Bulimia nervosa in adults: Cognitive-behavioral therapy (CBT)

AUTHOR: James E Mitchell, MD
SECTION EDITOR: Joel Yager, MD
DEPUTY EDITOR: David Solomon, MD

All topics are updated as new evidence becomes available and our peer review process is complete.

Literature review current through: **Oct 2023.**
This topic last updated: **Jun 06, 2023.**

INTRODUCTION

The psychotherapy that has been studied most frequently for bulimia nervosa since it was first described in 1979 is cognitive-behavioral therapy (CBT) [1,2]. Based upon randomized trials, CBT is the treatment of choice for bulimia nervosa [2-8].

This topic reviews CBT for treating bulimia nervosa. The epidemiology, clinical features, diagnosis, assessment, medical complications, and other treatments are discussed separately:

- (See "Eating disorders: Overview of epidemiology, clinical features, and diagnosis".)
- (See "Bulimia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis".)
- (See "Bulimia nervosa and binge eating disorder in adults: Medical complications and their management".)
- (See "Bulimia nervosa in adults: Pharmacotherapy".)
- (See "Eating disorders: Overview of prevention and treatment".)

DEFINITION OF BULIMIA NERVOSA

The core features of bulimia nervosa are excessive concern about body weight and shape, binge-eating (ie, eating an amount of food that is definitely larger than most people would eat

under similar circumstances), and inappropriate compensatory behavior to prevent weight gain [9].

The diagnostic criteria for bulimia nervosa (table 1) are discussed separately. (See "Bulimia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis", section on 'Diagnosis'.)

Assessment — The initial clinical evaluation of patients with a possible diagnosis of bulimia nervosa includes a psychiatric and general medical history, mental status and physical examination, and focused laboratory tests [10,11]. If the patient was previously treated with CBT, the clinician should determine which components were beneficial. In addition, the assessment provides an opportunity to begin establishing a positive therapeutic relationship with the patient [12]. The general assessment of patients with bulimia nervosa is discussed separately. (See "Bulimia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis", section on 'Assessment'.)

OVERVIEW OF TREATMENT FOR BULIMIA NERVOSA

First-line treatment for bulimia nervosa consists of nutritional rehabilitation plus psychotherapy [13-15]. Nutritional rehabilitation aims to restore a structured and consistent meal pattern that typically takes the form of three meals and two snacks per day [14]. CBT usually includes nutritional rehabilitation, and also addresses dysfunctional thoughts and problematic behaviors that maintain the disorder. Pharmacotherapy is also efficacious and often added to the treatment regimen.

Additional information about treating bulimia nervosa is discussed separately. (See "Eating disorders: Overview of prevention and treatment", section on 'Treatment' and "Bulimia nervosa in adults: Pharmacotherapy".)

INDICATIONS

CBT is indicated as first-line treatment for outpatients with bulimia nervosa [3-5,14,16]. Use of CBT requires sufficient motivation, cognitive capacity, emotional stability, and energy to participate in therapy and complete assigned tasks. It is not clear if there are specific subgroups of patients who benefit most from CBT. Patients with comorbid personality disorders, particularly borderline personality disorder, may be less responsive to CBT [17-23], but such patients are less responsive to treatment in general [24]. The use of CBT for bulimia nervosa is consistent with multiple practice guidelines [14,25,26].

CBT plus an antidepressant is indicated for patients who either fail to show an early response to CBT alone (eg, after six sessions), or who are depressed and unable to actively collaborate with the clinician using CBT alone [6].

For patients with bulimia nervosa who are overweight or obese, CBT can reduce binge eating and purging. However, CBT is generally not indicated for reducing weight [27]. Thus, clinicians should set realistic expectations about the goals of therapy, and consider augmenting CBT with other approaches that address healthy lifestyle changes and appetite awareness. Treatment of obesity is discussed separately (see "Obesity in adults: Overview of management" and "Obesity in adults: Behavioral therapy").

