Efficacy of cognitive-behavioral and pharmacological treatments for children with social anxiety

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CRD summary
This review assessed the efficacy of cognitive-behavioural therapy and selective serotonin re-uptake inhibitor drug treatments for childhood social anxiety, concluding that both treatments produced significant reductions in social anxiety symptoms, general anxiousness, and impairment due to social anxiety. Given the shortcomings in the review process, small sample sizes and uncertainty over methodology, the authors’ conclusions should be interpreted with caution.

Authors' objectives
To assess the efficacy of cognitive-behavioural therapy (CBT) and selective serotonin re-uptake inhibitor (SSRI) drug treatments for childhood social anxiety.

Searching
MEDLINE and PsycINFO were searched for peer-reviewed English-language studies from 1950 to 2006. Search terms were reported. Additional studies were sought through the bibliographies of included studies.

Study selection
Studies in five to 18-year-old children, with a current primary diagnosis of social anxiety of any design, that assessed cognitive-behavioural therapy (CBT) or selective serotonin re-uptake inhibitor (SSRI) treatment, were eligible for inclusion. Social anxiety was defined as a current, primary diagnosis of social phobia or avoidant disorder, or selective mutism with comorbid social phobia or avoidant disorder. Excluded studies evaluated strictly behavioural treatments for social anxiety and those where CBT subjects were currently taking pharmacological agents for the treatment of social anxiety. For inclusion studies had to provide sufficient data to calculate the effect sizes of treatment.

In included studies, cognitive-behavioural treatments included cognitive restructuring, exposure therapy, psycho-education, relaxation training, and social skills training. Parental involvement was included in some CBT studies. SSRI treatments involved fluoxetine in the majority of included studies, as well as citalopram, sertraline, or paroxetine. Included studies reported pre- and post-treatment measures for the constructs: social anxiety symptoms, general anxiousness, social competency, and impairment. In the included studies, children aged six to 19 years of age were diagnosed with social anxiety disorder, social phobia or elective mutism.

The authors did not state how the papers were selected for review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
Data was extracted in order to calculate effect size (ES), with 95% confidence intervals (CI), for the difference in mean scores from pre-treatment to post-treatment for each construct. Where more than one measure was used in a study, the measure with the highest test-re-test correlation was selected for calculating the effect size. Where the Clinician’s Global Impressions (CGI) Change Scale was used as an outcome measure, the post-treatment standard deviation was used as an estimate of the pooled standard deviation.

It appeared that one reviewer performed the data extraction, with a second reviewer undertaking a reliability check on four randomly selected articles.

Methods of synthesis
Effect sizes, measuring the difference in change from baseline, were pooled by meta-analysis and weighted by the inverse of the variance. It was not stated whether a fixed-effect or random-effects model was used. The studies were
Results of the review
A total of 14 studies, with 15 datasets, were included in review (332 children, range four to 22, except for one study with 163 children). The duration of cognitive-behavioural therapy (CBT) studies was from three to 16 weeks and selective serotonin re-uptake inhibitor (SSRI) studies from eight to 16 weeks.

For the social anxiety, anxiousness and impairment constructs SSRI s resulted in significantly greater decreases in construct scores compared to CBT treatments: social anxiety ((range of ES 1.07 to 1.85; five studies) versus (range of ES 0.72 to 1.11; five studies)); anxiousness ((range of ES 1.19 to 1.85; two studies) versus (range of ES 0.60 to 1.03; four studies)); and impairment ((range of ES 1.51 to 2.92; seven studies) versus (range of ES 1.25 to 4.06; eight studies)). Both CBT (range of ES 0.59 to 0.91; three studies) and SSRI treatment (ES 0.68; one study) resulted in moderate improvements in social competence.

Authors' conclusions
Both CBT and SSRI treatments produced significant reductions in social anxiety symptoms, general anxiousness and impairment due to social anxiety. SSRI treatment produced large effect sizes for all outcome constructs and BCT medium to large effect sizes for all outcome constructs.

CRD commentary
The review question and inclusion criteria were clear. A small number of databases were searched for peer-reviewed English-language studies, so publication and language bias may have been present. The methods used for study selection and data extraction were not reported, so it was unclear whether methods were used to reduce error and bias. Also, there was no formal assessment of the validity of the included studies.

Most of the included studies were small and contained less than 25 participants. One study was used twice in the analysis and this may have distorted the results for the effect of CBT. It was unclear whether appropriate methods were employed for the meta analysis as the authors did not clearly state the methods or models used. There was no direct comparison of SSRI and CBT for any study in the review, so the statistical comparison that was presented was weak. The authors stated that heterogeneity was assessed but the results were not reported in the paper.

Given the shortcomings in the review process, small sample sizes and uncertainty over methodology, the authors' conclusions should be interpreted with caution.

Implications of the review for practice and research
Practice: The authors stated that practitioners must consider not only the direct impacts that a particular treatment has on a child, but also the physiological side-effects or impacts of the treatment. Careful monitoring of symptom change and any associated side-effects of medication and psychosocial therapy should be undertaken. Continued and long-term follow-up of children who receive both cognitive-behavioural and SSRI treatments should be routine practice among clinicians.

Research: Future research studies should examine children following treatment to determine how treatment affects children after termination. Important questions related to the long-term effectiveness of both cognitive behavioural and pharmacological treatments on different areas of functioning for socially anxious children need to be addressed in a more systematic manner.

Funding
Not stated.

Bibliographic details
Segool NK, Carlson JS. Efficacy of cognitive-behavioral and pharmacological treatments for children with social anxiety. Depression and Anxiety 2008; 25(7): 620-631

PubMedID
17999406
Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.