Effectiveness of psychological interventions for child maltreatment: a meta-analysis
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CRD summary
This review assessed the effectiveness of treatments for child maltreatment (CM). The authors concluded that the results suggest that treatments for CM may be effective, but further research is required. The authors' cautious conclusion about effectiveness seems appropriate in view of the diversity and limited quality of the included studies.

Authors' objectives
To evaluate the effectiveness of treatments for all forms of child maltreatment (CM). A secondary aim was to evaluate whether the effectiveness of CM treatments differs by type and outcome assessed.

Searching
PsycINFO, PsycLIT and Academic Search Elite were searched from 1974 to the end of 2000 for studies published in the English language; the search terms were not reported. The reference lists of identified studies and narrative reviews of CM were screened. Four years of Dissertation Abstracts International were randomly selected between 1974 and 2000 and handsearched for unpublished studies.

Study selection
Study designs of evaluations included in the review
Studies with a control group from the same population as the active treatment group were eligible if they reported sufficient data for calculation of an effect size (ES) (although the authors contacted some authors for the required data). Studies using one group pre-test post-test design were excluded.

Specific interventions included in the review
Studies that compared treatment for CM with a control treatment were eligible for inclusion. Studies of prevention treatments were excluded. The review classified interventions according to theoretical basis (behavioural, non-behavioural or combination), modality (individual, group, family, milieu and combination) and experience of the therapist. The control interventions were classified as no treatment or waiting-list, placebo and standard case-management.

Participants included in the review
Studies of participants referred for CM, physical abuse, sexual abuse and/or physical neglect were eligible for inclusion. Studies of adults with histories of childhood abuse or neglect were excluded. Most of the included studies focused on the maltreated child and parents; other studies focused on the maltreating parent or the maltreated child alone. Most studies focused on general CM or multiple victimisation; other studies focused on child sexual abuse, physical abuse or physical neglect. Studies included both mandated and volunteer clients. The mean age of the child participants was 6.28 years (standard deviation, SD=4.25).

Outcomes assessed in the review
Inclusion criteria for the outcomes were not defined. The review classified outcome measures into the following categories according to type and target of outcome: child cognitive process; child personality self-report; parent self-report; parent rating of the child; teacher rating of the child; and objective behavioural observations of the child or family.

How were decisions on the relevance of primary studies made?
The authors did not state how the studies were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The studies were assessed for randomisation, use of at least one standardised outcome measure, a sample size greater than 50 and a follow-up assessment.

Four trained reviewers who had achieved a high level of inter-rater agreement (kappa 0.85) assessed study quality.

**Data extraction**

Four trained reviewers who had achieved a high level of inter-rater agreement (kappa 0.85) extracted and coded the data for characteristics of participants, treatment modality, type and target of outcome, and control group. Inter-rater agreement between pairs of reviewers was measured for 33% of the sample.

For each study, where possible, a Cohen's standardised ES was calculated or estimated using the reported statistics. ESs were input as zero for studies reporting 'no effect' or 'no significant effect'. Authors of studies that did not report sufficient data to permit the calculation or estimation of an ES were contacted for the required information. For studies that compared two or more eligible active treatments with controls, ESs were averaged across treatments to produce one ES per study. For studies using multiple measures to assess one outcome construct, ESs were calculated for each measure and then combined to produce one ES per outcome construct per study. The individual ESs for outcome measures and treatments were only used to test the effects and homogeneity of ESs across different treatments and outcomes.

**Methods of synthesis**

**How were the studies combined?**

An overall pooled ES with 95% confidence interval (CI) was calculated using a weighted least-squares method; a correction was applied for a small sample size. The studies were weighted by the inverse of the variance. ESs that were more than 3 SDs from a study's mean effect were considered outliers and not included in meta-analyses. The fail-safe N was calculated for all data combined and for each of the six outcome categories.

