

ECRI Institute Evidence Report

Executive Summary

Bulimia Nervosa: Comparative Efficacy of Available Psychological and Pharmacological Treatments

Service Description

Bulimia nervosa (BN) is characterized by recurrent episodes of binge eating (the consumption of a large amount of food accompanied by a sense of a loss of control) followed by recurrent use of extreme compensatory behaviors such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; and fasting or excessive exercise to prevent weight gain. In addition, the affected person's perceptions about his/her body shape and weight exert undue influence on self-esteem and self-evaluation.

This report evaluates the comparative efficacy of available treatments for BN. The primary treatments of interest to this report are pharmacotherapy, cognitive behavioral therapy (CBT), other psychotherapies, and combinations of these therapies. This report does not consider other eating disorders, such as anorexia nervosa or binge eating disorder.

Care Setting

Treatment for BN can be provided in an inpatient or outpatient setting. In 2007, ECRI Institute identified 140 centers that provide inpatient and/or outpatient treatment for individuals with BN. These centers, along with information about their treatment philosophies, treatment approaches, staffing, and the clinical and support services they offer, are listed on the Bulimia Nervosa Resource Guide website (www.bulimiaguide.org).

Costs

Costs vary according to the type of care, treatment facility, and availability of insurance reimbursement. Health insurance may pay for some or all of treatment, depending on the patient's coverage. Typical costs of treatment reported from several residential eating disorder centers averaged about \$1,000 per day for round-the-clock care. Reported costs for partial inpatient care (3 to 12 hours per day) ranged from \$8,000 to \$50,000 per month. Reported costs of outpatient psychotherapy ranged from \$75 to \$150 per one-hour session at private practices. Health insurance may cover a portion of these costs. Support groups may be free or may charge a nominal fee, which is not typically reimbursed through insurance plans.

Reimbursement

ECRI Institute undertook a systematic search to identify publicly available BN or eating disorder coverage policies of insurers. We searched the websites of 19 plans. Eleven plans specifically mention BN or eating disorders in their coverage policies. Coverage generally includes the following levels of care: inpatient hospitalization, partial hospitalization, residential care, and outpatient care. The criteria for the different levels of care vary from plan to plan. Most plans cover medication therapy, psychotherapy, and nutritional therapy. The remaining eight plans do not mention BN or eating disorders specifically but do describe coverage policies for mental health conditions in general.

Key Questions and Outcomes of Interest

In this report, we address the following six key questions:

1. What is the relative efficacy of pharmacotherapy for treating individuals with BN to another pharmacotherapy, CBT, or other forms of psychotherapy?
2. What is the relative efficacy of CBT for treating individuals with BN to other forms of psychotherapy or variations of CBT?
3. What is the relative efficacy of any psychotherapy (other than CBT) for treating individuals with BN to other forms of psychotherapy?
4. Are combination therapies (e.g., pharmacotherapy plus CBT) more effective than single therapies (e.g., CBT alone) for treating individuals with BN?
5. Is inpatient treatment more effective than outpatient treatment for treating individuals with BN?
6. What adverse events/harms are associated with the various treatments for BN?

The primary outcomes of interest to this report include remission and recovery, frequency of binge eating and/or purging, quality of life, mortality, eating disorder pathology, depression and anxiety, psychosocial and interpersonal functioning, and dropout.

Literature Search Strategy

We searched 17 external and internal databases, including PubMed, PsychINFO, and EMBASE, for clinical trials. Journals and supplements maintained in ECRI Institute's collections were routinely reviewed. Nonjournal publications and conference proceedings from professional organizations, private agencies, and government agencies were also screened. Other mechanisms used to retrieve additional, relevant information included review of bibliographies/reference lists from peer-reviewed and gray literature.

Evidence Base

Synthesis of Results

Key Question 1:

Our searches identified eight studies (one study included more than one comparison) that assessed the relative efficacy of pharmacotherapy and met our inclusion criteria: citalopram (selective serotonin reuptake inhibitor [SSRI]) versus fluoxetine (SSRI, $k = 1$), fluoxetine versus interpersonal psychotherapy ($k = 1$), fluoxetine versus self-help ($k = 1$), imipramine versus group therapy ($k = 1$), desipramine versus supportive therapy ($k = 1$), and antidepressants versus CBT ($k = 4$). The key findings are as follows:

- **CBT reduces binge eating episodes compared to antidepressant medications. Summary effect-size estimate Hedges' g of 0.404 (95% confidence interval [CI]: 0.081 to 0.726). Stability of estimate: Unstable; Strength of the evidence: Low.**

The evidence was of insufficient precision to draw any evidence-based conclusions about the relative efficacy of medication compared to CBT for the following outcomes: frequency of purging, depression, eating disorder pathology, and dropout. The evidence was of insufficient quantity (fewer than two studies) to draw any evidence-based conclusions about the relative efficacy of one medication compared to another medication, or medication compared to interpersonal psychotherapy, self-help CBT, supportive therapy, or intensive group therapy for the treatment of BN.