Contraindications — Contraindications to treating bulimia nervosa with CBT include [12,28]:

- Medical instability – Needs to be stabilized prior to commencing CBT
- Suicidal ideation or behavior – Needs to be stabilized prior to CBT
- Severe major depression (eg, psychosocial functioning is impaired such that patients cannot engage in outpatient treatment)
- Substance use disorder – Patients who are recurrently intoxicated may be unable to perform the work that is required in CBT
- Psychosis – Psychotic patients are not candidates for most psychotherapies including CBT (concurrent bulimia nervosa and psychosis is rare)
- Major life events or crises – Distracting events can interfere with CBT
- Competing commitments – The inability to attend sessions disrupts therapeutic momentum

Other meta-analyses of randomized trials in patients with bulimia nervosa indicate that CBT improves symptoms of depression [29] and quality of life (subjective satisfaction with one's physical, psychological, and social functioning) [30]. In addition, a review of randomized trials concluded that the efficacy of CBT was equal or superior to relatively recent ("third wave") behavior therapies such as schema therapy and acceptance and commitment therapy, and that CBT should retain its status as the recommended approach for bulimia nervosa [31].

CBT is often combined with pharmacotherapy, which usually consists of an antidepressant such as fluoxetine or a different selective serotonin reuptake inhibitor (SSRI) [5,7]. The efficacy of

psychotherapy plus pharmacotherapy is discussed separately. (See "Bulimia nervosa in adults: Pharmacotherapy", section on 'Pharmacotherapy combined with psychotherapy'.)

Long term — A subsequent study examined five-year outcomes in 109 patients with bulimia nervosa who received CBT in a randomized trial [32]. Approximately 75 percent no longer met diagnostic criteria for bulimia nervosa both at the end of treatment and at the five-year assessment. However, investigators found that complete cessation of binge-eating and purging over the past 12 months rose from 13 percent at one year post-treatment to 36 percent five years post-treatment.

THEORETICAL FOUNDATION

The cognitive-behavioral model of therapy focuses upon the clinical features that maintain binge-eating (uncontrolled overeating) and purging, rather than the factors that led the patient to develop bulimia nervosa [12,28]. The predominant maintaining mechanisms are problems with self-evaluation and self-esteem, such that patients judge themselves primarily in terms of body weight and shape, and the ability to control them. These concerns lead patients to pursue thinness by adopting multiple demanding dietary rules. This strict dietary control creates an urge or pressure to eat, and when patients eventually break one of their diet rules, dietary restraint is temporarily abandoned. The result is an episode of binge-eating, which subsequently results in inappropriate compensatory behaviors such as self-induced vomiting or laxative abuse. This loss of dietary control and the compensatory behaviors exacerbate the core psychopathology of overvaluing shape and weight, and perpetuate the disorder by giving rise to renewed efforts at dietary restraint.

Other clinical features that maintain bulimia nervosa include adverse events in daily life, interpersonal conflicts, perfectionism, and intolerance of dysphoric moods [33,34]. In addition, patients mistakenly believe that purging minimizes weight gain; however, vomiting removes only part of what was eaten, and laxative abuse has little effect upon absorption of calories [12,28]. Checking one's body weight excessively or avoiding checking it altogether also can maintain bulimic behaviors.

The goals of CBT for patients with bulimia nervosa are [4]:

- Improving self-esteem
- Less emphasis upon thinness as an ideal
- Eliminating dietary restraint
- Establishing a pattern of regular food intake

- Eliminating binge-eating and purging

Although the mechanism by which CBT effectively achieves these goals is unclear, some studies suggest that addressing dysfunctional thoughts is a critical component [3].

TREATMENT

CBT for bulimia nervosa focuses upon excessive concern about body weight and shape, binge-eating, and inappropriate compensatory behavior [28]. The treatment combines cognitive therapy and behavioral therapy, and resembles other forms of CBT that are used to treat disorders such as panic disorder and unipolar major depression. Cognitive therapy attempts to modify the dysfunctional thoughts, beliefs, and attitudes (eg, "I'm no good because my legs are fat") that maintain bulimic behaviors [35]. Behavioral therapy focuses upon modifying the patient's problematic behavioral responses (eg, binge-eating episodes) to environmental stimuli or dysfunctional thoughts through techniques such as stimulus control and exposure with response prevention [32]. CBT is typically administered according to a manual.

