -1.00 to -0.15].	<i>VERY LOW QUALITY</i>



8) Reconsolidation of traumatic memories (RTM) versus wait list or treatment as usual	RTM showed a positive effect when compared with wait list or treatment as usual [k = 2; N=96; SMD -2.35 CI -2.89 to -1.82].	<i>VERY LOW QUALITY</i>
9) EMDR versus wait list or treatment as usual	EMDR showed a positive effect when compared with wait list or treatment as usual [k = 11; N=415; SMD -1.23 CI -1.69 to -0.76].	<i>LOW QUALITY</i>
10) Non-trauma focused CBT versus wait list or treatment as usual	CBT without a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 7; N=318; SMD -1.06 CI -1.39 to -0.73].	<i>LOW QUALITY</i>
11) Supportive counselling versus waitlist or treatment as usual	There was no evidence of a difference between supportive counselling and wait list or treatment as usual [k = 2; N=72; SMD -0.43 CI -0.90 to 0.04].	<i>VERY LOW QUALITY</i>
12) Present centred therapy versus waitlist or treatment as usual	Present centred therapy showed a positive effect when compared with waitlist of treatment as usual [k = 2; N=138; SMD -0.97 CI -1.33 to -0.62].	<i>VERY LOW QUALITY</i>

13) Psychodynamic therapy versus treatment as usual	Psychodynamic therapy showed no benefit when compared with wait list or treatment as usual [k = 1; N=52; SMD -0.41; CI -0.96 to 0.14].	<i>VERY LOW QUALITY</i>
14) Written exposure therapy versus treatment as usual	Written exposure therapy showed a positive effect when compared with waitlist of treatment as usual [k = 1; N=44; SMD -3.39; CI -4.43 to -2.44].	<i>VERY LOW QUALITY</i>
15) Virtual Reality Therapy versus wait list or treatment as usual	Virtual Reality Therapy showed a positive effect when compared with wait list or treatment as usual [k = 3; N=104; SMD -0.43 CI -0.83 to -0.03].	<i>VERY LOW QUALITY</i>
16) Observed and experimental integration (OEI) versus wait list or treatment as usual	OEI showed a positive effect when compared with wait list or treatment as usual [k = 1; N=10; SMD -2.86 CI -4.90 to -0.83].	<i>VERY LOW QUALITY</i>
17) Relaxation Training versus wait list or treatment as usual	Relaxation training showed no benefit when compared with wait list or treatment as usual [k = 1; N=53; SMD -0.10; CI -0.65 to 0.46].	<i>VERY LOW QUALITY</i>

18) Group CBT with a trauma focus versus wait list or treatment as usual	Group CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 7; N=313; SMD -1.02 CI -1.26 to -0.78].	<i>MODERATE QUALITY</i>
19) Group and individual CBT with a trauma focus versus wait list or treatment as usual	Group and individual CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 1; N=55; SMD -2.32 CI -3.01 to -1.62].	<i>VERY LOW QUALITY</i>
20) Group stabilising treatment versus wait list or treatment as usual	Group stabilising treatment showed no benefit when compared with wait list or treatment as usual [k = 1; N=71; SMD -0.11; CI -0.36 to 0.57].	<i>VERY LOW QUALITY</i>
21) Group interpersonal therapy (IPT) versus wait list or treatment as usual	Group IPT showed a positive effect when compared with waitlist or treatment as usual [k = 1; N=48; SMD -1.19; CI -1.84 to -0.54].	<i>VERY LOW QUALITY</i>

22) Couples CBT with a trauma focus vs waitlist or treatment as usual	Couples CBT with a trauma focus showed a positive effect when compared with waitlist or treatment as usual [k = 1; N=40; SMD -1.12; CI -1.79 to -0.45].	<i>VERY LOW QUALITY</i>
23) Guided internet-based trauma focused CBT versus waitlist/usual care	Guided internet-based CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 3; N=145; SMD -1.08 CI -1.80 to -0.37].	<i>VERY LOW QUALITY</i>

**Table 4**

	Severity of PTSD symptoms post-treatment	<i>GRADE judgement for quality of evidence</i>
1) CBT with a trauma focus versus CBT without a trauma focus	There was no evidence of a difference between CBT with a trauma focus versus CBT without a trauma focus [k = 5; N=185; SMD -0.10 CI -0.19 to 0.39].	<i>LOW QUALITY</i>

2) CBT with a trauma focus versus Present Centred Therapy	CBT with a trauma focus showed a positive effect when compared with present centred therapy [k = 4; N=433; SMD -0.45 CI -0.81 to -0.09].	<i>LOW QUALITY</i>
3) CBT with a trauma focus versus supportive counselling	CBT with a trauma focus showed a positive effect when compared with supportive counselling [k = 8; N=434; SMD -0.63 CI -1.04 to -0.21].	<i>LOW QUALITY</i>
4) CBT with a trauma focus versus psychodynamic therapy	There was no evidence of a difference between CBT with a trauma focus and psychodynamic therapy [k = 1; N = 56; SMD -0.03 CI -0.56 to 0.49].	<i>VERY LOW QUALITY</i>
5) CBT with a trauma focus versus Interpersonal Therapy (IPT)	CBT-T showed a positive effect when compared with IPT [k = 1; N=66; SMD -0.48; CI -0.98 to 0.01].	<i>VERY LOW QUALITY</i>
6) CBT without a trauma focus versus PCT	There was no evidence of a difference between CBT without a trauma focus and PCT [k = 1; N = 101; SMD -0.04 CI -0.43 to 0.35].	<i>VERY LOW QUALITY</i>

7) CBT with a trauma focus versus dialogical exposure therapy (DET)	CBT with a trauma focus showed a positive effect when compared with dialogical exposure therapy [k = 1; N=138; SMD -0.39; CI -0.73 to -0.05].	<i>VERY LOW QUALITY</i>
8) Cognitive processing therapy (CPT) versus prolonged exposure (PE)	There was no evidence of a difference between cognitive processing therapy and prolonged exposure [k = 1; N=124; SMD -0.18; CI -0.53 to 0.17].	<i>VERY LOW QUALITY</i>
9) EMDR versus CBT with a trauma focus	There was no evidence of a difference between CBT with a trauma focus and EMDR [k = 10; N=387; SMD -0.17 CI -0.55 to 0.21].	<i>LOW QUALITY</i>
10) EMDR versus supportive counselling	EMDR showed a positive effect when compared with supportive counselling [k = 1; N=57; SMD -0.75 CI -1.29 to -0.21].	<i>VERY LOW QUALITY</i>
11) EMDR versus EFT	There was no evidence of a difference between EMDR and EFT [k = 1; N=46; SMD = 0.08; CI -0.50 to 0.65].	<i>VERY LOW QUALITY</i>

