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

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INTRODUCTION

Cognitive-behavioral therapy (CBT) was developed in the 1970s by Aaron Beck to treat depression and anxiety [1-3]. It has since been modified for treating other mental illnesses, such as eating disorders [4-8]. Treatment of acute, low-weight anorexia nervosa often requires multiple interventions, including psychotherapy such as CBT [9,10]. In addition, CBT can prevent relapse [11,12].

This topic reviews CBT for treating anorexia 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 "Anorexia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis".)
- (See "Anorexia nervosa in adults and adolescents: Medical complications and their management".)
- (See "Anorexia nervosa in adults: Evaluation for medical complications and criteria for hospitalization to manage these complications".)
- (See "Anorexia nervosa in adults and adolescents: Nutritional rehabilitation (nutritional support)".)
- (See "Anorexia nervosa in adults: Pharmacotherapy".)

- (See "Eating disorders: Overview of prevention and treatment", section on 'Anorexia nervosa'.)

DEFINITION OF ANOREXIA NERVOSA

The core features of anorexia nervosa (table 1) are [13]:

- Restriction of energy intake, which leads to a significantly low body weight (defined as a weight that is less than minimally normal), given the patient's age, sex, developmental trajectory, and physical health
- Intense fear of gaining weight or becoming fat, or persistent behavior that interferes with weight gain, despite a weight that is significantly low
- Disturbance in how one experiences body weight and shape, undue influence of weight or shape on self-worth, or denial of the seriousness of one's low body weight

Additional information about the clinical features and diagnosis of anorexia nervosa are discussed separately. (See "Anorexia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis".)

Assessment — The initial clinical evaluation of patients with a possible diagnosis of anorexia nervosa includes a psychiatric and general medical history, mental status and physical examination, and focused laboratory tests [14,15]. If the patient was previously treated with CBT, the clinician should determine which components were beneficial. In addition, the evaluation is used to assess motivation for change and to begin establishing a positive therapeutic relationship with the patient. The general assessment of patients with anorexia nervosa is discussed separately. (See "Anorexia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis", section on 'Assessment'.)

OVERVIEW OF TREATMENT FOR ANOREXIA NERVOSA

First-line treatment for anorexia nervosa consists of weight restoration with nutritional rehabilitation (including supervised meals and proscribing binge-eating and purging) plus psychotherapy [9,10]. Nutritional rehabilitation aims to restore a structured and consistent meal pattern that typically takes the form of three meals and two snacks per day [9]. CBT usually includes nutritional rehabilitation and also addresses dysfunctional thoughts and problematic behaviors that maintain the disorder. Additional information about treating anorexia nervosa,

including nutritional rehabilitation, is discussed separately. (See "Anorexia nervosa in adults and adolescents: Nutritional rehabilitation (nutritional support)" and "Anorexia nervosa in adults: Pharmacotherapy" and "Eating disorders: Overview of prevention and treatment", section on 'Anorexia nervosa'.)

Most acutely underweight patients with anorexia nervosa have symptoms of depressive disorders (eg, dysphoria, anergia, anhedonia, and insomnia) or anxiety disorders. These symptoms often resolve for the majority of patients as they gain weight. If depressive and anxiety disorders persist after weight and physical health (including menstruation) are restored, pharmacotherapy may be indicated. Comorbid depressive and anxiety disorders are discussed separately. (See "Anorexia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis", section on 'Mental disorders'.)

For patients with severe and enduring anorexia nervosa that persists for many years (eg, more than seven years), the goals of treatment are modified, such that less emphasis is placed upon weight gain and recovery, and more emphasis is placed upon harm reduction and maximizing quality of life and functioning. (See 'Goals' below and 'Severe and enduring anorexia nervosa' below.)

INDICATIONS

CBT plus other interventions, including nutritional rehabilitation, is indicated for treatment of low-weight patients with anorexia nervosa [9,10]. In addition, CBT is efficacious for preventing relapse [11]. Use of CBT requires sufficient motivation, cognitive capacity, emotional stability, and energy to participate in therapy and complete agreed upon tasks. It is not clear if there are specific subgroups of patients who benefit most from CBT. The use of CBT for anorexia nervosa is consistent with multiple practice guidelines [9,16,17].

Contraindications to treating anorexia nervosa with CBT include:

- General medical instability (eg, heart rate less than 30 beats per minute)
- Suicidal ideation or behavior
- Psychosis

Medical instability and suicidality need to be stabilized prior to commencing CBT; psychotic patients are not candidates for most psychotherapies including CBT (concurrent psychosis and anorexia nervosa is rare).

