

No part of this digital document may be reproduced, stored in a retrieval system or transmitted commercially in any form or by any means. The publisher has taken reasonable care in the preparation of this digital document, but makes no expressed or implied warranty of any kind and assumes no responsibility for any errors or omissions. No liability is assumed for incidental or consequential damages in connection with or arising out of information contained herein. This digital document is sold with the clear understanding that the publisher is not engaged in rendering legal, medical or any other professional services.

Chapter 13

Cognitive Behavioral Therapy for Bulimia Nervosa

*Devra Lynn Braun, M.D.**

Weill Cornell Medical College New York, New York, US

Abstract

Cognitive behavioral therapy (CBT) has been widely endorsed as the initial treatment of choice for bulimia nervosa (BN). According to the cognitive behavioral model on which the treatment is based, BN develops and is perpetuated as a result of a vicious cycle of interrelated cognitions and behaviors associated with low self-esteem, extreme concerns about shape and weight, strict dieting, binge eating and self-induced vomiting.

While CBT specifically tailored for the treatment of BN (CBT-BN) is generally considered the single most effective current treatment, fewer than half of subjects assigned to CBT-BN in most studies are abstinent from binge eating and purging by the time treatment concludes. Recent advances in our understanding of brain processes and of the pathogenesis of eating disorders have inspired the modification and expansion of the original CBT-BN model. This chapter describes the evolution of a more individualized, broadened CBT-BN treatment protocol and provides practical information about how to implement it clinically.

Introduction

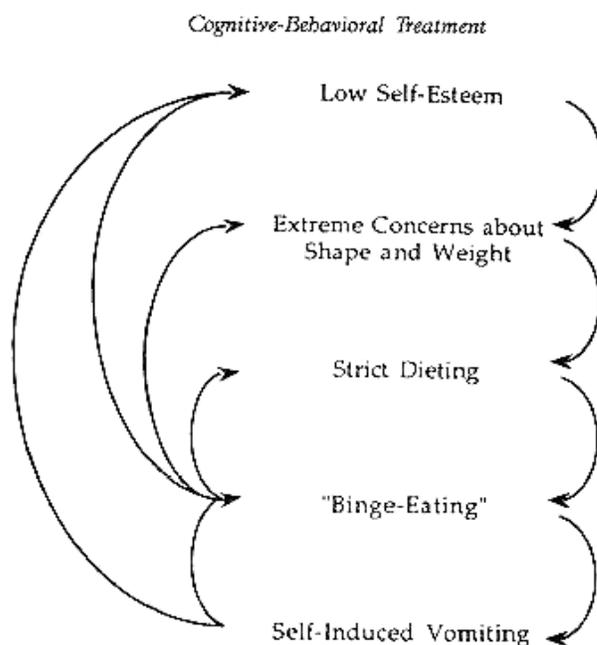
Cognitive Behavioral Therapy for Bulimia Nervosa: An Evidence-Based Psychotherapy

Cognitive behavioral therapy (CBT) is widely recognized as the treatment of choice for bulimia nervosa (BN) (Mitchell, Agras and Wonderlich, 2007; Wilson and Pike, 2001; NICE,

* Email: imap_of_greenwich@yahoo.com.

2004; American Psychiatric Association Practice Guideline, 2006) based on nearly three decades of outcomes research (Shapiro, Berkman, Brownley, Sedway, Lohr and Bulik, 2007).

CBT specifically tailored for the treatment of BN (Fairburn, 1981) was developed by Fairburn shortly after BN was introduced in the medical literature in 1979 (Russell, 1979). According to the model, the development and perpetuation of BN is due to a vicious feedback cycle of interrelated cognitions and behaviors associated with low self-esteem, extreme concerns about shape and weight, strict dieting, binge eating and self-induced vomiting (illustrated in Figure 1, below).