12) EMDR versus Relaxation Training	There was no evidence of a difference between EMDR and Relaxation Training [k = 4; N=117; SMD = -0.23; CI -0.59 to 0.14].	<i>VERY LOW QUALITY</i>
13) EMDR versus REM Desensitisation	There was no evidence of a difference between EMDR and REM Desensitisation [k = 1; N=21; SMD = 0.06; CI -0.80 to 0.91].	<i>VERY LOW QUALITY</i>
14) CBT without a trauma focus versus supportive counselling	CBT without a trauma focus showed a positive effect when compared with supportive counselling [k = 1; N=25; SMD -1.22 CI -2.09 to -0.35].	<i>VERY LOW QUALITY</i>
15) CBT with a trauma focus versus psychoeducation	There was no evidence of a difference between CBT-T and psychoeducation [k = 1; N=27; SMD = -0.19; CI -0.95 to 0.57].	<i>VERY LOW QUALITY</i>
16) Written exposure therapy versus CBT with a trauma focus	There was no evidence of a difference between WED and CBT with a trauma focus [k = 1; N=126; SMD 0.13; CI -0.21 to 0.48].	<i>VERY LOW QUALITY</i>

17) CBT with a trauma focus versus relaxation training	Individual CBT with a trauma focus showed a positive effect when compared with relaxation training [k = 5; N=203; SMD -0.49; CI -0.79 to -0.20].	<i>LOW QUALITY</i>
18) Supportive counselling versus psychoeducation	There was no evidence of a difference between supportive counselling and psychoeducation [k = 1; N=25; SMD 0.13; CI -0.92 to 0.65].	<i>LOW QUALITY</i>
19) Interpersonal therapy versus relaxation training	There was no evidence of a difference between IPT and relaxation training [k = 1; N=60; SMD -0.15; CI -0.67 to 0.38].	<i>VERY LOW QUALITY</i>
20) Virtual reality therapy versus control exposure	There was no evidence of a difference between virtual reality therapy and control exposure [k = 2; N=177; SMD 0.01; CI -0.68 to 0.71].	<i>LOW QUALITY</i>
21) Virtual reality therapy and present centred therapy	There was no evidence of a difference between virtual reality therapy and present centred therapy [k = 1; N=9; SMD -0.51; CI -1.86 to 0.84].	<i>VERY LOW QUALITY</i>



22) Group CBT with a trauma focus versus group present centred therapy	Group CBT with a trauma focus showed a positive effect when compared with group present centred therapy [k = 2; N=333; SMD -0.44; CI -0.63 to -0.24].	<i>LOW QUALITY</i>
23) Group CBT with a trauma focus versus individual CBT with a trauma focus	Individual CBT with a trauma focus showed a positive effect when compared with group CBT with a trauma focus [k = 1; N=268; SMD 0.35; CI 0.11 to 0.59].	<i>VERY LOW QUALITY</i>
24) Group CBT without a trauma focus versus group supportive counselling	There was no evidence of a difference between group CBT without a trauma focus and group supportive counselling [k = 1; N=72; SMD -0.02; CI -0.48 to 0.44].	<i>VERY LOW QUALITY</i>
25) Couples CBT without a trauma focus vs couples psychoeducation	Couples CBT without a trauma focus showed a positive effect when compared with couples psychoeducation [k = 1; N=43; SMD -1.37; CI -2.04 to -0.70].	<i>VERY LOW QUALITY</i>

26) Internet-based trauma focused CBT versus internet-based psychoeducation	Internet-based CBT with a trauma focus showed no benefit when compared with internet-based psychoeducation [k = 1; N=87; SMD 0.11 CI -0.31 to 0.53].	<i>VERY LOW QUALITY</i>
27) Internet-based trauma focused CBT versus internet-based CBT without a trauma focus	Internet-based CBT with a trauma focus showed no benefit when compared with internet-based CBT without a trauma focus [k = 1; N=31; SMD 0.40 CI -1.12 to 0.31].	<i>VERY LOW QUALITY</i>

