TECHNICAL COMMENTARY

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POST-TRAUMATIC STRESS DISORDER LIBRARY

All therapies for adults abused in childhood

Introduction

Adult survivors of childhood abuse tend to have more symptom complexity than other people with PTSD. Symptom complexity includes more emotion dysregulation, interpersonal problems, impulsive and/or self-destructive behaviour, high levels of dissociation, substance-related problems, and somatic symptoms.

For PTSD in general, the best evidence currently exists for trauma-focussed treatments such as cognitive behaviour therapy (CBT) and eye movement desensitisation and reprocessing (EMDR). These interventions involve processing the memory of the trauma and its meaning based on theoretical models that emphasise the role of memory processes in the development and maintenance of PTSD. However, it is unclear whether the superiority of trauma-focused treatments holds for adult survivors of child-onset trauma or whether trauma-focussed treatments may even be damaging these patients.

Method

We have included only systematic reviews (systematic literature search, detailed methodology with inclusion/exclusion criteria) published in full text, in English, from the year 2010 that report results separately for people with PTSD. Reviews were identified by searching the databases MEDLINE, EMBASE, and PsycINFO. When multiple copies of review topics were found, only the most recent and comprehensive version was included. We prioritised reviews with pooled data for inclusion.

Review reporting assessment was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist that describes a preferred way to present a meta-analysis[1]. Reviews with less than 50% of items checked have been excluded from the library. Note that early reviews may have been guided by less stringent reporting checklists than the PRISMA, and that some reviews may have been limited by journal guidelines.

Evidence was graded using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group approach where high quality evidence such as that gained from randomised controlled trials (RCTs) may be downgraded to moderate or low if review and study quality is limited, if there is inconsistency in results, indirect comparisons, imprecise or sparse data and high probability of reporting bias. It may also be downgraded if risks associated with the intervention or other matter under review are high. Conversely, low quality evidence such as that gained from observational studies may be upgraded if effect sizes are large or if there is a dose dependent response. We have also taken into account sample size and whether results are consistent, precise and direct with low associated risks (see end of table for an explanation of these terms)[2]. The resulting table represents an objective summary of the available evidence, although the conclusions are solely the opinion of staff of NeuRA (Neuroscience Research Australia).

Results

We found two systematic reviews that met our inclusion criteria[3, 4].

- Moderate to low quality evidence found a large improvement in PTSD symptoms with CBT in adult women with a history of childhood abuse. Samples with complex PTSD showed smaller improvements than samples without complex PTSD.
- Moderate to low quality evidence found a large improvement in PTSD symptoms with active psychological treatments pre-post-treatment and at follow-up (≥6 months). These improvements were larger than observed in the pre-post analyses of no treatment controls or inactive treatment controls (e.g., treatment as usual). In the

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direct comparison of active vs. control conditions at post-treatment, the comparison with no treatment controls showed a significant, medium to large effect, while the comparison with inactive treatment showed a non-significant medium-sized effect. Trauma-focussed treatments were more efficacious than non-trauma-focussed interventions, and treatments with individual sessions were more efficacious than group treatments.

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Dorrepaal E, Thomaes K, Hoogendoorn AW, Veltman DJ, Draijer N, van Balkom AJLM

Evidence-based treatment for adult women with child abuse-related Complex PTSD: A quantitative review

European Journal of Psychotraumatology 2014; 5: 23613

View review abstract online

Comparison	**Effectiveness of psychological therapies (mostly CBT with psychoeducation, cognitive therapy and/or restructuring, affect regulation skills training, and exposure therapy) vs. waitlist or usual care for PTSD symptoms in women with a history of childhood abuse.** **Length of treatment ranged from 12 to 24 weeks or 14 to 27 sessions with a duration of 60-120 minutes each.**
Summary of evidence	**Moderate to low quality evidence (large sample, indirect) found a large effect of improved PTSD symptoms with psychological treatments. Samples with complex PTSD showed smaller improvements than samples without complex PTSD.**
PTSD symptoms	
7 RCTs, N = 482 *Large effect of improved PTSD symptoms with psychological treatments pre-post-treatment;* $d = 1.3$, $p < 0.01$ *The effect size remained large, but was not significantly different from control conditions;* $d = 0.9$, $p > 0.05$ Subgroup analysis of people with and without complex PTSD showed both groups improved in the pre-post analysis ($d = 1.2$ vs. 1.8). The effects were smaller in the controlled analyses ($d = 0.6$ vs. 1.4).	
Consistency in results‡	Not reported
Precision in results§	Not reported
Directness of results‖	Indirect; mixed treatment and/or control conditions.

