

## Meta-analysis of cognitive-behavioral treatment studies for bulimia

Lewandowski L M, Gebing T A, Anthony J L, O'Brien W H

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### Authors' objectives

To assess the effectiveness of cognitive-behavioural treatments for bulimia.

### Searching

PsycINFO was searched from 1967 to April 1995 using the subject keywords 'cognitive therapy' and 'bulimia', and the textwords 'cognitive-behavioral therapy and bulimia' and 'cognitive-behavior and bulimia'. Additional studies were obtained from the bibliographies of the retrieved articles.

### Study selection

#### Study designs of evaluations included in the review

Studies that both described an empirical treatment outcome, and labelled a treatment group as cognitive-behavioural, were selected for review. In addition, the studies had to employ within-group or between-group measures of change, and report sample sizes, p-values, and suitable test statistics.

#### Specific interventions included in the review

Cognitive and behavioural therapies.

The cognitive components included: restructuring cognitive distortions; setting realistic goals; restructuring irrational beliefs; reducing or eliminating self-deprecating statements; assessing self-esteem; problem-solving; identifying antecedents and consequences of binges; recognising triggers; normalising eating habits; and/or establishing more adaptive ways of coping.

The behavioural components included: self-monitoring of bulimic episodes; diet management; relaxation; self-reinforcement; relapse prevention; vomit prevention techniques; stimulus control and reinforcement techniques; role playing; assertiveness training; and/or exposure and response prevention.

#### Participants included in the review

Bulimia. Patients who met the DSM-III or DSM-III-R criteria of the American Psychiatric Association, or similar criteria of bulimia, were included. The participants were predominantly females aged between 15 and 65 years.

#### Outcomes assessed in the review

Changes in behavioural measures were assessed using standardised instruments to evaluate the behavioural symptoms of bulimia. Changes in cognitive-attitudinal measures were assessed using inventories such as the Eating Attitudes Test. Changes in the frequency of bingeing were also assessed.

#### How were decisions on the relevance of primary studies made?

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

#### Assessment of study quality

The authors do not state that they assessed quality.

#### Data extraction

The authors do not state who performed the data extraction.

Twelve separate effect sizes were calculated.

#### Methods of synthesis

##### How were the studies combined?

Three overall effect sizes, weighted by sample size, were calculated for each of the outcome measures. The overall effect sizes were also separated according to study design, i.e. within- and between-group comparisons, giving six individual measurements of effect size. One additional, overall effect size was calculated for the follow-up tests.

##### How were differences between studies investigated?

The authors do not state how differences between the studies were investigated.

#### Results of the review

Twenty-six studies with 842 participants met the inclusion criteria. The average age of the study groups ranged from 19.22 to 42.6 years. Two studies reported only that the participants were aged at least 17 years. The review reported that the size of the individual studies ranged from 6 to 69 participants.

For behavioural measures, the within- and between-group combined effect sizes were statistically significant ( $p < 0.0001$ ), and the average effect size was 0.69. The average was 0.64 for between-group and 0.74 for within-group. Individual effect sizes ranged from -0.031 to 0.996.

For cognitive measures, the within- and between-group combined effect sizes were statistically significant ( $p < 0.0001$ ), and the average effect size was 0.67. The average was 0.64 for between-group and 0.69 for within-group. Individual effect sizes ranged from 0.255 to 0.979.

The overall effect size for binge frequency was statistically significant ( $p < 0.0001$ ), and the average effect size was 0.77. Separate analyses for this outcome measure indicated that the within-group effect size (0.95) was larger than the between-group effect size (0.73).

#### Authors' conclusions

The data suggested that the use of a cognitive-behavioural therapy in the treatment of bulimia will result in a substantial reduction of bulimic behaviours, and cognitive distortions or attitudes associated with

bulimia.

### **CRD commentary**

The authors stated their review question clearly. The literature review was limited to one database, and it was not reported whether non-English articles or unpublished data were included. These limitations may have introduced bias and additional relevant articles may have been missed.

The inclusion and exclusion criteria were reported. The characteristics of the participants and the studies were listed in a table for the individual studies and summarised in the text.

The authors did not report whether any quality assessment was conducted, and did not report who performed the selection, validation, or data extraction processes.

The studies were pooled using effect sizes, which should be viewed with caution in this instance since the measurement instruments combined in the effect size calculations were not homogeneous. Heterogeneity between the studies was neither tested nor discussed. The authors' conclusions follow from the reported results, but should be viewed with caution because of the study's observed limitations.

### **Implications of the review for practice and research**

**Practice:** The authors did not state any implications for practice.

**Research:** The authors state that future research should be directed to further identify the specific aspects of cognitive-behavioural treatment that are most effective at reducing the symptoms associated with bulimia. Future research should focus on the use of design rigour and/or time and length of treatment as variables, as these may help to shed light on the aspects of treatment that are most helpful to patients.

### **Bibliographic details**

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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.