Figure 1: Study flow diagram

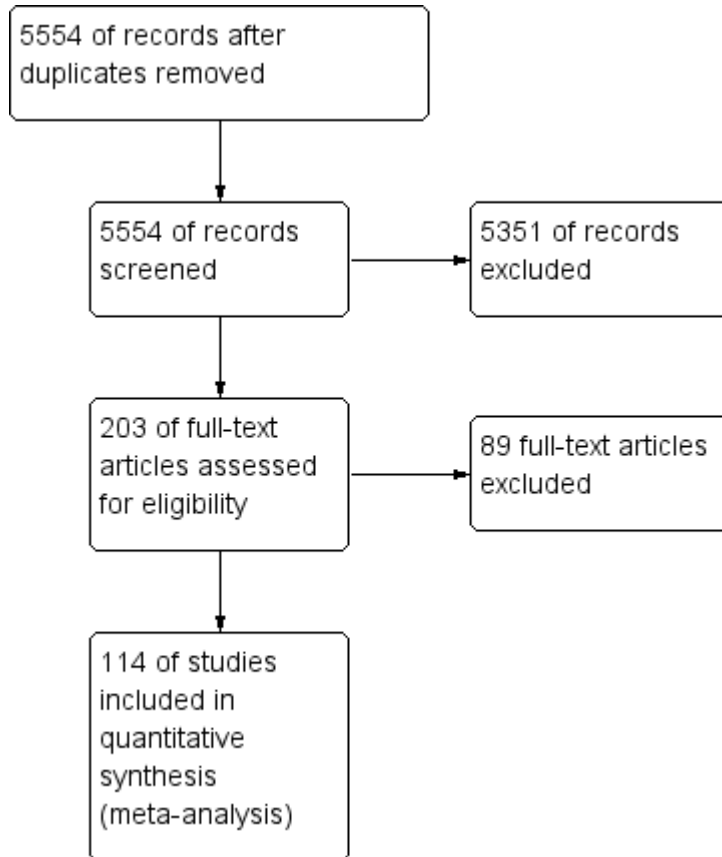




Figure 1: Study flow diagram

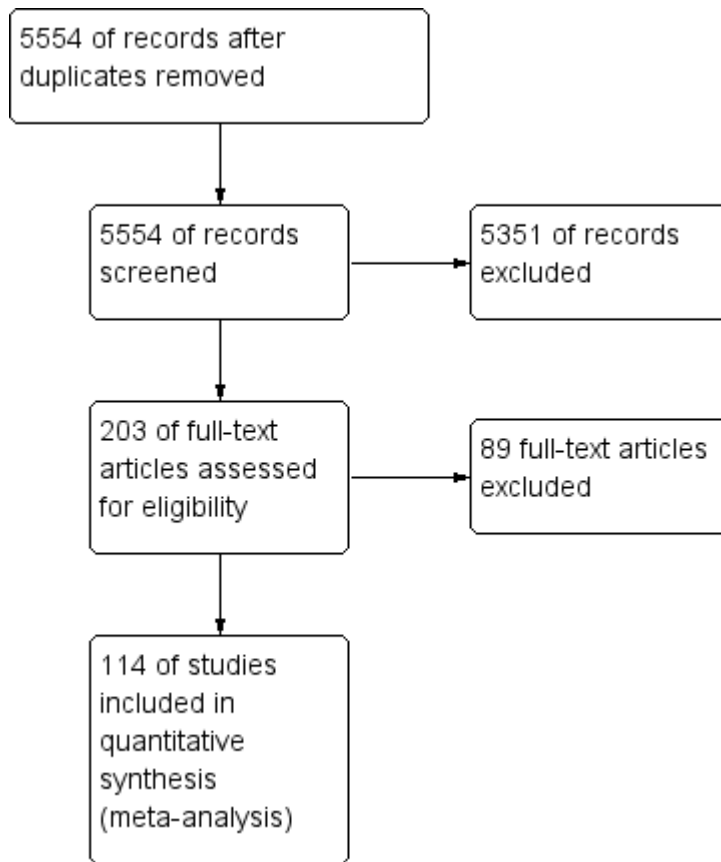


Table 1: Study Characteristics

Study	N	Country	Intervention 1	Intervention 2	Intervention 3	Intervention 4	Population	Trauma type	% Female	% Unemployed	% University Educated
Acarturk 2016 [35]	98	Turkey/Syria	EMDR	WL			Refugees	War/Persecution	74	Unknown	4
Adenauer 2011 [20]	34	Germany	NET (CBT-T)	WL			Refugees	War/Persecution	44	Unknown	Unknown
Ahmadi 2015 [36]	48	Iran	EMDR	REM Desensitization	WL		Military Personnel/Veterans	Military Trauma	0	Unknown	33.3
Akbarian 2015 [37]	40	Iran	Group CBT-T	MC/RA			General Population	Various	79	Unknown	Unknown
Asukai 2010 [38]	24	Japan	PE (CBT-T)	TAU			General Population	Various	88	Unknown	Unknown
Basoglu 2005 [39]	59	Turkey	Single-session CBT-T	WL			General Population	Earthquake	85	Unknown	5.1
Basoglu 2007 [40]	31	Turkey	Single-session CBT-T	MC/RA			General Population	Earthquake	93	Unknown	10
Beck 2009 [41]	44	USA	Group CBT-T	MC/RA			General Population	Road Traffic Accident	82	54	Unknown
Bichescu 2007 [42]	18	Romania	NET (CBT-T)	Psychoeducation			General Population	Political detainment	94	0%	72
Blanchard 2003 [43]	98	USA	CBT-T	SC	WL		General Population	Road Traffic Accident	73	Unknown	Unknown
Bradshaw 2014 [44]	10	Canada	OEI	WL			General Population	Various	70	0	Unknown
Brom 1989 [45]	83	Netherlands	CBT-T	Psychodynamic Therapy	WL		General Population	Various	79	49	Unknown
Bryant 2003 [46]	58	Australia	CBT-T	SC			General Population	Various	52	Unknown	Unknown

<b>Bryant 2011 [47]</b>	28	Thailand	CBT-T	SC			General Population	Terrorist Attack	96	84%	Unknown
<b>Buhmann 2016 [48]</b>	138	Denmark	CBT-T	WL			Refugees	Organised Violence	41	Unknown	Unknown
<b>Buttolo 2016 [49]</b>	148	Germany	CPT (CBT-T)	DET			General Population	Various	66	Unknown	Unknown
<b>Capezzani 2013 [50]</b>	21	Italy	EMDR	CBT-T			General Population	Cancer	90	Unknown	Unknown
<b>Carletto 2016 [51]</b>	50	Italy	EMDR	Relaxation Training			General Population	Multiple Sclerosis	81	Unknown	Unknown
<b>Carlson 1998 [52]</b>	35	USA	EMDR	Relaxation Training	TAU		Military Personnel/Veterans	Military Trauma	0	62	Unknown
<b>Castillo 2016 [53]</b>	86	USA	Group CBT-T	WL			Military Personnel/Veterans	Military Trauma	100	44%	Unknown
<b>Chard 2005 [54]</b>	71	USA	CPT (CBT-T)	WL			General Population	Child Sexual Abuse	100	Unknown	Unknown
<b>Cloitre 2002 [55]</b>	58	USA	CBT-T	WL			General Population	Child Abuse	100	24%	52
<b>Cloitre 2010 [56]</b>	71	USA	CBT-T	CBT without a trauma focus			General Population	Child Abuse	100	31%	Unknown
<b>Deville 1998 [57]</b>	35	Australia	EMDR	TAU			Military Personnel/Veterans	Military Trauma	0	Unknown	Unknown
<b>Deville 1999 [58]</b>	32	Australia	EMDR	CBT-T			General Population	Various	100	Unknown	Unknown
<b>Dorrepaal 2012 [59]</b>	71	Netherlands	Group Stabilising Treatment	TAU			General Population	Child Abuse	Unknown	83%	Unknown
<b>Duffy 2007 [60]</b>	58	UK	CT (CBT-T)	WL			General Population	Various	40	Unknown	Unknown
<b>Dunne 2012 [61]</b>	26	Australia	CBT-T	WL			General Population	Road Traffic Accident	50	31%	73
<b>Echeburua 1997 [62]</b>	20	Spain	CBT-T	Relaxation Training			General Population	Child Abuse or Adult RaPE (CBT-T)	100	Unknown	20

<b>Ehlers 2005 [63]</b>	28	UK	CT (CBT-T)	WL			General Population	Various	50	25%	35
<b>Ehlers 2003 [64]</b>	57	UK	CT (CBT-T)	MC/RA			General Population	Road Traffic Accident	Unknown	Unknown	Unknown
<b>Ehlers 2014 [65]</b>	91	UK	CT (CBT-T)	SC	WL		General Population	Various	58.7	23	26
<b>Falsetti 2008 [66]</b>	60	USA	Group CBT-T	WL			General Population	Various	100	Unknown	Unknown
<b>Fecteau 1999 [67]</b>	20	Canada	CBT-T	WL			General Population	Road Traffic Accident	70	Unknown	Unknown
<b>Feske 2008 [68]</b>	21	USA	PE (CBT-T)	TAU			General Population	Various	100	29%	90%
<b>Foa 1991 [69]</b>	45	USA	PE (CBT-T)	CBT without a trauma focus	Supportive counselling	WL	General Population	Sexual Assault	100	Unknown	Unknown
<b>Foa 1999 [70]</b>	66	USA	PE (CBT-T)	CBT without a trauma focus	WL		General Population	Assault/Sexual assault	100	38%	41%
<b>Foa 2005 [71]</b>	179	USA	PE (CBT-T)	WL			General Population	Assault	100	17%	34%
<b>Foa 2018 [72]</b>	256	USA	Spaced PE (CBT-T)	PCT	MC/RA		Military Personnel/Veterans	Military Trauma	12	100%	66%
<b>Fonzo 2017 [73]</b>	66	USA	PE (CBT-T)	WL			General Population	Various	65	Unknown	Unknown
<b>Forbes 2012 [74]</b>	59	Australia	CPT (CBT-T)	TAU			Military Personnel/Veterans	Military Trauma	4	36%	Unknown
<b>Ford 2011 [75]</b>	146	USA	CBT without a trauma focus	PCT	WL		General Population	Various	100	Unknown	22%
<b>Ford 2013 [76]</b>	80	USA	Group CBT-T	Group Supportive Counselling			Incarcerated Women	Various	100	Unknown	Unknown
<b>Galovski 2012 [77]</b>	100	USA	CPT (CBT-T)	MC/RA			General Population	Various	69	Unknown	Unknown
<b>Gamito 2010 [78]</b>	10	Portugal	VRE (CBT-T)	Control Exposure	WL		Military Personnel/Veterans	Military Trauma	0	Unknown	Unknown