Key Question 2:

Our searches identified 17 studies that compared the efficacy of CBT to other forms of therapy and met our inclusion criteria: manual-based CBT compared to other forms of psychotherapy ($k = 8$), variations in how CBT was delivered (e.g., group sessions versus individual sessions, $k = 5$ studies), and self-help CBT compared to therapist-led CBT ($k = 4$). The key findings are as follows:

- **Patients who receive CBT are more likely to go into remission from vomiting than patients treated with supportive therapies. The estimated odds ratio is 3.83 (95% CI: 1.229 to 11.923). Stability of the estimate: Unstable; Strength of the evidence: Low.**
- **CBT is more effective than supportive therapies in improving eating disorder pathology. The estimated effect size is Hedges' g of 0.571 (95% CI: 0.142 to 1.000). Stability of the estimate: Unstable; Strength of the evidence: Low.**
- **CBT is more effective than behavioral therapy in reducing vomiting episodes. Estimated effect size is Hedges' g of 0.37 (95% CI: 0.002 to 0.739). Stability of the estimate: Unstable; Strength of the evidence: Low.**
- **Therapist-led CBT is more effective than self-help CBT in reducing symptoms of depression. Estimated effect size is Hedges' g of 0.447 (95% CI: 0.101 to 0.793) Stability of the estimate: Unstable; Strength of the evidence: Low.**

Due to clinical heterogeneity, the evidence was considered insufficient to draw any evidence-based conclusions about the relative efficacy of variations in CBT delivery.

Key Question 3:

Our searches identified 2 studies enrolling a total of 165 patients that compared the efficacy of family-based therapy to individual-based psychotherapy.

Due to clinical heterogeneity, the evidence was insufficient to draw evidence-based conclusions about the relative efficacy of family-based therapy compared to other forms of psychotherapy for patients with BN.

Key Question 4:

Our searches identified nine studies (one study included more than one comparison) that assessed combination therapies for the treatment of BN and met our inclusion criteria for this report. The combination therapies assessed include CBT plus feedback ($k = 1$), cognitive therapy plus nutritional therapy ($k = 1$), CBT plus exposure response prevention (ERP) therapy ($k = 2$), self-help plus antidepressant medication ($k = 1$), group therapy plus antidepressant medication ($k = 1$), supportive therapy plus antidepressant medication ($k = 1$), and CBT plus antidepressant medication ($k = 3$).

The evidence was of insufficient precision to determine whether CBT plus ERP is better than CBT alone for the outcomes of remission, depression, and frequency of purging. The evidence was also of

insufficient precision to determine whether CBT plus an antidepressant is better than CBT or an antidepressant alone for frequency of binge eating or purging. For all other combination therapies, the evidence was of insufficient quantity (fewer than two studies) to draw any evidence-based conclusion.

Key Question 5:

Our searches identified 1 study enrolling a total of 55 patients that assessed inpatient treatment versus outpatient treatment and met our inclusion criteria for this report.

The evidence was of insufficient quantity (fewer than two studies) to draw any conclusion about the relative efficacy of inpatient treatment and outpatient treatment for BN.

Key Question 6:

Five studies made reference to adverse events in their publications. All five studies involved treatment with an antidepressant. Overall, the authors simply reported the number of patients who dropped out of treatment due to side effects, which was less than 10% across the studies. Only one of the studies described the type of adverse events experienced by the patients. In particular, the authors indicated that patients complained of sedation, constipation, rash, dry mouth, palpitations, and dizziness.

Practice Guidelines

ECRI Institute's searches of the National Guideline Clearinghouse™ identified four treatment guidelines published between 2006 and 2009 that provide recommendations for BN treatments. The following organizations published the guidelines: University of Arkansas for Medical Sciences, 2009; Finnish Medical Society Duodecim, 2007; American Academy of Pediatrics Committee on Sports Medicine and Fitness, 2006; and the American Psychiatric Association, 2006. Our searches also identified position statements from the Academy for Eating

Disorders, 2010, and the American Dietetic Association, 2006.

Conclusions

A small body of evidence indicates that CBT is more beneficial than pharmacotherapy, supportive therapies, behavioral therapy, and self-help CBT in improving some symptoms of BN, particularly in eliminating or reducing the frequency of vomiting episodes and associated symptoms of depression in the short-term.

However, the overall stability and strength of the evidence supporting the conclusions in this report were considered low. The low rating was based on the size of the evidence base, internal validity of the studies, and lack of precision and robustness of the meta-analytic findings. For the most part, the evidence base supporting the conclusions consisted of fewer than three small studies.

The overall internal validity of the studies that made up the evidence base for this report was moderate. The primary reasons for this rating were (1) lack of blinding of patients and clinicians, (2) not reporting the methods used to randomly assign patients, (3) the subjective nature of most of the outcomes, and (4) attrition (dropout ranged from 0.0% to 67.0%). Finally, in all of our analyses, the 95% CIs were not narrow enough to rule out the likelihood that the conclusions would easily change with future evidence.

For all other comparisons considered in this report, the evidence was insufficient to draw any evidence-based conclusions. The evidence was insufficient for one of the following reasons: (1) the results of our meta-analyses indicated that 95% CI surrounding the summary estimate was too wide to clearly determine whether one treatment was better than another; (2) data were reported in a manner that did not allow us to perform a meta-analysis; or (3) only one small study assessed a comparison or outcome of interest.