

Eyeing the past to end trauma



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A psychotherapy designed to alleviate distress caused by disturbing memories may be helpful for a man with PTSD.

CLINICAL SCENARIO

BRIAN, a 49-year-old landscaper, lives with chronic post-traumatic stress disorder (PTSD). He was recently diagnosed after presenting in distress, revealing a history of a very traumatic past. I remembered discussions on a GP online forum about eye movement desensitisation and reprocessing (EMDR) and wondered about the evidence for its efficacy, and how it compared to alternative psychotherapeutic approaches.

CLINICAL QUESTION

Is EMDR an effective treatment for PTSD, and how does it compare to trauma-focused cognitive behavioural therapy (TF-CBT)?

What does the research evidence say?

Step 1: The Cochrane Library

The Cochrane Library has a relevant systematic review – published in 2013 – on psychological therapies for chronic PTSD in adults.¹ As this systematic review was almost six years old, I searched for more updated reviews.

Step 2: TripDatabase and PubMed

I conducted a search using the TripDatabase PICO search tool: Participant: “PTSD”; Intervention: “EMDR”; Comparator: blank; Outcomes: blank. This identified a couple of important systematic reviews in progress in the PROSPERO register.^{2,3} Next, I conducted a PubMed search using the search term “EMDR and PTSD” limited to systematic reviews and publications since 2013.

This identified a systematic review by Khan et al (2018) comparing EMDR with CBT for PTSD.⁴ However, it was published in *Cureus*, an unconventional journal using rapid crowd-sourced peer review and post-publication review, so I will give preference to the Cochrane systematic review by Bisson and colleagues.¹

CRITICAL APPRAISAL

I used the systematic reviews critical appraisal sheet from the Centre for Evidence-Based Medicine.⁵

What PICO question does the systematic review ask?

In adults (18 years or older) with chronic PTSD (as diagnosed by DSM-III, DSM-IV, ICD-9 or ICD-10) (Participants); what is the effect of a range of psychological therapies (including EMDR and TF-CBT) (Intervention); compared to waitlist/treatment as usual, or an alternative psychological treatment (Comparator); on reduction of severity of PTSD symptoms using a clinician-rated standardised measure (Outcome)?

Is it clearly stated?

Yes.

Is it unlikely that important studies were missed?

Yes. The search strategy was exhaustive and rigorously described. The primary search was through specialised registers of studies maintained by the Cochrane Depression, Anxiety and Neurosis Group. Multiple additional databases were searched, along with grey literature, and manual searching of guidelines and reference lists.

Were the criteria used to select articles for inclusion appropriate?

Yes. The authors only included randomised trials (RCTs).

Were the included studies sufficiently valid for the question asked?

Unclear. The authors formally assessed risk of bias of the included studies, and many studies were at unclear or high risk of bias for multiple domains. Notably, funnel plots comparing TF-CBT vs waitlist/usual care (figures 4 and 6) suggest publication bias that overestimates the effect of therapy.¹ The studies included in the EMDR vs waitlist/usual care analysis were very small – only one had more than 50 participants.

Were the results similar between studies?

No. There were substantial differences in



Stat Facts

STANDARDISED MEAN DIFFERENCE

The value of the SMD is literally the difference in effect size between groups expressed as a proportion of the pooled standard deviation. So, in this paper the average difference in PTSD symptoms in the EMDR group, compared with those in the waitlist/usual care group, was 1.17 standard deviations – a large effect. Rule of thumb for effect sizes: small (SMD=0.2), moderate (SMD=0.5), large (SMD=0.8).

effect size ($I^2=84\%$) between studies (EMDR vs waitlist/usual care), though all but one study favoured EMDR.

THE RESULTS

EMDR vs waitlist/usual treatment on clinician-rated PTSD symptoms, six studies (183 participants):

- Standardised mean difference (see Stat Facts): -1.17 (95% CI -2.04 to -0.30)
- Note: large effect size favouring EMDR, though there is substantial imprecision in the effect size estimate.

EMDR vs TF-CBT on clinician-rated PTSD symptoms, seven studies (327 participants):

- SMD: -0.03 (95% CI -0.43 to 0.38)
- Note: minimal difference, though substantial imprecision in the estimate of the effect size difference.

DISCUSSION AND CONCLUSION

It is unclear how EMDR works. A range of models on the mechanism of action are hypothesised, including psychological, psychophysiological and neurobiological, but no firm conclusions can be made from existing data.⁶

This Cochrane systematic review demonstrates that EMDR appears to be effective for PTSD in adults, potentially with a large effect size compared to a waitlist/minimal care. EMDR when compared with trauma-focused CBT did not appear to be meaningfully different in this analysis.

These analyses seem to point towards EMDR and TF-CBT as more effective than "other therapies", including supportive therapy, non-directive counselling and psychodynamic therapy.

In the context of the low quality of evidence, we need to be very cautious of making strong conclusions of superiority. Most of the included studies were small, had problems with bias, with results that were statistically heterogeneous. Interestingly, the "other therapies" were still superior to waitlist/usual care with a moderate effect size (SMD = -0.58, 95% CI -0.96 to -0.20).

A pragmatic interpretation of the evidence is that EMDR appears to work for PTSD symptoms, although its magnitude of effect is quite uncertain. The decision on the choice of therapy may depend on patient preferences, and local access and availability.

References on request