Gersons 2000 [79]	42	Netherlands	BEP (CBT-T)	WL			General Population	Various	Unknown	Unknown	Unknown
Gray 2017 [80]	74	USA	RTM (CBT-T)	WL			Military Personnel/Veterans	Military Trauma	0	Unknown	Unknown
Hensel-Dittmann 2011 [21]	28	Germany	NET (CBT-T)	CBT without a trauma focus			Asylum Seekers	Organised Violence	Unknown	Unknown	Unknown
Hinton 2005 [81]	40	USA	CBT-T	WL			Refugees	Genocide	60	Unknown	Unknown
Hinton 2011 [82]	24	USA	Group CBT-T	WL			General Population	Various	100	Unknown	Unknown
Hogberg 2007 [83]	24	Sweden	EMDR	WL			General Population	Various	38	Unknown	Unknown
Hollifield 2007 [84]	55	USA	Group trauma-focused CBT	WL			General Population	Various	68	Unknown	40%
Ironson 2002 [85]	22	USA	EMDR	PE (CBT-T)			General Population	Various	77	Unknown	Unknown
Ivarsson 2014 [86]	62	Sweden	I-CBT	WL			General Population	Various	82	8%	65%
Jacob 2014 [87]	76	Rwanda	NET (CBT-T)	WL			Genocide Survivors	Genocide	92	Unknown	Unknown
Jensen 1994 [88]	25	USA	EMDR	WL			Military Personnel/Veterans	Military Trauma	0	68	Unknown
Johnson 2011 [89]	70	USA	CBT without a trauma focus	TAU			General Population	Intimate Partner Violence	100	73	7%
Johnson 2016 [90]	60	USA	CBT without a trauma focus	TAU			General Population	Intimate Partner Violence	100	77	5%
Karatzias 2011 [91]	46	UK	EMDR	EFT			General Population	Various	57	37	47%
Keane 1989 [92]	24	USA	CBT-T	WL			Military Personnel/Veterans	Military Trauma	0	Unknown	Unknown

Krupnick 2008 [93]	48	USA	Group IPT	WL			General Population	Interpersonal Trauma	100	80	13%
Kubany 2003 [94]	37	USA	CBT-T	WL			General Population	Domestic Abuse	100	Unknown	Unknown
Kubany 2004 [95]	107	USA	CBT-T	WL			General Population	Domestic Abuse	100	Unknown	Unknown
Laugharne 2016 [96]	20	Australia	EMDR	PE (CBT-T)			General Population	Various	70	Unknown	Unknown
Lee 2002 [97]	24	Australia	CBT-T	EMDR			General Population	Various	46	Unknown	Unknown
Lewis 2017 [98]	42	UK	I-CBT	WL			General Population	Various	57	19	62%
Littleton 2016 [99]	87	USA	I-CBT	I- Psychoeducation			General Population	Rape	100	Unknown	Unknown
Litz 2007 [100]	45	USA	I-CBT	I-SC			Military Personnel/Veterans	Terrorism / Military Trauma	Unknown	Unknown	Unknown
Marcus 1997 [101]	67	USA	EMDR	TAU			General Population	Various	79	Unknown	Unknown
Markowitz 2015 [102]	110	USA	IPT	PE (CBT-T)	Relaxation Therapy		General Population	Various	70	21	Unknown
Marks 1998 [103]	87	UK	PE (CBT-T)	Cognitive Restructuring	PE (CBT-T) (CBT-T)(CBT-T)and Cognitive Restructuring	Relaxation without PE (CBT-T) (CBT-T)(CBT-T)or CR	General Population	Various	36	54	Unknown
McDonagh 2005 [104]	74	USA	PE (CBT-T)	PCT	WL		General Population	Child Sexual Abuse	100	17	Unknown
McLay 2011 [105]	20	USA	VRE (CBT-T)	TAU			Military Personnel/Veterans	Military Trauma	5	Unknown	Unknown
McLay 2017 [106]	81	USA	VRE (CBT-T)	Control Exposure Therapy			Military Personnel/Veterans	Military Trauma	4	Unclear	Unclear

<b>Monson 2012 [107]</b>	20	USA	Couples CBT-T	WL			General Population	Various	25	40	Unknown
<b>Monson 2006 [108]</b>	60	USA	CPT (CBT-T)	WL			Military Personnel/Veterans	Military Trauma	10	Unknown	Unknown
<b>Morath 2014 [22]</b>	38	Germany	NET (CBT-T)	WL			Refugees	Organised Violence	32	Unknown	Unknown
<b>Meuser 2008 [109]</b>	108	USA	CBT-T	TAU			General Population	Various	79	Unknown	Unknown
<b>Nacasch 2011 [110]</b>	30	Israel	PE (CBT-T)	TAU			Military Personnel/Veterans	Military Trauma	Unknown	63	Unknown
<b>Neuner 2010 [23]</b>	32	Germany	NET (CBT-T)	TAU			Refugees	Torture	31	Unknown	Unknown
<b>Neuner 2008 [24]</b>	277	Uganda	NET (CBT-T)	SC	Monitoring		Refugees	War	51	49	Unknown
<b>Neuner 2004 [25]</b>	43	Uganda	NET (CBT-T)	SC	Psychoeducation		Refugees	War	60	28	Unknown
<b>Nijdam 2012 [111]</b>	140	Netherlands	BEP (CBT-T)	EMDR			General Population	Various	56	Unknown	30
<b>Pacella 2012 [112]</b>	66	USA	PE (CBT-T) (CBT-T)	MC/RA			General Population	HIV Diagnosis	37	Unknown	Unknown
<b>Paunovic 2011 [113]</b>	29	Sweden	CBT-T	WL			General Population	Crime	63	74	11
<b>Peniston 1991 [114]</b>	29	USA	CBT-T	TAU			Military Personnel/Veterans	Military Trauma	Unknown	Unknown	Unknown
<b>Power 2002 [115]</b>	105	UK	EMDR	CBT-T	WL		General Population	Various	42	Unknown	Unknown
<b>Rauch 2015 [116]</b>	36	USA	PE (CBT-T) (CBT-T)	PCT			Military Personnel/Veterans	Military Trauma	9	Unknown	Unknown
<b>Ready 2010 [117]</b>	11	USA	VRE (CBT-T)	PCT			Military Personnel/Veterans	Military Trauma	Unknown	Unknown	Unknown
<b>Reger 2016 [118]</b>	162	USA	VRE (CBT-T)	PE (CBT-T)	WL		Military Personnel/Veterans	Military Trauma	4	Active duty	7

