Early trauma-focused cognitive-behavioural therapy to prevent chronic post-traumatic stress disorder and related symptoms: a systematic review and meta-analysis

Kornor H, Winje D, Ekeberg O, Weisaeth L, Kirkehei I, Johansen K, Steiro A

CRD summary
The authors concluded that there was evidence for the effectiveness of early trauma-focused cognitive-behavioural therapy compared with supportive counselling in preventing chronic post-traumatic stress disorder in patients with an initial acute stress disorder diagnosis. The authors' conclusions reflected the evidence presented, but concerns over heterogeneity and the quality of the included trials mean that their reliability is unclear.

Authors' objectives
To evaluate the effectiveness of early trauma-focused cognitive-behavioural therapy (TFCBT) in the prevention of chronic post-traumatic stress disorder, in high-risk populations.

Searching
MEDLINE, EMBASE, PsycINFO, Cochrane Central Register of Controlled Trials (CENTRAL), CINAHL, Web of Science, and PILOTS were searched from inception to June or July 2007 to identify relevant peer-reviewed, published studies written in English, the Scandinavian languages (Swedish, Danish, Norwegian, Icelandic, and Faroese), French, or Italian.

Study selection
Eligible for inclusion in the review were randomised controlled trials (RCTs) in adults with symptoms of acute stress disorder or post-traumatic stress disorder (PTSD) in which individual TFCBT was initiated within three months after trauma and there was a non-pharmacological comparator. The primary outcomes of interest were the symptoms and diagnosis of PTSD. Secondary outcomes of interest were anxiety and depression at a minimum of one month after completion of treatment.

The mean age of participants ranged from 29 to 37 years and the majority were female (50 to 100%). Participants had been exposed to motor vehicle or industrial accidents or assaults two to 46 days prior to inclusion in the trial. The mean pre-treatment score on the Impact of Event Scale indicated clinically significant levels of PTSD symptoms. TFCBT was compared with supportive counselling, which consisted of active listening, education about trauma, and general problem solving skills. Cognitive restructuring, exposure techniques and other forms of focusing on the individual's specific traumatic experience were avoided.

Pairs of reviewers independently selected trials for inclusion. A third reviewer was consulted to resolve any disagreements.

Assessment of study quality
Trial quality was assessed using criteria for randomisation, adequate concealment of randomisation, blinding, use of intention-to-treat analysis, and description of loss to follow-up.

Two reviewers independently assessed trial quality.

Data extraction
Data were extracted, using prespecified extraction forms, to calculate the risk ratio (RR) and 95% confidence interval (CI) for dichotomous outcomes and mean difference with 95% CI for continuous outcomes. For RCTs in which there was a third arm of TFCBT plus an additional treatment, such as TFCBT plus hypnosis, data from the TFCBT only arm and the TFCBT plus additional intervention arm were pooled.

One reviewer performed the data extraction, which was then checked by at least one other reviewer. Any disagreements
were resolved by discussion.

Methods of synthesis
RRs were combined in a meta-analysis using a fixed-effect model when heterogeneity, measured using the I² test, was less than 30%; otherwise, a random-effects model was used. Heterogeneity was explored using post hoc sensitivity analyses. The authors used Bisson, et al.'s criteria for clinically meaningful effect sizes, where the standardised mean difference was -0.5 or less or 0.5 or more and the RR was 0.80 or less or 1.25 or more. The CI for the effect should also not cross these boundaries.

Results of the review
Five RCTs were included in the meta-analysis. Four were performed by the same research team, in patients who were all diagnosed with acute stress disorder. Follow-up data was available at two months to four years, but all RCTs reported PTSD diagnosis at three to six months after treatment. In all five RCTs no method of allocation concealment was used and randomisation procedures were inadequately described. In three trials intention-to-treat analysis was not used and drop-outs were not accounted for.

At three to six months after treatment, the risk of a PTSD diagnosis was significantly lower for patients who had received TFCBT compared with patients who had received supportive counselling (five RCTs; RR 0.56, 95% CI 0.42 to 0.76). Statistically significant heterogeneity was present (I²=70.9%). At nine months (one RCT) and three to four years (two RCTs) after treatment there was no statistically significant difference in the risk of PTSD diagnosis between patients who received TFCBT and those who received supportive counselling.

A subgroup analysis, including only the four trials from the same research group in which all patients had acute stress disorder, showed that the risk of PTSD was significantly lower for patients who had received TFCBT compared with patients who had received supportive counselling (RR 0.36, 95% CI 0.17 to 0.78). Statistically significant heterogeneity was present (I²=61%), but this was the only clinically meaningful result obtained.

Authors' conclusions
There was evidence for the effectiveness of TFCBT compared with supportive counselling in preventing chronic PTSD in patients with an initial acute stress disorder diagnosis.

CRD commentary
The review addressed a clear research question and was supported by clear inclusion criteria. The search strategy was adequate and there was an attempt to reduce language bias by including trials in several languages other than English. The exclusion of unpublished material means that relevant trials may have been missed. The criteria used to assess trial quality were appropriate. Adequate details of the trials were provided and synthesis methods were appropriate. The review processes were carried out with sufficient attempts to minimise reviewer error and bias.

The authors' conclusions reflected the evidence presented, but, given the statistical heterogeneity in the meta-analyses and the dubious quality of the included trials, the reliability of these conclusions is unclear.

Implications of the review for practice and research
Practice: The authors stated that mental health care facilities should screen recently traumatised patients for acute stress disorder and consider offering TFCBT to those with a diagnosis.

Research: The authors stated that further trials were needed to evaluate the effectiveness of TFCBT outside Australia, where all existing trials with acute stress disorder patients were conducted.

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