Efficacy of family-based treatment for adolescents with eating disorders: a systematic review and meta-analysis

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CRD summary
The review concluded that although family-based treatment was not superior to individual treatment at end of treatment, there appeared to be significant benefits at six to 12 months follow-up for adolescents with eating disorders. These conclusions reflect the evidence presented but their reliability is uncertain given the small number of trials, small sample sizes and variation between trials.

Authors' objectives
To evaluate the effectiveness of family-based treatment compared with individual treatment among adolescents with eating disorders.

Searching
MEDLINE and The Cochrane Library were searched for articles in English; search terms were reported. A previous Cochrane Review and reference lists of retrieved articles were examined.

Study selection
Randomised controlled trials (RCTs) that compared the effectiveness of family-based treatment to individual treatment among adolescents (aged 12 to 20 years) diagnosed with an eating disorder and meeting DSM-IV-TR (Diagnostic and Statistical Manual of Mental Disorders-IV-Text Revision) criteria were eligible. RCTs were required to report use of allocation concealment and blinding of outcome assessor as well as an intention-to-treat analysis. Family-based treatments were to follow the Maudsley principles for adolescents with eating disorders. The primary outcome of interest was remission (definitions provided).

Almost all the trials were of family-based treatment; one study used behavioural family systems therapy. Control groups included various individual therapies such as ego oriented therapy, cognitive behavioural therapy (CBT), individual supportive psychotherapy and adolescent focused individual therapy. Trials included adolescents with anorexia nervosa, bulimia nervosa or an eating disorder not otherwise specified. Participant ages ranged from 11 to 23 years. Outcome measures and definitions of remission varied widely between trials. Studies were published between 1987 and 2010.

Two reviewers independently selected studies for inclusion. Discrepancies were resolved through discussion.

Assessment of study quality
Study quality was assessed as part of the inclusion criteria and included random allocation, allocation concealment, blinding and intention-to-treat analysis. It appeared that two reviewers independently assessed quality. Disagreements were resolved through discussion.

Data extraction
Data on remission rates were extracted on an intention-to-treat basis and used to calculate odds ratios and corresponding 95% confidence intervals. It appeared that more than one reviewer independently extracted data.

Methods of synthesis
Pooled odds ratios and 95% CIs for end of treatment and at six- to 12-month follow-up were calculated using a random-effects model. Statistical heterogeneity was assessed using the $X^2$ and $I^2$ statistics. Subgroup analyses were conducted for diagnostic categories of anorexia nervosa and bulimia nervosa. RCTs that did not meet all methodological criteria (allocation concealment, blinding and intention-to-treat analysis) were combined with the included studies in a secondary analysis. Publication bias was assessed using visual inspection of funnel plots.

Results of the review
Six RCTs (369 participants, range 21 to 121) were included in the review.
Three RCTs met all criteria for random allocation, allocation concealment, blinding and use of intention-to-treat analysis. Two additional trials reported random allocation but not allocation concealment, blinding or intention-to-treat analysis. One trial did not report meeting any criteria.

There were no statistically significant differences in remission rates between family-based treatment and individual treatment for adolescents with eating disorders at end of treatment when only high methodological quality studies (three RCTs) were analysed and when both high and low methodological studies (six RCTs) were included in the analysis.

At six to 12 months follow-up, analysis indicated that family-based treatment was significantly better at maintaining remission compared with individual treatment (OR 2.35, 05% CI 1.33 to 4.14; three high quality RCTs). Analysis of high quality and low quality studies (five RCTs) and subgroups for anorexia nervosa (three RCTs) and bulimia nervosa (two RCTs) also reported similar significant benefits for family-based treatment at six to 12 months. There was no evidence of statistical heterogeneity for any analyses. There was no evidence of publication bias.

Authors' conclusions
Although family-based treatment did not appear to be superior to individual treatment for remission at end of treatment, there appeared to be significant benefits at six to 12 months follow-up for adolescents with eating disorders.

CRD commentary
The review question and inclusion/exclusion criteria were defined clearly. Several relevant sources were searched. Search dates were not reported but studies were published to 2010. Limitation to articles in English meant that some trials may have been missed. There was no evidence of publication bias through formal analysis but this analysis is inaccurate with a small number of studies. The review included appropriate methods to reduce reviewer error and bias. The results of the quality assessment were reported. The authors chose to include a secondary analysis with trials that were originally excluded on quality criteria and this did not significantly alter the results. One study included participants up to the age of 23 (which was older than the age inclusion criteria).

Methods of analysis appeared appropriate. The authors highlighted some limitations of the evidence including the small number of trials, small sample sizes, variation in outcomes, differences in follow-up and potential confounding effects of other treatments.

The authors’ conclusions reflect the evidence presented but the reliability is uncertain given the small number of trials, small sample sizes and variation between trials.

Implications of the review for practice and research
Practice: The authors stated that family therapy focusing on symptom interruption of eating disordered behaviours should be recommended as the first line treatment for adolescents with eating disorders.

Research: The authors stated that it would be prudent to study implementation strategies and effectiveness of family-based treatment in the community for adolescents with eating disorders.

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