Resick 2015 [119]	108	USA	Group CBT-T	Group PCT			Military Personnel/Veterans	Military Trauma	8	0	8
Resick 2002 [120]	171	USA	CPT (CBT-T) (CBT-T)	PE (CBT-T)	Minimal Attention		General Population	Rape	100	Unknown	Unknown
Resick 2017 [121]	268	USA	CPT (CBT-T) (CBT-T)	Group CBT-T			Military Personnel/Veterans	Military Trauma	9	100	19
Rothbaum 1997 [122]	18	USA	EMDR	WL			General Population	Sexual Assault	100	19	43
Rothbaum 2005 [123]	60	USA	PE (CBT-T)	EMDR	WL		General Population	Rape	100	Unknown	Unknown
Sautter 2015 [124]	57	USA	Couples CBT without a trauma focus	Couples Psychoeducation			Military Personnel/Veterans	Military Trauma	1.75	12	75
Scheck 1998 [125]	60	USA	EMDR	SC			General Population	Various	100	Unknown	Unknown
Schnurr 2003 [126]	360	USA	Group CBT-T	Group PCT			Military Personnel/Veterans	Military Trauma	0	51	Unknown
Schnurr 2007 [127]	284	USA	PE (CBT-T) (CBT-T)	Group PCT			Military Personnel/Veterans	Military Trauma	100	38	Unknown
Schnyder 2011 [128]	30	Switzerland	BEP (CBT-T)	MC/RA			General Population	Various	46.7	Unknown	Unknown
Sloan 2012 [129]	46	USA	WET	WL			General Population	Road Traffic Accident	Unclear	78	41
Sloan 2018 [130]	126	USA	WET	CPT (CBT-T)			General Population	Various	49	Unknown	13
Spence 2011 [131]	42	Australia	I-CBT	WL			General Population	Various	81	41	Not Cle
Stenmark 2013 [26]	81	Norway	NET (CBT-T)	TAU			Refugees	Various	31	Unknown	25
Suris 2013 [132]	86	USA	CPT (CBT-T)	PCT			Military Personnel/Veterans	Military Sexual Trauma	85	43	16
Taylor 2003 [133]	60	USA	PE (CBT-T)	Relaxation Therapy	EMDR		General Population	Various	75	13	Unknown

<b>Tylee 2017 [134]</b>	30	USA	RTM (CBT-T)	WL			General Population	Military Trauma	0	Unknown	Unknown
<b>Vaughan 1994 [135]</b>	36	Australia	CBT-T	Relaxation Training	EMDR		General Population	Various	64	Unknown	Unknown
<b>Wells 2015 [136]</b>	32	UK	PE (CBT-T)	CBT without a trauma focus	WL		General Population	Various	38	6	Unknown
<b>Wells 2012 [137]</b>	20	UK	CBT without a trauma focus	WL			General Population	Various	55	Unknown	Unknown
<b>Yehuda 2014 [138]</b>	52	USA	PE (CBT-T)	MC/RA			Military Personnel/Veterans	Military Trauma	Unclear	Unknown	Unknown
<b>Zang 2014 [139]</b>	20	China	NET (CBT-T)	WL			General Population	Earthquake	90	Unknown	Unknown
<b>Zang 2013 [140]</b>	22	China	NET (CBT-T)	WL			General Population	Earthquake	77	Unknown	Unknown
<b>Zlotnick 1997 [141]</b>	48	USA	Group CBT-T	WL			General Population	Child Sexual Abuse	100	Unknown	33

**BEP** = Brief Eclectic Psychotherapy

**CBT** = Cognitive Behavioural Therapy

**CBT-T** = Cognitive Behavioural Therapy with a Trauma focus

**CPT** = Cognitive Processing Therapy

**CR** = Cognitive Restructuring

**CT** = Cognitive Therapy

**DET** = Dialogical Exposure Therapy

**EFT** = Emotional Freedom Technique

**EMDR** = Eye Movement Desensitisation and Reprocessing

**I-CBT** = Internet-based Cognitive Behavioural Therapy

**I-Psychoeducation** = Internet based Psychoeducation

**IPT** = Interpersonal Psychotherapy

**I-SC** = Internet based Supportive Counselling

**MC/RA** = Medical Checks/Repeated Assessments

**NET** = Narrative Exposure Therapy

**OEI** = Observed and Experimental Integration

**PCT** = Present Centred Therapy

**PE** = Prolonged Exposure

**REM Desensitization** = Rapid Eye Movement Desensitization

**RTM** = Reconsolidation of Traumatic Memories

**SC** = Supportive Counselling

**TAU** = Treatment as Usual

**VRE** = Virtual Reality Exposure

**WET** = Written Emotion Therapy

**WL** = Waiting List

Table 2: Risk Assessment

	Random sequence generation	Allocation concealment	Incomplete outcome data assessment	Blinding of outcome	Selective reporting	Other sources of bias	Total no. high risk
Acarturk 2016	Low	Low	Low	Low	Low	Low	0
Adenauer 2011	Low	Low	Low	Low	High	High	2
Ahmadi 2015	Unclear	Unclear	High	Unclear	Unclear	High	2
Akbarian 2015	Low	High	Low	Low	Unclear	High	2
Asukai 2010	Low	Low	Low	Low	Unclear	High	1
Basoglu 2005	Low	Low	Low	Low	Unclear	High	1
Basoglu 2007	Low	Low	High	High	Unclear	High	3
Beck 2009	Unclear	Unclear	High	Low	Unclear	High	2
Bichescu 2007	High	Unclear	Low	Low	Unclear	High	2
Blanchard 2003	High	Unclear	Low	Low	Unclear	Low	1
Bradshaw 2014	Unclear	Unclear	Low	High	Unclear	High	2
Brom 1989	Unclear	Unclear	High	Unclear	Unclear	High	2
Bryant 2003	Low	Unclear	Low	Low	Low	High	1
Bryant 2011	Low	Low	Low	Low	Unclear	High	1
Buhmann 2016	Low	Low	Unclear	Low	Low	Low	0
Buttolo 2016	Unclear	Unclear	Low	Low	Unclear	High	1

