Meta-analysis of cognitive-behavioral treatments for social phobia

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Authors' objectives
To evaluate the effectiveness of cognitive-behavioural therapies in the treatment of social phobias.

Searching
Published and unpublished English language studies were located from searches of Psychological Abstracts, MEDLINE, Current Contents, conference programmes, recent issues of journals, secondary sources (e.g. citations in book chapters or journal articles) and by contacting researchers in the field.

Study selection
Study designs of evaluations included in the review
Studies which used CT, EXP, SST, placebo or waiting list controls were included if they used more than 5 patients. Trials combining CT and EXP, and those combining SST and EXP, were included. CT and EXP combinations had to be in the form of CT integrated into exposure assignments, as used in the standard application of CT + EXP (Beck and Emery 1985). Trials using other combinations were excluded, as were trials presenting patients with a series of sessions of CT followed by a series of EXP. Included trials had to provide sufficient information to compute effect sizes and had to use broad rather than narrow outcome criteria. One trial was excluded because its effect size (for EXP) was an outlier.

Specific interventions included in the review
Cognitive-behavioural therapies studied included prolonged exposure to social stimuli, including within-session exposure and homework exposure (EXP), cognitive therapy, consisting of restructuring without exposure exercises (CT) and CT + EXP and social skills training (SST). Waiting list and placebo interventions were used as controls. Placebos included pill placebo and attention placebo. Patients were treated in groups and individually.

Participants included in the review
The participants were diagnosed as having social phobias according to the American Psychiatric Association's criteria (DSM-111, DSM-111-R or DSM-1V).

Outcomes assessed in the review
Effect sizes were calculated as the mean obtained on the social phobia subscale of the Fear Questionnaire (Marks and Matthew 1979), the SPAI (Turner et al 1989) and the Social Phobia Scale and Social Interaction Anxiety Scale (Mattick, Peters and Clarke 1989). These measures were selected on the basis of providing a large effect size and were available for 91% of the included trials. These measures were self-reported. Outcomes were assessed at post-treatment and for maintenance of effect from post treatment to follow-up at three months.

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

Assessment of study quality
The author does not state that they assessed validity.

Data extraction
The author does not state how the data were extracted for the review, or how many of the reviewers performed the data extraction.
Methods of synthesis
How were the studies combined?
Effect sizes, assessed as the standardised differences between pre-treatment and post-treatment outcome measures, were computed according to Cohen's d statistic. For the outcome measures used, positive effect sizes represent improvements in social phobia. A one-way ANOVA was conducted using post-treatment effect size as the dependent variable and treatment condition as the independent variable.

How were differences between studies investigated?
The author does not state how differences between the studies were investigated.

Results of the review
Twenty-four studies yielding 42 trials were included. The number of trials used to calculate the effect size of each treatment were as follows: waiting list 6 trials, placebo 6 trials, EXP 8 trials, CT 5 trials, CT + EXP 12 trials and SST 5 trials. 25 trials treated patients in groups and 4 trials treated patients individually. The number of patients in the studies or trials is not stated.

Comparison of attrition rates: no significant difference in drop-out rates among different interventions (P>0.1). The mean effect size and standard deviation at post-treatment were as follows: waiting list control mean -0.127 (sd 0.146), placebo 0.481 (sd 0.260), EXP 0.817 (sd 0.248), CT 0.629 (sd 0.315), CT + EXP 1.062 (sd 0.342) and SST 0.646 (sd 0.460). Effect size of waiting list was significantly smaller than EXP, CT, CT+EXP and SST (P < 0.05) and CT+EXP had significantly larger effect than that of placebo (P < 0.05). Remaining pair wise comparisons were not significant (P > 0.05).

The mean effect size and standard deviation at 3-month follow-up were as follows: EXP 0.931 (sd 0.248), CT 0.956 (sd 0.465), CT + EXP 1.081 (sd 0.412) and SST 0.988 (sd 0.638).

Fail-safe N was computed to assess the possibility of publication bias for each active treatment: for post-treatment data the necessary number of unpublished null trials was as follows: 123 (EXP), 58 (CT), 223 (CT + EXP) and 48 (SST).

Authors' conclusions
All interventions, including placebo, had larger effect sizes than that of the waiting list control and the intervention did not differ in drop-out proportions. Only CT+EXP yielded a significantly larger effect size than placebo. Effects of treatment tend to increase during the follow-up period. These results support the use of cognitive-behavioural therapies in the treatment of social phobias.

CRD commentary
The author has defined the inclusion criteria and undertaken an investigation to assess publication bias and to evaluate the differences between treatments with respect to duration of therapy, attrition rates and group versus individual sessions.

Articles from a number of sources including contact with researchers in the field were sought, though no details of the search strategy are given, no dates stated and only English language studies were sought. No details are given of the primary studies. Information on the sample sizes, patient characteristics, intervention setting, experience of therapists and validation of outcome measures used would have been useful. The outcome measures selected were self-reported and the measures selected were those showing larger effect sizes. Some discussion on the effect of this selection on the results would have been welcome. There was no investigation of heterogeneity among studies and one trial with an extreme effect was merely omitted with no reasons sought for this extreme effect. Effect sizes for the individual studies are not presented, thus preventing any assessment of heterogeneity among studies. Confidence limits for the mean effect sizes for each treatment are not stated. Research into the effectiveness of cognitive-behavioural therapies is fraught with methodological problems, which are only given brief mention in this review.

In view of the lack of information about the included studies, and the lack of assessment of validity of the studies on
which the conclusions are based, it is not possible to support the author’s conclusions. More reliable evidence from randomised controlled studies is required.

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