Although aspects of CBT may be useful for all patients with anorexia nervosa, clinicians should prioritize family therapy for adolescent patients [10]. For adult patients, enlisting the support of family members by having a limited number (eg, three to five) of family sessions that provide psychoeducation can be helpful.

THEORETICAL FOUNDATION

The cognitive-behavioral model of therapy focuses upon the clinical features that maintain anorexia nervosa, rather than the factors that led to onset of the disorder [8,11,18]. The theory is that the cognitive and behavioral disturbances that are present in patients frequently become self-reinforcing and self-perpetuating, and eventually uncoupled from the original factors that cause anorexia nervosa.

The predominant maintaining mechanisms in anorexia nervosa 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 [8]. Patients pursue thinness because they believe this will provide a sense of control, mastery, and self-worth. These dysfunctional cognitions lead to behavioral problems such that patients restrict the quantity and variety of foods to become thin, and may also overexercise and purge (eg, self-induced vomiting and laxative abuse). Feelings of low self-esteem are mitigated as patients maintain strict dietary rules and a low weight. Starvation leads to increased food preoccupation, which patients view as a threat to controlling food intake; the result is increased efforts to restrict eating. As anorexia nervosa becomes more entrenched, control over eating, thinness, and low weight dominate the patient's self-concept and sense of effectiveness.

The CBT model recognizes that predisposing biologic, environmental, and temperament factors increase the risk for developing anorexia nervosa [19,20], and that patients can benefit from addressing these factors on a limited basis [8]. As an example, the genetics of the disorder are discussed in the psychoeducational component of CBT, and clinicians work with patients to explore their perfectionism, anxiety, mood dysregulation, motivation, and interpersonal problems.

GENERAL PRINCIPLES

CBT is a time-limited, structured, manual-based treatment that combines cognitive therapy and behavior therapy, and emphasizes changing dysfunctional cognitions (thoughts and beliefs

about body weight and shape) and behavioral disturbances (eg, excessive food restriction) that perpetuate anorexia nervosa [21].

Format and setting — CBT is included in nearly all day hospital and inpatient programs for anorexia nervosa as one of several interventions and generally administered within group therapy. Outpatient CBT is usually administered as individual (one to one) therapy. Many inpatient and day treatment programs enable patients to gain weight, but continuing outpatient care is nearly always necessary to prevent weight loss and promote more complete resolution of the eating disorder. Outpatients should understand at the outset the clinical conditions that will require more intensive treatment in a partial hospital or inpatient program, and agree to follow the clinician's recommendations. Alternative treatment for nonresponders is discussed elsewhere in this topic. (See 'Nonresponders' below.)

At least one session of individual CBT includes both the patient and family members (or significant others) who are regularly involved with the patient. The family meeting is used 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. In addition, it may be necessary to involve family members for patients who are deteriorating; this should be discussed and agreed upon at the beginning of therapy.

Therapeutic relationship — The therapeutic relationship in CBT for anorexia nervosa is based upon clinicians and patients collaborating to resolve the disorder [8]. Clinicians are generally active in structuring and directing treatment, especially at the beginning. However, the clinician does not lead treatment; rather, the clinician and patient work jointly on each component of treatment. This requires the clinician to be open, empathic, respectful, and flexible.

Some studies suggest that the therapeutic alliance between the patient and therapist affects treatment outcome [22]. As an example, in an eight-month randomized trial that compared CBT with specialist supportive clinical management (n = 63 outpatients), the therapeutic alliance in the two groups was comparable, and follow-up assessments 12 months posttreatment found that a stronger therapeutic alliance was associated with greater improvement in body mass index and eating disorder psychopathology [23,24].

Goals — The goals of CBT include [8]:

- Weight gain
    - Increasing food quantity and variety
- Changing distorted perceptions of body weight and shape

- Reducing fears of becoming fat
- Reducing the importance of thinness relative to other areas of life, such as family, work, friends, and recreation
- Improving interpersonal relationships
- Understanding the onset and maintenance of the eating disorder
- Developing problem solving skills
- Relapse prevention

However, for patients with severe and enduring anorexia nervosa, the goals of treatment are modified, such that less emphasis is placed upon weight gain and symptom recovery, and more emphasis is placed upon engaging patient in treatment, harm reduction, and maximizing quality of life and functioning (see 'Severe and enduring anorexia nervosa' below). Minimizing harm is important in this population, given that anorexia nervosa is associated with increased rates of all-cause mortality and suicide. (See "Anorexia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis", section on 'Mortality'.)