Capezzani 2013	Unclear	Unclear	Low	Low	Unclear	High	1
Carletto 2016	Low	Low	High	Low	Low	Low	1
Carlson 1998	Unclear	Unclear	High	Unclear	Unclear	Low	1
Castillo 2016	Unclear	Unclear	Low	Low	Unclear	High	1
Chard 2005	Unclear	Unclear	Low	Low	Unclear	High	1
Cloitre 2002	Unclear	Unclear	Low	Low	High	Low	1
Cloitre 2010	Unclear	Low	Low	Low	Low	Low	0
Deville 1998	Unclear	Unclear	High	Low	Unclear	Low	1
Deville 1999	High	Unclear	High	Unclear	Unclear	High	3
Dorrepaal 2012	Unclear	Low	Low	Low	High	High	2
Duffy 2007	Low	Low	Low	Unclear	Low	High	1
Dunne 2012	Unclear	Unclear	Low	Unclear	Unclear	High	1
Echeburua1997	Unclear	Unclear	Low	Unclear	Unclear	High	1
Ehlers 2003	Low	Low	High	Low	Unclear	High	2
Ehlers 2005	Unclear	Unclear	Low	Low	Unclear	High	2
Ehlers 2014	Unclear	Low	Low	Low	Low	Low	0
Falsetti 2008	Unclear	Unclear	Low	Low	High	High	2
Fecteau 1999	Low	Unclear	High	Unclear	Unclear	High	2
Feske 2008	Unclear	Unclear	Low	Unclear	Unclear	High	1
Foa 1991	Unclear	Unclear	High	Low	Unclear	High	2

Foa 1999	Unclear	Unclear	Low	Low	Unclear	High	1
Foa 2005	Low	Low	Low	Low	Unclear	Low	0
Foa 2018	Low	Low	Low	Low	Low	Low	0
Fonzo 2017	Low	Unclear	Low	Unclear	Low	Low	0
Forbes 2012	Unclear	Low	Low	Unclear	Unclear	High	1
Ford 2011	Low	Low	Low	Low	Unclear	High	1
Ford 2013	Low	Low	High	Low	Unclear	High	2
Galovski 2012	Unclear	Unclear	Low	Low	Unclear	Low	0
Gamito 2010	Unclear	Unclear	Unclear	Unclear	High	High	2
Gersons 2000	Unclear	Unclear	Low	Low	Unclear	Low	0
Gray 2017	Low	Low	Unclear	Unclear	Unclear	Unclear	0
Hensel-Dittmann 2011	Low	Low	Low	Low	Unclear	Low	0
Hinton 2005	Low	Unclear	Low	Low	Unclear	High	1
Hinton 2011	Unclear	Unclear	Low	Unclear	Unclear	High	1
Hogberg 2007	Low	Unclear	High	Low	Unclear	High	2
Hollifield 2007	Low	Low	Low	Low	Unclear	High	1
Ironson 2002	Unclear	Unclear	Low	High	Unclear	High	2
Ivarsson 2014	Low	Unclear	Low	Low	Low	High	1



Jacob 2014	Low	Low	Low	Low	Unclear	High	1
Jensen 1994	Unclear	Unclear	High	Unclear	Unclear	High	2
Johnson 2011	Low	Unclear	Low	High	Unclear	Low	1
Johnson 2016	Low	Low	Low	Low	Unclear	Low	0
Karatzias 2011	Low	Low	Low	Low	Unclear	High	1
Keane 1989	Unclear	Unclear	Unclear	High	Unclear	High	2
Krupnick 2008	Unclear	Unclear	Low	Unclear	Unclear	High	1
Kubany 2003	Unclear	Unclear	Low	Low	Unclear	High	1
Kubany 2004	Unclear	Unclear	Low	Low	Low	High	1
Laugharne 2016	Low	Low	Low	Low	Unclear	High	1
Lee 2002	Unclear	Unclear	Low	Low	Unclear	High	1
Lewis 2017	Low	Low	Low	Low	Low	High	1
ylittleton 2016	Low	Unclear	Low	High	Low	Low	1
Litz 2007	Unclear	Unclear	High	Low	Low	High	2
Marcus 1997	Unclear	Unclear	Unclear	High	Unclear	High	2
Markowitz 2015	Low	Low	Low	Low	Low	High	1
Marks 1998	Unclear	Unclear	Low	Low	Unclear	Low	0
McDonagh 2005	Unclear	Unclear	Low	Low	Unclear	Low	0
McLay 2011	Low	Low	Unclear	High	Unclear	High	2
McLay 2017	Low	Unclear	Low	Low	Low	Low	0

Monson 2012	Low	Low	Low	Low	Low	Low	0
Monson 2006	Low	Low	Low	Low	Unclear	Low	0
Morath 2014	Low	Low	Unclear	Low	Low	Low	0
Meuser 2008	Low	Low	Low	Low	Unclear	High	1
Nacasch 2011	Low	Unclear	Low	Low	Low	High	1
Neuner 2004	Low	Unclear	Low	Low	Low	High	1
Neuner 2008	Unclear	Unclear	Low	Low	Unclear	Low	0
Neuner 2010	Unclear	Unclear	Low	Low	Unclear	High	1
Nijdam 2012	Unclear	Low	Low	Low	Low	Low	0
Pacella 2015	Low	Unclear	Low	Low	Unclear	Low	0
Paunovic 2011	Unclear	Unclear	Low	High	Unclear	High	2
Peniston 1991	Unclear	Unclear	Unclear	Low	Unclear	Unclear	0
Power 2002	Low	Low	High	Low	Unclear	Low	1
Rauch 2015	Unclear	Unclear	Low	Low	Unclear	High	1
Ready 2010	Unclear	Unclear	Unclear	Low	Unclear	High	1
Reger 2016	Low	Low	Low	Low	Unclear	Low	0
Resick 2002	Unclear	Unclear	Low	Low	Unclear	High	1
Resick 2015	Unclear	Unclear	Low	Low	Unclear	Low	0
Resick 2017	Low	Unclear	Low	Low	Low	Low	0
Rothbaum 1997	Unclear	Unclear	High	Low	Unclear	High	2