**How were differences between studies investigated?**

Statistical heterogeneity was tested using the Q statistic. The homogeneity and similarity of magnitude of ES for outcome constructs was tested within each study. A subgroup analysis was used to examine the influence of the following factors: outcome constructs with 10 or more ESs within and across studies; type of CM targeted; mandated versus volunteer participants; treatment modality; theoretical orientation (behavioural, non-behavioural or combination); type of control group; and quality of study design. The influence of duration of treatment was examined in a post hoc analysis.

**Results of the review**

Twenty-one studies (959 families, children and parents) were included.

Twelve studies (57.1%) reported randomisation and 5 studies (23.8%) presented follow-up data.

Inter-rater agreement ranged from kappa 0.62 for outcome variables to kappa 0.77 for participant characteristics.

Overall, CM treatment improved outcomes compared with control (d=0.54, 95% CI: 0.39, 0.69). Statistically significant heterogeneity was found (P<0.01). The fail-safe N was 36, i.e. 36 studies would be required to reduce the overall ES to d=0.2.

For outcome constructs, the subgroup analysis showed that CM treatment improved outcomes compared with the control (P<0.05). The ESs were statistically homogeneous for child cognitive performance (d=0.28), child self-report (d=0.44), behaviour observation of child (d=0.30), parent self-report (d=0.53) and behavioural observation of the family (d=0.21). The smallest ES was shown for objective behavioural observations of the family (d=0.21, 95% CI: 0.05, 0.37; fail-safe N=0; based on 2 studies), whilst the largest ES was shown for parent self-reporting parenting attitudes (d=0.53, 95% CI: 0.43, 0.63; fail-safe N=12; based on 7 studies).

The subgroup analysis showed that treatment effects were influenced by:
the type of control (larger effects for no-treatment controls compared with placebo or case-management control groups; d=0.99 versus d=0.38 and d=0.35, respectively).

theoretical orientation (non-behavioural treatments d=0.87, behavioural treatments d=0.40, and combination d=0.59, although significant statistical heterogeneity was found in combination treatments), and

the type of CM (ES for child sexual abuse interventions were larger than those for general CM, d=0.69 versus d=0.40).

Significant statistical heterogeneity was found for studies of sexual abuse interventions (P<0.05). The post hoc analysis, found that duration of treatment was significantly longer for non-behavioural treatments (13.5 months versus 2.9 months, P=0.006).

No effect was shown for treatment modality or study quality, or for mandated versus volunteer participants.

Authors' conclusions
The results suggest that treatments of CM may be effective, but further research is required.

CRD commentary
The review addressed a clear but broad question in terms of the participants, intervention, and study design; inclusion criteria for the outcomes were not defined. Three databases were searched, but the search terms were not reported and only limited attempts to locate unpublished studies were made. By restricting the included studies to those in English, the authors might have missed some relevant studies. Methods were used to minimise reviewer errors and bias in the validity assessment and data extraction, but it was unclear whether similar steps were taken at the study selection stage. Some aspects of study quality were assessed using defined criteria; however, the adequacy of randomisation methods and drop-outs were not reported.

Study characteristics were summarised. The studies were pooled using a meta-analysis and statistical heterogeneity was assessed across studies and for multiple outcomes within studies. Where multiple comparison groups shared a control group, adjustment was made for statistical dependency. Potential sources of heterogeneity were explored, but most subgroup analyses were based on a small number of studies and the authors correctly advise caution when interpreting the results from these analyses. The authors’ cautious conclusion about effectiveness seems appropriate in view of the diversity and limited quality of the included studies, and recommendations for further research appear justified.

Implications of the review for practice and research
Practice: The authors stated that agencies providing treatment for victims of CM should promote staff education and training based on recent advances in interventions that have been proven to be effective.

Research: The authors stated that further research is required to comprehensively assess the effects of treatment for CM on children, parents and families at post-treatment and longer-term follow-up. They stated that researchers should assess outcomes using a variety of measures assessed from a variety of perspectives (they suggested at least two different methods and sources of measures); provide more detailed information about the families before, during and after treatment; specify the severity of CM and severity of symptoms; examine potential moderators of treatment effects; and improve study quality (e.g. track and report attrition, use intention-to-treat analysis, follow-up all participants and collect longer-term data).

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