THERAPEUTIC PROTOCOL

For outpatient treatment of anorexia nervosa with individual CBT, we generally use a protocol that consists of four phases delivered in approximately 50 sessions over one year [8]. Shorter adaptations have been developed [18], but outcomes may be superior with longer treatment [11]. Although the phases are presented below in a sequence, the actual order is determined by the patient's symptoms, and many elements (eg, motivational enhancement) are repeated throughout treatment as needed. In addition, if patients begin to lose weight, the focus of therapy returns to weight gain. (See 'Weight gain protocol, meal planning, and preventing weight loss' below.)

Each CBT session follows a structured sequence:

- Weight is measured and discussed
- Self-monitoring diary of food intake (table 2) is reviewed
- Homework following the last session is reviewed
- Set an agenda for the current session and work on the agenda items
- Agree upon homework to be completed prior to the next session
- Summarize the session

Phase 1: Orientation to treatment and initial procedures — After the initial assessment, the conceptual framework of CBT is tailored according to the patient's clinical history to construct a case formulation that provides the rationale for therapy and informs ongoing treatment. The formulation focuses primarily upon cognitive and behavioral disturbances maintaining the eating disorder and secondarily on vulnerability factors that may have contributed to developing anorexia nervosa. Discussing the formulation with patients often helps them organize previously chaotic and poorly understood experiences. This discussion leads to an overview of treatment, in which clinicians explain the:

- Principles of CBT
- Need to complete homework (usually daily behavioral experiments) in between sessions
- Logistics, including schedule for sessions and policies for tardiness, missed appointments, emergencies, and payment

Following the overview, the first priority generally is to enhance motivation for recovery, which is often an ongoing issue throughout treatment. The next priority is setting treatment goals focused upon normal eating, achieving a healthy weight, and reducing concerns about weight.

Motivation for change — Many patients with anorexia nervosa deny that they are ill and thus are ambivalent about and struggle with changing behavior that is egosyntonic (consistent with their ideal self-image). This ambivalence is addressed with motivational interviewing or enhancement, which first attempts to help patients acknowledge they have a problem, make a commitment to changing their behavior, and take action to change [25,26]. Motivational interviewing is used intermittently throughout CBT to manage the patient's resistance to change.

Motivational interviewing explores [27]:

- How anorexia nervosa affects the patient's life (physically, psychologically, and socially)
- The function, value, and meaning of the disorder in the patient's life
- The level of ambivalence about changing illness behaviors
- Goals in life, other than thinness
- Motivations for changing (ie, potential benefits)
- The patient's future without anorexia nervosa

Motivational interviewing relies on utilizing a Socratic method (asking questions) to help patients with anorexia nervosa explore and discover their beliefs, to problem solve, and increase their motivation and willingness to experiment with behavioral change. Additional

information about motivational interviewing is discussed separately. (See "Overview of psychotherapies", section on 'Motivational interviewing'.)

Self-monitoring and weight monitoring — Patients use a diary (table 2) to monitor food intake by recording the food consumed and the location and social context for each meal, snack, and binge episode. In addition, inappropriate compensatory behaviors and thoughts and feelings while eating are recorded. Diary entries are discussed at the following session. For patients who find self-monitoring tedious, it should be adapted to make it valuable and keep patients motivated; the intent is to help patients communicate their experiences between sessions.

A regular schedule is established for patients to monitor their weight; initially this involves someone's assistance. Weight monitoring typically occurs at the beginning of each CBT session, and the result can be plotted on a graph. After weight is restored and remains stable for one to three months, patients assume increasing autonomy and responsibility for weight monitoring and weight maintenance.

Psychoeducation — Clinicians educate patients about the:

- Syndrome of anorexia nervosa, including its:
  - Clinical features
  - Diagnostic criteria
  - Comorbidity
  - Course of illness
  - Medical complications
  - Treatment options
  - Prognosis
- Core psychopathology that maintains anorexia nervosa, namely, the tendency to judge oneself primarily in terms of body weight and shape (thinness), and the ability to control them
- Interactions between thoughts, feelings, and behaviors that reinforce the core psychopathology of the disorder
- Predisposing risk factors for anorexia nervosa
- Determinants of body weight, its natural fluctuations, and the relationship between body mass index (BMI) (calculator 1) and health

- Elements of a healthy diet, including fats, carbohydrates, and protein
- Adverse physiologic consequences of extreme dieting (self-induced starvation), binge-eating, and purging (eg, self-induced vomiting and abuse of laxatives and diuretics)
- Ineffectiveness of purging to control weight
- Relationship between weight gain and menstrual functioning

Phase 2: Cognitive and behavioral interventions — Phase 2 employs interventions to change maladaptive cognitions and behaviors that maintain anorexia nervosa [8]. It is often necessary to begin with small behavioral changes that are positively reinforcing; these changes provide opportunities to explore and challenge the cognitions that perpetuate the eating pathology.