Format — The standard format for administering CBT to outpatients with bulimia nervosa is individual (one to one) treatment, and most studies have evaluated CBT in this context. Group CBT is also efficacious [36], but outcomes may be superior with individual treatment [3,37]. Other stand-alone or adjunctive formats have been developed, including telemedicine [38-40], internet programs [41-46], text messaging [47], and self-help programs using a structured workbook (either hard copy or CD-ROM) with little or no involvement of a therapist [19,48-51]. The choice depends upon patient preference and the availability of resources.

Individual CBT is typically provided as a time-limited treatment package of approximately 20 sessions over 16 weeks, with two sessions per week for the first four weeks and then one session weekly. Increasing the frequency of sessions at the beginning of treatment seems to improve outcomes [52]. Each session lasts 45 to 50 minutes.

Group CBT for bulimia nervosa generally consists of six to eight patients plus a therapist meeting in a closed group (ie, group membership is stable by remaining closed to new members once treatment commences). A similar package of approximately 20 sessions over 16 weeks is used, with each session lasting 75 to 90 minutes [53]. The therapist directs the group and asserts control when necessary to limit the time devoted to patients who are nonadherent or making little progress, and instead refocuses the group's efforts on who or what is successful. Typically, some patients drop out as treatment progresses. Group therapy is nearly

always conducted face to face; however, one study investigated a therapist led group therapy program that was convened via an online chat group [53].

Therapeutic techniques and content — Although the practice of CBT for bulimia nervosa varies, clinicians generally include the following elements [12,28,54]:

- **Treatment overview** – Clinicians begin treatment by explaining the:
  - Principles of CBT
  - Goals of therapy and issues to be addressed
  - Need to promptly complete homework assignments (usually daily) in between sessions
  - Logistics, including schedule for sessions and policies for tardiness, missed appointments, emergencies, and payment
- **Commitment to change** – Many patients with bulimia nervosa are ambivalent about changing some of their bulimic behaviors. Although patients may want to eliminate certain aspects of the disorder (eg, binge-eating), other features may be valued (eg, excessive exercise or fasting). This ambivalence can be addressed with motivational enhancement, which is discussed separately. (See "Overview of psychotherapies", section on 'Motivational interviewing'.)
- **Self-monitoring** – Patients use a diary (table 2) to monitor food intake (recording in real time the food consumed and context for each meal, snack, and binge-eating episode), inappropriate compensatory behaviors, and thoughts and feelings while eating. Diary entries are discussed at the following session.
- **Healthy eating pattern** – Patients establish a consistent schedule for eating that typically takes the form of three planned meals and two to three planned snacks per day. Patients should try to avoid eating at other times; it may help to emphasize that the urge to eat is often temporary. Many patients are not aware that their restrictive dieting has supplanted normal eating behavior, and it may be necessary to gradually implement the regular pattern over a few weeks.
- **Food avoidance** – Patients identify foods that they fear because of the belief that these foods inevitably trigger binge-eating. This belief is disconfirmed by encouraging patients to introduce a small amount of the food into a planned meal or snack when patients feel in control of their eating and capable of resisting urges to binge eat.

- **Weekly weighing** – The patient's weight is measured at each session and plotted on a graph, and patients are encouraged to not weigh themselves at other times. This procedure addresses unusual weighing practices. Frequent weight checking is common and can lead to concern with trivial fluctuations and further restrictive dieting; other patients may avoid weighing themselves, which exacerbates their fears about weight gain and leads to further dieting. In addition, the weekly weighing demonstrates that a healthy eating pattern does not increase weight.

- **Education** – Clinicians educate patients about the:

  - Syndrome of bulimia nervosa, including its clinical features, diagnostic criteria, comorbidity, course of illness, medical complications, treatment options, and prognosis

  - Determinants of body weight, its natural fluctuations, and the relationship between body mass index (calculator 1) and health

  - Ineffectiveness of purging (self-induced vomiting and abuse of laxatives and diuretics) in controlling weight

  - Adverse physiologic effects of extreme dieting, binge-eating, and purging

- **Cues and consequences** – With the aid of the diary, cues (antecedents) for binge-eating are identified, including physiologic/nutritional and psychological pressures to eat, as well as individuals and situations that may be associated with negative feelings such as depression, anger, or anxiety. As an example, binge-eating episodes may occur while watching television or after arguments. Patients are encouraged to avoid the people, places, and situations that trigger binge-eating (stimulus control). The social and situational consequences of binge-eating are also delineated (eg, social withdrawal), as well as the resulting thoughts and feelings (eg, sense of relief). The patient is encouraged to focus upon longer-term consequences (eg, social isolation) rather than shorter-term relief of uncomfortable feelings.