Rothbaum 2005	Unclear	Unclear	High	Low	Unclear	Low	1
Sautter 2015	Unclear	Unclear	Low	Low	Unclear	Low	0
Scheck 1998	Low	Low	High	Unclear	Unclear	High	2
Schnurr 2003	High	Unclear	Low	Low	Low	Low	1
Schnurr 2007	Low	Low	Low	Low	Low	Low	0
Schnyder 2011	Low	Unclear	Low	Low	Unclear	Unclear	0
Sloan 2012	Low	Low	Unclear	Low	Unclear	Low	0
Sloan 2018	Low	Low	Low	Low	Low	Low	0
Spence 2011a	Low	Unclear	High	High	Low	Unclear	2
Stenmark 2013	Unclear	Unclear	Low	High	Low	High	2
Suris 2013	Unclear	Unclear	Low	Low	Low	High	1
Taylor 2003	Unclear	Unclear	Low	Low	Unclear	Low	0
Tylee 2017	Unclear	Unclear	Unclear	Low	Unclear	High	1
Vaughan 1994	Unclear	Unclear	Low	Low	Unclear	Low	0
Wells 2012	Low	Low	Low	Low	Unclear	High	1
Wells 2015	Low	Low	High	High	Unclear	High	3
Yehuda 2014	Unclear	Unclear	High	Unclear	Unclear	Unclear	1
Zang 2013	Unclear	Unclear	Low	Low	Low	High	1
Zang 2014	Low	Unclear	Low	Low	Low	High	1
Zlotnick 1997	Unclear	Unclear	High	Low	Low	High	2

Table 3:

	Severity of PTSD symptoms post-treatment	<i>GRADE judgement for quality of evidence</i>
1) CBT with a trauma focus versus wait list or treatment as usual.	CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 51; N=1380; SMD -1.32 CI -1.57 to -1.08].	<b><i>MODERATE QUALITY</i></b>
2) Brief Eclectic Psychotherapy versus wait list or treatment as usual.	Brief Eclectic Psychotherapy showed no benefit when compared with wait list or treatment as usual [k = 2; N=72; SMD -0.38 CI -0.85 to 0.09].	<b><i>VERY LOW QUALITY</i></b>
3) Cognitive Processing Therapy versus wait list or treatment as usual.	Cognitive Processing Therapy showed a positive effect when compared with wait list or treatment as usual [k = 4; N=298; SMD -1.03 CI -1.45 to -0.61].	<b><i>LOW QUALITY</i></b>

4) Cognitive Therapy versus wait list or treatment as usual.	Cognitive Therapy showed a positive effect when compared with wait list or treatment as usual [k = 4; N=189; SMD -1.33 CI -1.80 to -0.86].	<i>LOW QUALITY</i>
5) Narrative Exposure Therapy (NET) versus wait list or treatment as usual.	Narrative Exposure Therapy (NET) showed a positive effect when compared with wait list or treatment as usual [k = 8; N=241; SMD -1.06 CI -1.61 to -0.52].	<i>LOW QUALITY</i>
6) Prolonged Exposure versus wait list or treatment as usual.	Prolonged exposure (PE) showed a positive effect when compared with wait list or treatment as usual [k = 12; N=772; SMD -1.59 CI -2.05 to -1.13].	<i>LOW QUALITY</i>
7) Single Session CBT with a trauma focus versus wait list or treatment as usual.	Single Session CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 2; N=90; SMD -0.57 CI -1.00 to -0.15].	<i>VERY LOW QUALITY</i>

8) Reconsolidation of traumatic memories (RTM) versus wait list or treatment as usual	RTM showed a positive effect when compared with wait list or treatment as usual [k = 2; N=96; SMD -2.35 CI -2.89 to -1.82].	<i>VERY LOW QUALITY</i>
9) EMDR versus wait list or treatment as usual	EMDR showed a positive effect when compared with wait list or treatment as usual [k = 11; N=415; SMD -1.23 CI -1.69 to -0.76].	<i>LOW QUALITY</i>
10) Non-trauma focused CBT versus wait list or treatment as usual	CBT without a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 7; N=318; SMD -1.06 CI -1.39 to -0.73].	<i>LOW QUALITY</i>
11) Supportive counselling versus waitlist or treatment as usual	There was no evidence of a difference between supportive counselling and wait list or treatment as usual [k = 2; N=72; SMD -0.43 CI -0.90 to 0.04].	<i>VERY LOW QUALITY</i>
12) Present centred therapy versus waitlist or treatment as usual	Present centred therapy showed a positive effect when compared with waitlist of treatment as usual [k = 2; N=138; SMD -0.97 CI -1.33 to -0.62].	<i>VERY LOW QUALITY</i>

13) Psychodynamic therapy versus treatment as usual	Psychodynamic therapy showed no benefit when compared with wait list or treatment as usual [k = 1; N=52; SMD -0.41; CI -0.96 to 0.14].	<i>VERY LOW QUALITY</i>
14) Written exposure therapy versus treatment as usual	Written exposure therapy showed a positive effect when compared with waitlist of treatment as usual [k = 1; N=44; SMD -3.39; CI -4.43 to -2.44].	<i>VERY LOW QUALITY</i>
15) Virtual Reality Therapy versus wait list or treatment as usual	Virtual Reality Therapy showed a positive effect when compared with wait list or treatment as usual [k = 3; N=104; SMD -0.43 CI -0.83 to -0.03].	<i>VERY LOW QUALITY</i>
16) Observed and experimental integration (OEI) versus wait list or treatment as usual	OEI showed a positive effect when compared with wait list or treatment as usual [k = 1; N=10; SMD -2.86 CI -4.90 to -0.83].	<i>VERY LOW QUALITY</i>
17) Relaxation Training versus wait list or treatment as usual	Relaxation training showed no benefit when compared with wait list or treatment as usual [k = 1; N=53; SMD -0.10; CI -0.65 to 0.46].	<i>VERY LOW QUALITY</i>

18) Group CBT with a trauma focus versus wait list or treatment as usual	Group CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 7; N=313; SMD -1.02 CI -1.26 to -0.78].	<i>MODERATE QUALITY</i>
19) Group and individual CBT with a trauma focus versus wait list or treatment as usual	Group and individual CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 1; N=55; SMD -2.32 CI -3.01 to -1.62].	<i>VERY LOW QUALITY</i>
20) Group stabilising treatment versus wait list or treatment as usual	Group stabilising treatment showed no benefit when compared with wait list or treatment as usual [k = 1; N=71; SMD -0.11; CI -0.36 to 0.57].	<i>VERY LOW QUALITY</i>
21) Group interpersonal therapy (IPT) versus wait list or treatment as usual	Group IPT showed a positive effect when compared with waitlist or treatment as usual [k = 1; N=48; SMD -1.19; CI -1.84 to -0.54].	<i>VERY LOW QUALITY</i>



22) Couples CBT with a trauma focus vs waitlist or treatment as usual	Couples CBT with a trauma focus showed a positive effect when compared with waitlist or treatment as usual [k = 1; N=40; SMD -1.12; CI -1.79 to -0.45].	<i>VERY LOW QUALITY</i>
23) Guided internet-based trauma focused CBT versus waitlist/usual care	Guided internet-based CBT with a trauma focus showed a positive effect when compared with wait list or treatment as usual [k = 3; N=145; SMD -1.08 CI -1.80 to -0.37].	<i>VERY LOW QUALITY</i>