Weight gain protocol, meal planning, and preventing weight loss — For underweight patients with anorexia nervosa, a preliminary weight gain goal is established [8]. Ultimately, the goal is a healthy weight, which typically requires a BMI ≥20 kg/m^2 (calculator 1). However, this amount is overwhelming to many patients, and thus a series of more manageable, step-wise weight gain goals is usually established during the course of treatment. As an example, an initial goal of gaining 2 to 3 kilograms is set, and once that is achieved, the next goal is set. The desired outcome is steady weight gain, even if the rate is slow. Weight monitoring is used to track progress with weight gain.

Developing meal plans can help patients with anorexia nervosa gain weight. The initial focus is upon meeting caloric goals, and caloric intake is gradually increased to enable patients to gain 0.5 to 1.0 kilogram per week. Subsequently greater emphasis is placed upon the quality and variety of food. For clinicians who lack expertise in teaching patients what, how much, and when to eat, we suggest referring the patient to a nutritionist. Self-monitoring is used to track eating and develop normal habits.

Once patients with anorexia nervosa achieve a healthy weight, treatment focuses upon weight maintenance. Most patients need to eat more than they expect to maintain their target weight. Relapse is thus common because many patients fear that healthy eating will cause excessive weight gain. Old eating patterns may be resumed, leading patients to shave calories, decrease portion size, and skip supplements and added fats (as well as increase exercise). Cutting back soon after restoring a healthy weight inevitably leads to weight loss, which is associated with relapse [28]. Clinicians should encourage patients to approach weight maintenance as an experiment, using weight monitoring to track weight and gather evidence about what happens if the meal plan is maintained.

Weight monitoring and self-monitoring are discussed elsewhere in this topic. (See 'Self-monitoring and weight monitoring' above.)

Behavioral experiments — For patients with anorexia nervosa, CBT emphasizes experiments with different behaviors between sessions, beginning with actions that lead to healthy eating and weight gain. Subsequently, behavioral experiments address cognitive distortions and interpersonal relationships.

CBT includes tasks that occur outside of sessions. This "homework" is an integral component of therapy that is discussed and reviewed from session to session. The amount of effort that patients make to complete this work often depends upon how much attention it receives from clinicians. In addition, patients are more likely to value and complete homework that is developed collaboratively. Completed tasks are praised for the effort made, and tasks that are not completed prompt a discussion about the challenges and patient's motivation.

The clinician and patient initially generate behavioral experiments to increase both food quantity and variety. In developing meal plans to increase food quantity for a particular meal, patients should not compensate by decreasing the quantity of food at other meals. Experiments to increase food variety begin with patients articulating a hierarchy of forbidden foods. As an example, lettuce may be the least feared food, with progressively more fear attached to cucumbers, apples, and bread, and the most fear attached to ice cream. Patients incorporate small quantities of the least feared foods into their meals and progressively increase the challenge. Failures are addressed during sessions, and successes provide the basis for the next incremental challenge until the food quantity and variety is sufficient to sustain a healthy weight and nutritional health. Success enables the patient to enjoy the range of social experiences involving food.

Behavioral tasks are subsequently designed to address other aspects of anorexia nervosa, including preoccupation with body weight and shape, excessive exercise, and social isolation. This includes finding alternatives to reading women's fashion magazines (which often promote thinness as an ideal [29]) and visiting websites and social media that promote anorexia nervosa [30-33], as well as interpersonal challenges such as attending a party or initiating a social activity.

Identifying and challenging dysfunctional thoughts — Patients are encouraged to examine dysfunctional thoughts about themselves (eg, "I can't eat anymore or I'll become fat") and substitute more functional thoughts (eg, "It's hard for me to concentrate at work when I don't eat enough"). This process begins with clinicians initially pointing out cognitive distortions as they emerge and then gradually working with patients to understand how dysfunctional

thoughts and associated behavioral disturbances maintain anorexia nervosa. Clinicians typically ask a series of questions that test the logic of the thoughts, which helps patients learn to challenge the validity of maladaptive thoughts, examine the evidence for the thoughts, and explore alternative explanations for their 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.