- **Chains of behaviors** – Patients learn to identify problematic chains of behaviors throughout the day that can eventually lead to the bulimic behaviors of binge-eating and purging. As an example, skipping breakfast to avoid gaining weight, then eating a small lunch, and becoming very hungry in the late afternoon can result in binge-eating.

- **Alternative behaviors** – Patients should develop lists of alternative behaviors for responding to acute cues or craving for bulimic behaviors, as well as high-risk times (eg, weekends and evenings) and situations that are associated with bulimic behaviors.

Especially useful are activities that are incompatible with binge-eating, such as calling someone, going on a brisk walk, or taking a shower.

- **Stress management skills** – Stress can be managed by improved communications skills and techniques such as self-encouragement, progressive muscle relaxation, and distracting oneself during stressful situations.

- **Problem solving skills** – Problem solving involves:

  - Identifying the problem early
  - Specifying it accurately
  - Generating multiple solutions
  - Considering the consequences of each solution
  - Choosing one solution
  - Acting upon it

- **Cognitive restructuring** – Patients are directed to examine maladaptive thoughts (cognitive distortions) about themselves (eg, "I don't have a boyfriend because I'm so fat") and substitute more functional thoughts (eg, "I might meet people if I join a club"). The clinician questions the validity of maladaptive thoughts and then with the patient, examines the evidence for them and discusses alternative, rational explanations for the patient's situation. As an example, homework can include testing a faulty cognition by discussing it with friends. In addition, dysfunctional thoughts about body shape and weight are restructured by discussing the importance of shape and weight relative to other areas of life, including family, work, friends, and recreational activities.

- **Body image** – Patients learn to recognize parts of their body that are attractive and to more realistically appraise parts that are considered "ugly" or overweight.

- **Thoughts, feelings, and behaviors** – Patients may have difficulty distinguishing thoughts (cognitions) from feelings, and need to understand how they interact and result in bulimic behavior (eg, "I feel fat" is really a thought).

- **Assertiveness** – Patients are taught to assert themselves in a productive manner; this may involve role playing situations in which patients express and negotiate their needs.

- **Family meeting** – At least one session of individual CBT includes both the patient and family members (or significant others) who are regularly involved with the patient, to discuss the patient's progress, how the family can help, and identify problems such as negative comments about the patient's shape or weight.

- **Relapse prevention** – The last part of therapy is devoted to:
  - Reviewing the patient's progress and identifying persistent problems
  - Reinforcing healthy eating and exercise habits
  - Differentiating "slips" or lapses from full-blown relapses, and accepting that lapses are common and do not necessarily lead to relapses
  - Discussing the patient's goals following treatment

Variants of CBT — An enhanced form of CBT (CBT-E) for treating all eating disorders, including bulimia nervosa, has been developed [12,28,55-58]. This treatment includes additional techniques for addressing dysfunctional concerns about body weight and shape, as well as modules that address perfectionism, poor self-esteem, chronic negative affect and mood intolerance, and interpersonal difficulties. Another variant of CBT is called Integrative Cognitive Affective Therapy (ICAT), which provides additional attention to regulating negative emotions and to reducing expectations for oneself and making them more realistic (reducing "self-discrepancy") [34]. A 19-week randomized trial compared CBT-E (21 sessions) with ICAT (21 sessions) in 80 patients with bulimia nervosa and found that four months after the end of treatment, abstinence from bulimic symptoms was comparable (23 and 33 percent of patients) [59].