Ehring T, Welboren R, Morina N, Wicherts JM, Freitag J, Emmelkamp PM

Meta-analysis of psychological treatments for posttraumatic stress

disorder in adult survivors of childhood abuse **Clinical Psychology Review 2014; 34: 645-57** View review abstract online	
Comparison	**Effectiveness of psychological therapies (CBT with or without trauma-focus, EMDR, interpersonal, or emotion-focussed) vs. waitlist/no treatment or usual care/placebo control for PTSD symptoms in adults with a history of childhood abuse.**
Summary of evidence	**Moderate to low quality evidence (large samples, inconsistent, imprecise, indirect) found a large improvement in PTSD symptoms with active psychological treatments pre-post-treatment and at follow-up (≥6 months). These improvements were larger than observed in the pre-post analyses of no treatment controls or inactive treatment controls (e.g., treatment as usual). In the direct comparison of active vs. control conditions at post-treatment, the comparison with no treatment controls showed a significant, medium to large effect, while the comparison with inactive treatment showed a non-significant medium-sized effect. Trauma-focussed treatments were more efficacious than non-trauma-focussed interventions, and treatments with individual sessions were more efficacious than group treatments.**
PTSD symptoms	
Large improvement in PTSD symptoms with active psychological treatments pre-post-treatment; 16 RCTs, N is unclear, g = 1.24, 95%CI 1.03 to 1.44, $p < 0.05$, I^2 = 79% The pre-post effect sizes at 5 months and ≥6 months follow ups were also large (g = 1.56-1.59). These effect sizes were significantly larger than pre-post effect sizes for waitlist/no treatment controls and treatment as usual/placebo controls. *Direct comparison of active treatments vs. controls at post-treatment showed a medium to large effect of improved PTSD symptoms when compared to waitlist/no treatment. The effect was medium-sized, but not significant when compared to usual care/placebo;* Waitlist/no treatment: 9 RCTs, N ~ 476, g = 0.72, 95%CI 0.33 to 1.11, $p < 0.05$, I^2 = 72% Usual care/placebo: 7 RCTs, N ~ 571, g = 0.50, 95%CI -0.11 to 1.12, $p > 0.05$, I^2 = 90% Subgroup analysis showed trauma-focused treatments were more efficacious than non-trauma-focused interventions, and treatments including individual sessions yielded larger effect sizes than group treatments. Depression, anxiety, and dissociation symptoms also improved.	
Risks	There were no differences in drop-out rates.

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Consistency in results	Inconsistent
Precision in results	Imprecise
Directness of results	Indirect; mixed treatment and/or control conditions.

Explanation of acronyms

CBT = cognitive behavioural therapy, CI = confidence interval, *d* or *g* = Cohen's d and Hedges' g, standardised mean difference, EMDR = eye movement desensitisation and reprocessing, I^2 = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), N = number of participants, *p* = statistical probability of obtaining that result, vs. = versus

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Explanation of technical terms

* Bias has the potential to affect reviews of both RCT and observational studies. Forms of bias include; reporting bias – selective reporting of results; publication bias - trials that are not formally published tend to show less effect than published trials, further if there are statistically significant differences between groups in a trial, these trial results tend to get published before those of trials without significant differences; language bias – only including English language reports; funding bias - source of funding for the primary research with selective reporting of results within primary studies; outcome variable selection bias; database bias - including reports from some databases and not others; citation bias - preferential citation of authors. Trials can also be subject to bias when evaluators are not blind to treatment condition and selection bias of participants if trial samples are small[5].

† Different effect measures are reported by different reviews.

Prevalence refers to how many existing cases there are at a particular point in time. Incidence refers to how many new cases there are per population in a specified time period. Incidence is usually reported as the number of new cases per 100,000 people per year. Alternatively some studies present the number of new cases that have accumulated over several years against a person-years denominator. This denominator is the sum of individual units of time that the persons in the population are at risk of becoming a case. It takes into account the size of the underlying population sample and its age structure over the duration of observation.

Reliability and validity refers to how accurate the instrument is. Sensitivity is the proportion of actual positives that are correctly identified (100% sensitivity = correct identification of all actual positives) and specificity is the proportion of negatives that are correctly identified (100% specificity = not identifying anyone as positive if they are truly not).