Addressing body checking and body avoidance — Clinical features associated with anorexia nervosa include [34]:

- Body checking – Excessively evaluating one's physical appearance by repeatedly weighing oneself, measuring body parts, and looking in the mirror to assess shape
- Body avoidance – Refusing to view one's physical appearance by refusing to be weighed, avoiding mirrors, and wearing baggy clothes to conceal one's shape

Body checking and body avoidance can perpetuate dietary restraint and body image disturbance (thin patients thinking that they are overweight). Interventions include [8]:

- Psychoeducation about the negative impact of either body checking or body avoidance (most patients with anorexia nervosa think that checking or avoidance behavior helps them manage their eating disorder)
- Developing aspects of self-identity (eg, work, family, friends, and recreational activities) other than body weight and shape, to enhance self-esteem
- Body image exposure exercises (eg, initially stop dressing and undressing in the dark, followed by phasing out use of baggy clothes that disguise one's shape, and participating in activities that involve body exposure, such as swimming)

Combating excessive exercise — Among patients with anorexia nervosa, excessive exercise aimed at controlling weight occurs in approximately 80 percent [35]. Standard CBT interventions are sufficient to address exercise-related disordered thinking and compulsive exercise. A randomized trial in patients receiving CBT found that a psychotherapy program, which was developed as an add-on treatment to specifically address excessive exercise, provided no additional benefit [36].

It is typically recommended that patients refrain from all exercise until they have maintained a minimum target weight for one to two months. (However, in some treatment programs,

patients develop adaptive physical activities at the outset of therapy [37].) Interventions to help patients stop exercising include [8]:

- Distraction (eg, engaging in some other physical activity such as listening to music or making something with one's hands)
- Delay (eg, practicing piano for 30 minutes before running, with the hope that piano practice will reduce the urge to excessively exercise or the amount of time available for exercise)
- Self-talk (eg, having a script available to "coach" and remind oneself about recovery goals and steps to get there)
- Stimulus control (eg, disassemble home exercise equipment, suspend gym membership, and hide running shoes)
- Record thought patterns that are associated with urges to exercise
- Substitute activities that cannot easily be converted to weight loss behaviors (eg, crafts, some types of yoga, or social activities such as ice skating with friends)

Clinicians can emphasize that avoiding exercise is temporary, comparable to wearing a cast for a broken bone.

Patients who maintain a healthy weight can gradually resume moderate exercise that emphasizes having fun, socializing, developing skills, and improving health, rather than burning calories. Long distance running and high intensity aerobics are generally avoided.

Phase 3: Schema-based cognitive therapy and related clinical issues — Schemas are core beliefs about oneself and the surrounding world that influence how individuals process information [38]. As an example, patients with anorexia nervosa may believe that they are unlovable, and if a friend declines an invitation to see a movie, it is because the friend views the patient as "no good." The schema prevents the patient from considering alternative, rational possibilities for the friend's behavior (eg, the friend has a prior commitment or has already seen the movie).

For patients with anorexia nervosa who achieve a stable, minimal target weight, clinicians can proceed with schema-based cognitive therapy that focuses upon the overriding belief that self-worth is predicated upon thinness and the ability to control weight. This cognitive schema explains why the psychopathology of anorexia nervosa is egosyntonic (consistent with the patient's ideal self-image), in contrast to most other mental disorders. Patients with anorexia

nervosa choose to starve themselves and maintain a low weight because they overvalue both. The schema operates automatically and without full awareness on the part of the patient, which partially accounts for the stability of the disorder and its resistance to change [39,40].

Schema-based work aims to make the self-schema (self-worth = thinness) and its assumptions explicit, and then to challenge its maladaptive components [41,42]. One component is the belief that "I am thin and must stay this way because it brings me control, mastery, and makes me special." Therapy attempts to separate the goals of achieving control, mastery, and importance from the means (eg, restricting food intake) used to achieve them. Clinicians support the desire for mastery and self-importance but question whether anorexia nervosa helps patients achieve these goals. The next step consists of finding more adaptive strategies for acquiring a sense of control, enhancing self-worth, and defining oneself.

In addition to the eating disorder self-schema, CBT addresses other maladaptive schemata involving interpersonal relationships. Patients may believe that they must please everyone, are responsible for a loved one's problems, do not deserve the love of others, and must avoid conflict at all cost for fear that they will be rejected.

Binge-eating and purging — Many patients with anorexia nervosa binge eat (ie, eating an amount of food in a discrete period of time that is larger than most people would eat under similar circumstances) and purge (ie, use inappropriate compensatory behaviors to prevent weight gain, such as self-induced vomiting, abusing laxative and diuretics, or excessive exercise) [8]. Purging should be closely monitored because it increases the risk of medical complications (eg, gastrointestinal problems and electrolyte imbalances), which are exacerbated by low weight. CBT interventions for binge-eating in patients with anorexia nervosa are similar to the interventions used in patients with bulimia nervosa, which are discussed separately. (See "Bulimia nervosa in adults: Cognitive-behavioral therapy (CBT)", section on 'Therapeutic techniques and content'.)