Two forms of CBT-E exist. One is termed "focused," which addresses eating disorder psychopathology in depth and includes additional modules for addressing concerns about body shape and weight. The second type of CBT-E is termed "broad"; in addition to addressing eating disorder psychopathology, broad CBT-E addresses co-occurring problems (eg, mood intolerance and interpersonal difficulties) that can interfere with response to treatment. Randomized trials indicate that the benefit of focused CBT-E and broad CBT-E are comparable:

- A 20-week trial compared the two types of CBT-E with a waiting list control condition in patients with bulimia nervosa or other specified feeding or eating disorder (n = 154) [58]. Both forms of CBT-E were superior to the control condition, and improvement of eating disorder symptoms was nearly identical for the two active treatments. The benefits of focused and broad CBT-E persisted at the 60-week follow-up assessment.
- Another 20-week trial compared focused CBT-E with broad CBT-E in patients with bulimia nervosa and comorbid borderline personality disorder (n = 50; these patients are often treatment resistant) [57]. Remission was similar for focused and broad CBT-E (44 and 40 percent of patients), and largely persisted at the six month follow-up.

Some clinicians view broad CBT-E as a more complicated treatment and thus reserve its use for treating bulimia nervosa that is accompanied by relatively severe comorbid psychopathology [58]. Some results in both randomized trials supported this approach.

Nonresponders — Treatment should be reconsidered for patients who:

- Do not adhere to treatment (eg, skip appointments or fail to complete homework) despite repeated efforts upon the part of the clinician
- Make an effort but achieve little or no progress after 10 sessions

In either situation, the patient's overall motivation should be assessed and alternative treatments prescribed, such as an antidepressant (eg, fluoxetine) or interpersonal psychotherapy. Patients who make little progress may need a day hospital or inpatient program.

Other resources — CBT is usually delivered according to a treatment manual that standardizes the procedures to be used and content of each session [12,60-65]. In addition, information about training and conferences is available through the Association for Behavioral and Cognitive Therapies and the Academy for Eating Disorders.

EVIDENCE OF EFFICACY

CBT delivered in person by a psychotherapist is the treatment of choice for bulimia nervosa, based upon randomized trials that consistently demonstrate good outcomes, low relapse rates, and superiority to other psychotherapies and to pharmacotherapy [5]. Many reviews concur that CBT is the best established treatment [3,4,6-8].

Evidence for the efficacy of face to face (in person) CBT for bulimia nervosa includes several randomized trials:

- A pooled analysis of five randomized trials (204 patients with bulimia nervosa) found that remission (100 percent abstinence from binge-eating) occurred in more patients who received CBT than controls who received no treatment or were placed on a waiting list (37 versus 3 percent of patients) [2].

- A pooled analysis of seven randomized trials (484 patients with bulimia nervosa) found that remission occurred in more patients who received CBT than other psychotherapies (interpersonal psychotherapy, behavior therapy, hypnosis plus behavior therapy, or supportive psychotherapy) (36 versus 22 percent) [2].

- In a series of meta-analyses (sample sizes not reported), the primary findings included the following [66]:

  - A meta-analysis of four trials found that remission was more likely with therapist-led CBT than usual care or a waiting list (odds ratio 9, 95% CI 2-35). In addition, cognition improved more with CBT.

  - A meta-analysis of 15 trials found that remission was more likely with therapist-led CBT than other psychotherapies (odds ratio 1.5, 95% CI 1.0-2.3). In addition, cognition improved more with CBT. Another analysis compared CBT specifically with interpersonal psychotherapy and found that reduction of binge eating and/or purging episodes was greater with CBT.

  - A meta-analysis of three trials compared therapist-led CBT with pharmacotherapy and found that remission was comparable for the two groups.

In addition, a review of randomized trials concluded that the efficacy of CBT was equal or superior to relatively recent ("third wave") behavior therapies such as schema therapy and acceptance and commitment therapy, and that CBT should retain its status as the recommended psychotherapy for bulimia nervosa [31]. Other meta-analyses of randomized trials in patients with bulimia nervosa indicate that CBT improves symptoms of depression [29] and quality of life (subjective satisfaction with one's physical, psychological, and social functioning) [30].

