Systematic review and meta-analysis of multiple-session early interventions following traumatic events

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CRD summary
This review concluded that trauma-focused cognitive-behavioural therapy within three months of a traumatic event appeared to be effective for individuals with traumatic stress symptoms, especially those who met the threshold for a clinical diagnosis. Limited reporting of the assessment of variation between studies means the authors’ conclusions should be interpreted with caution.

Authors’ objectives
To determine the efficacy of multiple-session psychological interventions to prevent and treat traumatic stress symptoms beginning within three months of a traumatic event.

Searching
Databases including MEDLINE, EMBASE, CINAHL, LILACS, PILOTS, PsycLIT, ClinPSYC, Sociofile, and the Cochrane Depression, Anxiety and Neurosis Group's Controlled Trials Register were searched to July 2007, without language or publication status restrictions; search terms were reported. Two relevant journals, reference lists of identified studies, review articles, and management guidelines were also searched. Website searches were conducted and key researchers in the field were contacted to identify further studies.

Study selection
Randomised controlled trials (RCTs) were eligible for inclusion if they were of one or more defined psychological intervention (excluding single-session treatments) for preventing or reducing traumatic stress symptoms in adults, who, after traumatic events, appeared to fulfil the Diagnostic and Statistical Manual of mental disorders (DSM-IV) criterion A1 for post-traumatic (or acute) stress disorder. Control groups received placebo, usual care, waiting list, or alternative psychological treatments.

Included studies used various interventions, with cognitive-behavioural therapy and counselling being the most common; the mean number of sessions varied, but was not reported for many studies. Usual care, waiting list, and supportive counselling were the most common control groups. The populations varied; many participants had experienced motor vehicle accidents or assaults. A wide variety of trauma or event scales were used as outcome measures; the diagnosis of post-traumatic stress disorder was a common outcome.

Two reviewers (for abstracts) or three (for full papers) independently selected studies for inclusion.

Assessment of study quality
Two reviewers independently assessed studies for quality in randomisation, allocation concealment, blinding of assessors, and use of intention-to-treat analyses. Published criteria were also used to assess the methodological issues relating to interventions. Disagreements were discussed with a third reviewer and a consensus reached.

Data extraction
Two reviewers independently extracted the data to calculate mean differences or relative risks, with 95% confidence intervals (CIs); disagreements were discussed with a third reviewer and a consensus reached. Intention-to-treat data were used when available. Data from three-armed trials were combined to produce two-armed comparisons and authors were contacted when there was insufficient data.

Methods of synthesis
Meta-analyses of pooled relative risks, weighted mean differences, or standardised mean differences (SMDs) were performed using a fixed-effect model or, when heterogeneity was 30% or more, a random-effects model. Heterogeneity was assessed using the I^2 statistic. A sensitivity analysis examining the study quality was conducted.
Results of the review
Twenty-five RCTs were included, with about 2,000 participants (range eight to 162). Sixteen trials described adequate blinding of outcome assessors, 12 had adequate randomisation procedures, and seven had adequate allocation concealment. Sixteen trials fully reported on losses to follow-up. Follow-up periods ranged from two months to four years. Overall quality was variable depending on other methodological and reporting factors.

For the eight trials of brief psychosocial interventions within one month of trauma, no statistically significant differences between pooled groups were seen.

Trauma-focused cognitive-behavioural therapy within three months was more favourable in participants with post-traumatic stress disorder symptoms than those on the waiting list (six RCTs; SMD -0.54, 95% CI -0.93 to -0.16) and those with supportive counselling (four RCTs; SMD -0.95, 95% CI -1.66 to -0.23) at post-treatment assessment, in terms of symptom scores. The sensitivity analysis of three high-quality studies (for cognitive-behavioural therapy versus waiting list controls) resulted in no statistical significance. Similar effects were found when restricting the analyses to just patients with acute stress disorder (four RCTs) or acute post-traumatic stress disorder (three RCTs).

Authors' conclusions
Trauma-focused cognitive-behavioural therapy within three months of a traumatic event appeared to be effective for individuals with traumatic stress symptoms, especially those who met the threshold for a clinical diagnosis.

CRD commentary
This review addressed a clear question and was supported by appropriate inclusion criteria. Attempts to identify all the relevant studies in any language were undertaken by searching electronic databases and by using a variety of other methods. Suitable methods were employed to reduce the risks of reviewer error and bias for the processes of study selection, data extraction, and study quality assessment. Study quality was thoroughly assessed and was used in interpreting the results of the review. Sufficient study details were provided and suitable methods appear to have been used to pool the data, but the very limited reporting of the type of model, the type of mean difference, and the results of the heterogeneity assessments for individual analyses, make it difficult to interpret the reliability of the results. Possible sources of heterogeneity were discussed.

The review was generally well conducted, and the authors' conclusions appear to reflect the evidence presented, but uncertainty surrounding the extent of heterogeneity means the authors' conclusions should be interpreted with caution.

Implications of the review for practice and research
Practice: The authors stated that no psychological intervention could be recommended for routine use following traumatic events, but trauma-focused cognitive-behavioural therapy should be offered to all who suffer from acute stress disorder or acute post-traumatic stress disorder.

Research: The authors stated that well-designed RCTs of trauma-focused cognitive-behavioural therapy starting within three months of the traumatic event, with longer follow-up periods, were needed. Comparisons of treatments with more or less exposure, and evaluation of community interventions, and interventions aimed at couples and families were also needed. Future studies should examine adverse events, optimal time to intervention, duration of intervention, and whether other techniques could be used to improve the efficacy of existing treatments. More work should be done to determine whether trauma-focused cognitive-behavioural therapy after major traumatic events could be delivered as part of a screening programme.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.