Some patients with anorexia nervosa report subjective binge episodes that do not constitute objective binge-eating. For these patients, CBT focuses upon identifying and challenging the cognitive distortions that transform normal meals and snacks into subjective "binges." Treatment should continue to focus upon eating three meals per day along with snacks, rather than changing the behavior that the patient describes as a binge.

Inappropriate compensatory behaviors are driven by the same dysfunctional thoughts that drive the excessive dietary restraint of anorexia nervosa, namely, that thinness will provide a sense of control, mastery, and self-worth. Treatment focuses upon exploring the thoughts and behaviors that trigger compensatory behaviors, and patients are encouraged to experiment

with changing their behavior so that they can gather accurate information that tests their beliefs.

Binge-eating, purging, and the medical complications of these behaviors and anorexia nervosa are discussed separately. (See "Bulimia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis", section on 'Diagnostic and Statistical Manual' and "Bulimia nervosa and binge eating disorder in adults: Medical complications and their management" and "Anorexia nervosa in adults and adolescents: Medical complications and their management".)

Interpersonal relationships and affect regulation — Although CBT for anorexia nervosa initially focuses upon eating disorder symptoms (eg, low weight, restrictive dieting, and overvaluing thinness), treatment eventually broadens to include managing difficult emotions such as anxiety and sadness, and improving interpersonal relationships. Many patients describe low self-esteem; feeling unworthy of love; problems with attachment, dependency, and autonomy in relationships; and excessive dependency and mistrust. The therapeutic relationship between the clinician and patient can be used to explore the patient's feelings and assumptions about relationships in general. The clinician looks to identify dysfunctional schemas (core beliefs) that patients hold with regard to themselves or relationships and challenges these distortions. In addition, procedures used in dialectical behavioral therapy are often helpful for affecting regulation and improving interpersonal skills [43].

Phase 4: Ending treatment and relapse prevention — CBT for anorexia nervosa is nearly always time limited, which can help motivate patients throughout therapy. It is useful to discuss termination as it approaches, and encourage patients to express feelings about the loss of treatment and make preparations to care for themselves after therapy ends.

Clinicians focus upon relapse prevention in the final phase of CBT by [8]:

- Reviewing and practicing the most helpful CBT components
- Reinforcing healthy eating and exercise habits
- Identifying persistent problems
- Reviewing any prior relapses
- Anticipating future stressful situations and planning responses
- Differentiating "slips" or lapses (recurrence of anorexia nervosa symptoms) from full-blown relapses
- Teaching patients to identify and monitor subsyndromal symptoms
- Acknowledging that lapses and relapses are common
- Describing risk factors for relapse
- Discussing posttreatment goals

These procedures are intended to prepare patients to work independently after termination. Complete recovery from anorexia nervosa typically does not occur during acute treatment with CBT. Treatment thus emphasizes learning skills that are to be used after completing therapy; in some sense, patients become their own clinicians. Patient self-acceptance is more likely if clinicians can embrace the less-than-perfect recovery.

Relapse is common in patients who recover from an episode of anorexia nervosa [44-49]; risk factors include [19,28,44,47,50-53]:

- Prior episodes of anorexia nervosa requiring specialized treatment or hospitalization
- Longer lifetime duration of illness
- Older age at the time of recovery
- History of suicide attempt
- More severe pretreatment caloric restriction
- Slower response to treatment
- Less weight gain during treatment
- Achieving a BMI ≤20 kg/m^2 following treatment
- Weight loss during the initial few weeks following care
- More residual symptoms following acute recovery
- Overvaluing weight to a greater degree following acute recovery
- Body image distortion following acute recovery
- Persistent weight concern following acute recovery

Patients with anorexia nervosa may be encouraged to hear that relapse in the short-term does not preclude long-term success [8].

Nonresponders — CBT for anorexia nervosa 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

For nonresponsive patients, clinicians should use the range of CBT components that address dysfunctional concerns about body weight and shape, as well as modules that address perfectionism and interpersonal functioning [7]. Alternatively, other psychotherapies are available for anorexia nervosa, including specialist supportive clinical care, family therapy, cognitive-analytic therapy, interpersonal psychotherapy, or psychodynamic psychotherapy [21,54]. In addition, day hospital or inpatient treatment may be indicated, particularly for patients who:

- Lose weight steadily (eg, over four weeks)
- Develop medical complications (eg, cardiac abnormalities, endocrinopathies, electrolyte imbalances, or fatigue)
- Suffer suicidal ideation or behavior

Clinicians may need to involve family members in decisions about treatment of nonresponsive patients with anorexia nervosa. As an example, if a patient steadily loses weight over a month, then fails to attend a therapy session, fails to contact the clinician, and fails to reply to the clinician's attempt to contact the patient, the clinician should then contact a family member identified at the beginning of therapy.

