Evidence-based psychosocial treatments for attention-deficit/hyperactivity disorder

Pelham WE, Fabiano GA

CRD summary
This review evaluated the evidence base of psychosocial treatments for attention-deficit/hyperactivity disorder (ADHD) and apparently concluded that evidence-based behavioural interventions should constitute part of the services received by children with ADHD. Given the poor reporting of the review process and potential for missed studies, the authors' conclusions should be interpreted with caution.

Authors' objectives
To evaluate the evidence base of psychosocial treatments for attention-deficit/hyperactivity disorder (ADHD).

Searching
MEDLINE and PsycINFO were searched from January 1997 to September 2006; search terms were not reported. Manual searches of contents pages from 13 journals were undertaken. Investigators working in the area were contacted to provide information on existing literature and forthcoming papers.

Study selection
Studies that evaluated behavioural interventions separately or in comparison with another treatment for ADHD were eligible for inclusion. Studies that compared multimodal treatment with medication, but not with behavioural treatment, were excluded. Inclusion criteria for outcomes were not explicitly stated.

Included studies evaluated parent training programs, classroom management and peer interventions in clinics, schools and summer programs; where a comparator was used, this was no treatment or an alternative treatment. Treatment gains were assessed through a number of different measures. Most participants were male (most studies recruited over 75% boys) and Caucasian.

The authors stated neither how the papers were selected for the review nor how many reviewers performed the selection.

Assessment of study quality
Studies were classified according to Nathan and Gorman’s (2002) criteria: type 1 (most rigorous) to type 6 (least rigorous). The authors did not state how the validity assessment was performed.

Data extraction
Means and standard deviations were extracted to calculate standardised mean differences (SMDs) for comparator groups or before-and-after measurements. Where these were not reported for single-subject studies they were estimated from graphs.

The authors stated neither how the data were extracted for the review nor how many reviewers performed the data extraction.

Methods of synthesis
Standardised mean differences were calculated separately for each study. These were combined in a narrative synthesis, with the median values and ranges of standardised mean differences reported by comparator and study design.

Results of the review
Forty-six studies were included in the review: 22 focused on behavioural parent training programs; 22 on behavioural classroom management; and 22 on behavioural peer interventions. Twelve were Type 1, 27 Type 2 and seven Type 3.

Behavioural interventions versus no-treatment control (25 studies): The median SMD was 0.44 (range -0.03 to 1.31;
nine studies) for between-group designs, 0.46 (range 0.10 to 2.39; six studies) for within-subject designs and 3.46 (range 1.07 to 14.35; 10 studies) for single-subject studies, which indicated benefits of behavioural interventions.

**Behavioural interventions versus alternative treatment (14 studies):** Compared with medication, median SMD was 0.11 (range -0.24 to 0.20; six studies) for between-group designs, -0.27 (range -3.39 to 0.47; four studies) for within-subject designs and 0.56 (range -0.94 to 2.56; four studies) for single-subject studies, which indicated benefits of behavioural interventions with the exception of within-subject designs.

**Pre-treatment versus post-treatment (19 studies):** The median SMD was 0.61 (range -0.16 to 1.63; 15 studies) for between-group designs and 1.78 (range 1.29 to 10.09; four studies) for single-subject studies, which indicated benefits of behavioural interventions compared with pretreatment functioning.

**Authors’ conclusions**
It appeared that the authors concluded that for children with ADHD, evidence-based behavioural interventions should constitute part of the services they receive.

**CRD commentary**
This review addressed a broad question. There were inclusion criteria for participants and intervention, but not for outcomes and study design. Two electronic databases were searched. It was unclear whether language restrictions were placed on the search and whether unpublished studies were sought, although investigators working in the area were contacted for forthcoming papers; language bias could have been present and some studies may have been missed. There was no detail on how the review process was conducted, therefore, it was unclear whether methods were used to reduce error and bias. The authors standardised their outcome measures, but decided not to produce pooled estimates, which seemed appropriate given the apparent clinical heterogeneity across studies. The reason given by the authors for not pooling data was that only a subsample of the behavioural treatment literature was being evaluated; the reason for not combining the new data with that of the studies in the previous review was not given. In light of this and given the apparent diversity of the included studies, a narrative synthesis appeared to be appropriate. Due to the poor reporting of the review process and the potential for missing studies of relevance to the review question, the authors’ conclusions should be interpreted with caution.

**Implications of the review for practice and research**
**Practice:** The authors stated that federal agencies and influential professional associations should take a lead in dissemination of evidence-based psychosocial treatments for ADHD in the community mental health setting.

**Research:** The authors stated that research was needed in: identification of the optimal frequency; duration and sequence of treatment; treatments for adolescents; adherence; effectiveness of individual components of behavioural interventions; effectiveness of longer-term treatment; side effects; and cost-effectiveness.

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Record Status
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