Weighted mean difference scores refer to mean differences between treatment and comparison groups after treatment (or occasionally pre to post treatment) and in a randomised trial there is an assumption that both groups are comparable on this measure prior to treatment. Standardised mean differences are divided by the pooled standard deviation (or the standard deviation of one group when groups are homogenous) that allows results from different scales to be combined and compared. Each study's mean difference is then given a weighting depending on the size of the sample and the variability in the data. Less than 0.4 represents a small effect, around 0.5 a medium effect, and over 0.8 represents a large effect[5].

Odds ratio (OR) or relative risk (RR) refers to the probability of a reduction (< 1) or an increase (> 1) in a particular outcome in a treatment group, or a group exposed to a risk factor, relative to the comparison group. For example, a RR of 0.75 translates to a reduction in risk of an outcome of 25% relative to those not receiving the treatment or not exposed to the risk factor. Conversely, a RR of 1.25 translates to an increased risk of 25% relative to those not receiving treatment or not having been exposed to a risk factor. A RR or OR of 1.00 means there is no difference between groups. A medium effect is considered if RR > 2 or < 0.5 and a large effect if RR > 5 or < 0.2[6]. lnOR stands for logarithmic OR where a lnOR of 0 shows no difference between groups. Hazard ratios measure the effect of an explanatory variable on the hazard or risk of an event.

Correlation coefficients (eg, r) indicate the strength of association or relationship

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between variables. They can provide an indirect indication of prediction, but do not confirm causality due to possible and often unforseen confounding variables. An r of 0.10 represents a weak association, 0.25 a medium association and 0.40 and over represents a strong association. Unstandardised (*b*) regression coefficients indicate the average change in the dependent variable associated with a 1 unit change in the independent variable, statistically controlling for the other independent variables. Standardised regression coefficients represent the change being in units of standard deviations to allow comparison across different scales.

‡ Inconsistency refers to differing estimates of effect across studies (i.e. heterogeneity or variability in results) that is not explained by subgroup analyses and therefore reduces confidence in the effect estimate. I^2 is the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance) - 0% to 40%: heterogeneity might not be important, 30% to 60%: may represent moderate heterogeneity, 50% to 90%: may represent considerable heterogeneity and over this is considerable heterogeneity. I^2 can be calculated from Q (chi-square) for the test of heterogeneity with the following formula[5];

$$I^2 = \left(\frac{Q - df}{Q}\right) \times 100\%$$

§ Imprecision refers to wide confidence intervals indicating a lack of confidence in the effect estimate. Based on GRADE recommendations, a result for continuous data (standardised mean differences, not weighted mean differences) is considered imprecise if the upper or lower confidence limit crosses an effect size of 0.5 in either direction, and for binary and correlation data, an effect size of 0.25. GRADE also recommends downgrading the evidence when sample size is smaller than 300 (for binary data) and 400 (for continuous data), although for some topics, these criteria should be relaxed[7].

‖ Indirectness of comparison occurs when a comparison of intervention A versus B is not available but A was compared with C and B was compared with C that allows indirect comparisons of the magnitude of effect of A versus B. Indirectness of population, comparator and/or outcome can also occur when the available evidence regarding a particular population, intervention, comparator, or outcome is not available and is therefore inferred from available evidence. These inferred treatment effect sizes are of lower quality than those gained from head-to-head comparisons of A and B.

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References

1. Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMAGroup (2009): Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *British Medical Journal* 151: 264-9.
2. GRADEWorkingGroup (2004): Grading quality of evidence and strength of recommendations. *British Medical Journal* 328: 1490.
3. Dorrepaal E, Thomaes K, Hoogendoorn AW, Veltman DJ, Draijer N, van Balkom AJLM (2014): Evidence-based treatment for adult women with child abuse-related Complex PTSD: A quantitative review. *European Journal of Psychotraumatology* 5: 23613.
4. Ehring T, Welboren R, Morina N, Wicherts JM, Freitag J, Emmelkamp PM (2014): Meta-analysis of psychological treatments for posttraumatic stress disorder in adult survivors of childhood abuse. *Clinical Psychology Review* 34: 645-57.
5. CochraneCollaboration (2008): Cochrane Handbook for Systematic Reviews of Interventions. Accessed 24/06/2011.
6. Rosenthal JA (1996): Qualitative Descriptors of Strength of Association and Effect Size. *Journal of Social Service Research* 21: 37-59.
7. GRADEpro (2008): [Computer program]. Jan Brozek, Andrew Oxman, Holger Schünemann. *Version 32 for Windows*