Other resources — CBT is usually delivered according to a treatment manual that standardizes the procedures to be used and content of each session [8,55].

Severe and enduring anorexia nervosa — Anorexia nervosa may be severe and persist for many years (eg, more than seven years) [56]. For these patients, we suggest using the same CBT protocol (see 'Therapeutic protocol' above), but modifying the treatment goals to focus more upon stabilizing patients and less upon recovery [23,57], provided this approach is aligned with the individual's values and preferences, and if the patient has had limited success with weight restoration and traditional recovery goals. The modified goals include adhering to treatment, minimizing harm, improving quality of life and functioning, and avoiding further experiences of failure that may lead to demoralization and helplessness. This approach takes into account the long-standing central role that the illness has played in the patient's life, as well as persistent neurocognitive deficits and the low level of motivation to change. Although weight gain and recovery from core features (eg, distorted perception of body weight and shape) of anorexia nervosa are encouraged, these become secondary goals. Nevertheless, medical safety remains a primary goal and is monitored. The efficacy of adapting CBT for severe and persistent anorexia nervosa is discussed separately. (See 'Severe-enduring illness' below.)

EVIDENCE OF EFFICACY

For low-weight anorexia nervosa (body mass index [BMI] <18 kg/m^2), acute and maintenance treatment studies suggest CBT may be beneficial. However, randomized trials indicate that CBT is not more effective than other psychotherapies, such as specialist supportive clinical management, interpersonal psychotherapy, or psychodynamic psychotherapy [58,59].

Acute treatment — For patients with anorexia nervosa, randomized trials suggest that CBT is comparable to usual care and to other psychotherapies such as specialist supportive clinical management, psychodynamic therapy, and family therapy [18,60]:

- The Anorexia Nervosa Treatment of OutPatients trial compared CBT, psychodynamic psychotherapy, and usual care in 242 patients; treatment included care from a family physician and lasted 10 months, and patients were assessed 12 months after completing treatment [61]. CBT consisted of transdiagnostic ("enhanced") CBT, a version that was developed to treat all eating disorders. Psychodynamic therapy focused upon the therapeutic alliance between the patients and the therapist, relationships, and treatment termination. Usual care included referrals for psychotherapy. Improvement in BMI (calculator 1) was comparable for the three groups (approximately 1.4 kg/m^2). However, approximately 20 to 30 percent of patients in each group still met full diagnostic criteria for anorexia nervosa.

- One trial randomly assigned 120 patients with anorexia nervosa to 10 months of treatment (25 to 40 sessions) with one of three psychotherapies: transdiagnostic CBT, specialist supportive clinical management, and Maudsley Model Anorexia Nervosa Treatment for Adults [62]. Specialist supportive clinical management includes supportive psychotherapy along with clinical management, and the Maudsley Model therapy addresses the patient's specific eating disorder symptoms, personality traits, and neuropsychological features. The percentage of patients who achieved a BMI >18.5 kg/m^2 at the 12-month posttreatment follow-up assessment was as follows:

  - CBT – 59 percent
  - Maudsley model therapy – 44 percent
  - Specialist supportive clinical management – 48 percent

  Although the difference between CBT and each of the other two psychotherapies was not statistically significant, differences of these magnitudes, if real, would be clinically meaningful.

- An 18-month randomized trial compared CBT with combined family therapy plus individual therapy in young adult females with anorexia nervosa (n = 74, average BMI 16.5 kg/m^2) [63]. Each treatment group received up to 60 hours of therapy. Recovery, which was defined as no longer meeting diagnostic criteria for anorexia nervosa, was comparable with CBT and family therapy plus individual therapy (89 and 81 percent of patients). In addition, the posttreatment BMI and rate of weight gain were each comparable in the two groups. Although the results suggest that both treatments have clinical utility and can be

implemented based upon patient preference and clinical availability, the lack of a no-treatment control group makes it difficult to interpret the results.

In addition, a case report found that cognitive remediation therapy, which addresses neurocognitive function (eg, shifting set) can reduce attrition when delivered as an adjunct to CBT [64].

Core components — CBT addresses specific components of dysfunctional beliefs and behaviors that are thought to maintain anorexia nervosa, including three components of body image concern: overvaluation of body shape or weight, intense fear of gaining weight, and feeling fat. Focusing upon these components may perhaps improve outcomes. In a prospective observational study of 66 adult inpatients with anorexia nervosa who were treated for 20 weeks with CBT, improvement in any one of the three components was associated with achieving a BMI >18.5 kg/m^2 at the six-month follow-up assessment [65].