Longer term studies also suggest that CBT can be beneficial for bulimia nervosa. One prospective study examined five-year outcomes in 109 patients who received eight sessions of individual CBT as part of a randomized trial [32]. Approximately 75 percent no longer met diagnostic criteria for bulimia nervosa both at the end of treatment and at the five-year assessment. However, complete cessation of binge-eating and purging over the past 12 months rose from 13 percent at one year post-treatment to 36 percent five years post-treatment.

Self-help approaches, which involve materials (eg, a structured workbook) provided to patients and/or intermittent guidance by a therapist, may also help bulimia nervosa. In three separate systematic reviews of randomized trials that compared self-help with waiting list control conditions, abstinence from binge eating was greater among patients who received self-help [67]. However, the relative efficacy of pure (unguided) self-help and self-help guided by a therapist was unclear.

CBT can also be administered online for bulimia nervosa, but the efficacy of internet-delivered CBT is not established [68].

CBT is often combined with pharmacotherapy, which usually consists of a selective serotonin reuptake inhibitor such as fluoxetine [5,7]. The efficacy of psychotherapy plus pharmacotherapy is discussed separately. (See "Bulimia nervosa in adults: Pharmacotherapy", section on 'Pharmacotherapy combined with psychotherapy'.)

CONTINUING CARE

Following acute treatment with 20 sessions, clinical experience suggests that a tapered schedule of visits, for example, every other week for two months and then once a month for four months, may delay or prevent relapse. These sessions are used to consolidate gains that patients have made to reduce overvaluing body weight and shape, and to monitor binge-eating, purging, healthy eating patterns, as well as mood and social interactions.

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Eating disorders".)

SUMMARY

- The core features of bulimia nervosa are excessive concern about body weight and shape, binge-eating, and inappropriate compensatory behaviors (table 1). The initial clinical evaluation of patients with a possible diagnosis of bulimia nervosa includes a psychiatric and general medical history, mental status and physical examination, and focused laboratory tests. (See "Bulimia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis".)

- Treatment for bulimia nervosa generally consists of nutritional rehabilitation plus psychotherapy. Nutritional rehabilitation aims to restore a structured and consistent meal pattern. Cognitive-behavioral therapy (CBT) addresses dysfunctional thoughts and problematic behaviors that maintain the disorder. Pharmacotherapy is also efficacious. (See 'Overview of treatment for bulimia nervosa' above and "Eating disorders: Overview of prevention and treatment", section on 'Treatment' and "Bulimia nervosa in adults: Pharmacotherapy".)

- CBT is indicated for outpatients with bulimia nervosa who have the necessary motivation, cognitive capacity, emotional stability, and energy to participate in treatment and

complete assigned tasks. Contraindications include medical instability, suicidal ideation or behavior, severe major depression, substance use disorder, psychosis, major life events or crises, and competing commitments. (See 'Indications' above.)

- CBT is the treatment of choice for bulimia nervosa, based upon randomized trials that have demonstrated good outcomes, low relapse rates, and superiority to other psychotherapies and to pharmacotherapy. (See 'Evidence of efficacy' above.)

- The cognitive-behavioral model of therapy focuses upon the clinical features that maintain bingeing and purging; the core psychopathology involves problems with self-evaluation and self-esteem, such that patients judge themselves primarily in terms of body weight and shape and the ability to control them. (See 'Theoretical foundation' above.)

- The standard format for administering CBT to outpatients with bulimia nervosa is individual treatment. CBT has also been adapted for group therapy and other formats (eg, online and supervised self-help). (See 'Format' above.)

- CBT for bulimia nervosa generally includes the following elements (see 'Therapeutic techniques and content' above):

  - Treatment overview
  - Commitment to change
  - Self-monitoring (table 2)
  - Healthy eating pattern
  - Food avoidance
  - Weekly weighing
  - Education
  - Cues and consequences
  - Chains of behaviors
  - Alternative behaviors
  - Stress management skills
  - Problem solving skills
  - Cognitive restructuring
  - Body image
  - Assertiveness
  - Family meeting
  - Relapse prevention

- Additional CBT sessions beyond acute treatment may delay or prevent relapse. (See 'Continuing care' above.)

Topic 14746 Version 19.0

→