**Table 4**

	Severity of PTSD symptoms post-treatment	<i>GRADE judgement for quality of evidence</i>
1) CBT with a trauma focus versus CBT without a trauma focus	There was no evidence of a difference between CBT with a trauma focus versus CBT without a trauma focus [k = 5; N=185; SMD -0.10 CI -0.19 to 0.39].	<i>LOW QUALITY</i>

2) CBT with a trauma focus versus Present Centred Therapy	CBT with a trauma focus showed a positive effect when compared with present centred therapy [k = 4; N=433; SMD -0.45 CI -0.81 to -0.09].	<i>LOW QUALITY</i>
3) CBT with a trauma focus versus supportive counselling	CBT with a trauma focus showed a positive effect when compared with supportive counselling [k = 8; N=434; SMD -0.63 CI -1.04 to -0.21].	<i>LOW QUALITY</i>
4) CBT with a trauma focus versus psychodynamic therapy	There was no evidence of a difference between CBT with a trauma focus and psychodynamic therapy [k = 1; N = 56; SMD -0.03 CI -0.56 to 0.49].	<i>VERY LOW QUALITY</i>
5) CBT with a trauma focus versus Interpersonal Therapy (IPT)	CBT-T showed a positive effect when compared with IPT [k = 1; N=66; SMD -0.48; CI -0.98 to 0.01].	<i>VERY LOW QUALITY</i>
6) CBT without a trauma focus versus PCT	There was no evidence of a difference between CBT without a trauma focus and PCT [k = 1; N = 101; SMD -0.04 CI -0.43 to 0.35].	<i>VERY LOW QUALITY</i>

7) CBT with a trauma focus versus dialogical exposure therapy (DET)	CBT with a trauma focus showed a positive effect when compared with dialogical exposure therapy [k = 1; N=138; SMD -0.39; CI -0.73 to -0.05].	<i>VERY LOW QUALITY</i>
8) Cognitive processing therapy (CPT) versus prolonged exposure (PE)	There was no evidence of a difference between cognitive processing therapy and prolonged exposure [k = 1; N=124; SMD -0.18; CI -0.53 to 0.17].	<i>VERY LOW QUALITY</i>
9) EMDR versus CBT with a trauma focus	There was no evidence of a difference between CBT with a trauma focus and EMDR [k = 10; N=387; SMD -0.17 CI -0.55 to 0.21].	<i>LOW QUALITY</i>
10) EMDR versus supportive counselling	EMDR showed a positive effect when compared with supportive counselling [k = 1; N=57; SMD -0.75 CI -1.29 to -0.21].	<i>VERY LOW QUALITY</i>
11) EMDR versus EFT	There was no evidence of a difference between EMDR and EFT [k = 1; N=46; SMD = 0.08; CI -0.50 to 0.65].	<i>VERY LOW QUALITY</i>

12) EMDR versus Relaxation Training	There was no evidence of a difference between EMDR and Relaxation Training [k = 4; N=117; SMD = -0.23; CI -0.59 to 0.14].	<i>VERY LOW QUALITY</i>
13) EMDR versus REM Desensitisation	There was no evidence of a difference between EMDR and REM Desensitisation [k = 1; N=21; SMD = 0.06; CI -0.80 to 0.91].	<i>VERY LOW QUALITY</i>
14) CBT without a trauma focus versus supportive counselling	CBT without a trauma focus showed a positive effect when compared with supportive counselling [k = 1; N=25; SMD -1.22 CI -2.09 to -0.35].	<i>VERY LOW QUALITY</i>
15) CBT with a trauma focus versus psychoeducation	There was no evidence of a difference between CBT-T and psychoeducation [k = 1; N=27; SMD = -0.19; CI -0.95 to 0.57].	<i>VERY LOW QUALITY</i>
16) Written exposure therapy versus CBT with a trauma focus	There was no evidence of a difference between WED and CBT with a trauma focus [k = 1; N=126; SMD 0.13; CI -0.21 to 0.48].	<i>VERY LOW QUALITY</i>

17) CBT with a trauma focus versus relaxation training	Individual CBT with a trauma focus showed a positive effect when compared with relaxation training [k = 5; N=203; SMD -0.49; CI -0.79 to -0.20].	<i>LOW QUALITY</i>
18) Supportive counselling versus psychoeducation	There was no evidence of a difference between supportive counselling and psychoeducation [k = 1; N=25; SMD 0.13; CI -0.92 to 0.65].	<i>LOW QUALITY</i>
19) Interpersonal therapy versus relaxation training	There was no evidence of a difference between IPT and relaxation training [k = 1; N=60; SMD -0.15; CI -0.67 to 0.38].	<i>VERY LOW QUALITY</i>
20) Virtual reality therapy versus control exposure	There was no evidence of a difference between virtual reality therapy and control exposure [k = 2; N=177; SMD 0.01; CI -0.68 to 0.71].	<i>LOW QUALITY</i>
21) Virtual reality therapy and present centred therapy	There was no evidence of a difference between virtual reality therapy and present centred therapy [k = 1; N=9; SMD -0.51; CI -1.86 to 0.84].	<i>VERY LOW QUALITY</i>

22) Group CBT with a trauma focus versus group present centred therapy	Group CBT with a trauma focus showed a positive effect when compared with group present centred therapy [k = 2; N=333; SMD -0.44; CI -0.63 to -0.24].	<i>LOW QUALITY</i>
23) Group CBT with a trauma focus versus individual CBT with a trauma focus	Individual CBT with a trauma focus showed a positive effect when compared with group CBT with a trauma focus [k = 1; N=268; SMD 0.35; CI 0.11 to 0.59].	<i>VERY LOW QUALITY</i>
24) Group CBT without a trauma focus versus group supportive counselling	There was no evidence of a difference between group CBT without a trauma focus and group supportive counselling [k = 1; N=72; SMD -0.02; CI -0.48 to 0.44].	<i>VERY LOW QUALITY</i>
25) Couples CBT without a trauma focus vs couples psychoeducation	Couples CBT without a trauma focus showed a positive effect when compared with couples psychoeducation [k = 1; N=43; SMD -1.37; CI -2.04 to -0.70].	<i>VERY LOW QUALITY</i>

26) Internet-based trauma focused CBT versus internet-based psychoeducation	Internet-based CBT with a trauma focus showed no benefit when compared with internet-based psychoeducation [k = 1; N=87; SMD 0.11 CI -0.31 to 0.53].	<i>VERY LOW QUALITY</i>
27) Internet-based trauma focused CBT versus internet-based CBT without a trauma focus	Internet-based CBT with a trauma focus showed no benefit when compared with internet-based CBT without a trauma focus [k = 1; N=31; SMD 0.40 CI -1.12 to 0.31].	<i>VERY LOW QUALITY</i>