Severe-enduring illness — For patients with severe and enduring anorexia nervosa, CBT is modified by shifting the goals of treatment from weight gain and symptom recovery to harm reduction and enhancing quality of life [57]. (See 'Severe and enduring anorexia nervosa' above.)

Evidence that supports modifying CBT for severe and enduring anorexia nervosa includes an eight-month randomized trial that compared modified CBT with specialist supportive clinical management (this approach combines clinical management, such as education, with supportive psychotherapy) [23]. The sample included patients (n = 63) who had anorexia nervosa for at least seven years; the average duration of illness was approximately 17 years. Both treatments provided 30 sessions of individual treatment. The retention rate for modified CBT was high (85 percent), compared with the retention rate in typical CBT for anorexia nervosa (approximately 50 percent). In addition, quality of life at the end of treatment was improved in patients who received modified CBT. At the six-month follow-up, patients who received modified CBT reported further improvement in social adjustment and reduced eating disorder psychopathology. The benefits of modified CBT and specialist supportive clinical management were comparable for nearly all outcomes at all assessments.

Maintenance treatment — Maintenance CBT has demonstrated efficacy in delaying or preventing relapse in patients who recover from episodes of anorexia nervosa:

- A one-year randomized maintenance trial compared CBT with nutritional counseling in 33 outpatients with anorexia nervosa who successfully completed inpatient treatment (ie, resumed normal eating and regained weight). Treatment failure (either relapse or

dropping out) occurred in significantly fewer patients who received CBT than nutritional counseling (22 versus 73 percent) [11].

- A one-year observational maintenance study compared CBT with treatment as usual in 88 patients with anorexia nervosa who successfully completed inpatient or day hospital treatment [12]. Time to relapse was significantly longer with CBT.

Patients with anorexia nervosa who receive maintenance CBT do not benefit from adjunctive pharmacotherapy, based upon one randomized trial [49]. The efficacy of pharmacotherapy for anorexia nervosa is discussed separately. (See "Anorexia nervosa in adults: Pharmacotherapy", section on 'Evidence of efficacy'.)

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 clinical features of anorexia nervosa (table 1) are restricting energy intake, which leads to a significantly low body weight (defined as a weight that is less than minimally normal), given the patient's age, sex, developmental trajectory, and physical health; intense fear of gaining weight or becoming fat, or persistent behavior that interferes with weight gain, despite a weight that is significantly low; and disturbance in how one experiences body weight and shape, undue influence of weight or shape on self-worth, or denial of the seriousness of one's low body weight. (See "Anorexia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis", section on 'Diagnosis'.)

- The initial clinical evaluation of patients with a possible diagnosis of anorexia nervosa includes a psychiatric and general medical history, mental status and physical examination, and focused laboratory tests. If the patient was previously treated with cognitive-behavioral therapy (CBT), the clinician should establish which components were beneficial. (See "Anorexia nervosa in adults: Clinical features, course of illness, assessment, and diagnosis", section on 'Assessment'.)

- CBT plus other interventions, including nutritional rehabilitation, is indicated for treatment of low-weight patients with anorexia nervosa. In addition, CBT is efficacious for preventing

relapse. Use of CBT requires sufficient motivation, cognitive capacity, emotional stability, and energy to participate in therapy. Contraindications to CBT include general medical instability, suicidal ideation or behavior, and psychosis. (See 'Indications' above and 'Evidence of efficacy' above and 'Overview of treatment for anorexia nervosa' above and "Eating disorders: Overview of prevention and treatment", section on 'Treatment'.)

- The cognitive-behavioral model of therapy focuses upon the clinical features that maintain anorexia nervosa. 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. (See 'Theoretical foundation' above.)

- CBT is a time-limited, structured, manual-based treatment that combines cognitive therapy and behavior therapy, and emphasizes changing current dysfunctional cognitions (thoughts and beliefs about body weight and shape) and behavioral disturbances (eg, excessive food restriction). (See 'General principles' above.)

- For outpatient treatment of anorexia nervosa with individual CBT, we generally use a protocol that consists of four phases delivered in approximately 50 sessions over one year. Phase 1 aims to orient patients to treatment, enhance motivation, and introduce self-monitoring. Phase 2 employs interventions to change maladaptive cognitions and behaviors; the primary goal is weight gain and preventing weight loss. Phase 3 addresses the core belief that self-worth is predicated upon thinness and the ability to control weight. Phase 4 focuses upon relapse prevention. (See 'Therapeutic protocol' above.)

- CBT can be adapted for severe and enduring anorexia nervosa, such that the principles and structure of CBT are retained, but the goals of treatment shift from weight gain and symptom recovery to harm reduction and maximizing quality of life. (See 'Severe and enduring anorexia nervosa' above.)

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