From "Cognitive-behavioral therapy for binge eating and bulimia nervosa: a comprehensive treatment manual" by Fairburn CG, Marcus MD, Wilson GT. (1993). In *Binge Eating: Nature, assessment and treatment*. Fairburn CG, Wilson GT, Eds. New York: Guilford Press, p 369. Reprinted by permission of CG Fairburn.

Figure 1. Fairburn's Cognitive-Behavioral Model for the Development and Maintenance of Bulimia Nervosa.

Fairburn and the group at Oxford University used this model as the basis for a manualized, theory-driven CBT for adult outpatients diagnosed with BN (Fairburn, 1985). This manual has been widely utilized by both researchers (Fairburn et al., 1991; Fairburn, Norman, Welsh, O'Connor, Doll and Peveler, 1995) and clinicians (Fairburn, Marcus and Wilson, 1993; Fairburn, 1985).

In 2004, manualized individual CBT-BN was the first non-pharmacological therapy to be recommended by the U.K.'s National Institute for Clinical Excellence (NICE) as the initial treatment of choice for a psychiatric disorder (Wilson, Grilo and Vitousek, 2007; NICE,

2004). NICE recommended offering 16 to 20 sessions of CBT-BN to most adults presenting with BN (NICE, 2004).

In recent years, eating disorder treatment outcome studies have continued to show the effectiveness of CBT even as their methodologies have improved. Studies have increased in size and statistical power (NICE, 2004); and treatments, diagnostic instruments, and outcome measures have been better standardized. In addition, longer-term follow-up data have accumulated (Agras, Walsh, Fairburn, Wilson and Kraemer, 2000; Cooper and Steere, 1995; Fairburn et al., 1995; McIntosh, Carter, Bulik, Frampton, and Joyce, 2010; Shapiro et al., 2007).

Fairburn's original model has been updated with an "Enhanced" CBT model that is meant for use with patients anywhere on the eating disorder spectrum, from anorexia, to binge eating disorder to EDNOS (Fairburn, 2008). The premise behind transdiagnostic CBT is that the overvaluation of shape and weight and their control is a common feature in the development of an array of eating disorders. Support for transdiagnostic thinking also comes from evidence that most patients migrate across diagnoses over time. "Normal weight bulimics" often straddle diagnostic boundaries, and it has been suggested that in recent years an increasing proportion may be overweight or obese when they present for treatment (Bulik, Marcus, Zerwas, Levine, and La Via, 2012).

General Advantages of CBT-BN

- Effectiveness in treating core bulimia-related symptoms (Agras et al., 2000; Hay, Bacaltchuk and Stefano, 2004; Shapiro et al., 2007);
- Beneficial influence on a spectrum of associated attitudes including concerns about shape and weight, dietary restraint, self-directedness and self-esteem (Agras, et al., 2000; Anderson, Joyce, Carter, McIntosh and Bulik, 2002; Shapiro et al., 2007; Wilfley and Cohen, 1997);
- Rapid onset of action: significant changes are commonly noted within a few weeks of beginning treatment (Wilson, Fairburn, Agras, Walsh, Kraemer, 2002; Wilson, Vitousek and Loeb, 2000);
- Durable effect: improvement is generally maintained at 6 and 12 month follow-up (Agras et al., 2000; Fairburn et al., 1995);
- Brief duration and cost-effectiveness: Manualized treatment usually involves 18 to 20 sessions over a four to five month period (Fairburn, et al., 1993; Fairburn, 2008);
- Comparable or superior efficacy to medication alone, with better long-term maintenance of change (Jacobi, Dahme and Dittmann, 2002; Pyle, Mitchell, Eckert, Hatsukami, Pomeroy and Zimmerman, 1990; Walsh, Hadigan, Devlin, Gladis and Roose, 1991);
- Potential benefit to individuals who decline medication, cannot tolerate it, or for whom medication is inadvisable; lower dropout rate for CBT than medication in some studies (Agras et al., 1992);
- More effective in ameliorating core bulimic symptoms and more likely to result in abstinence from binge eating than other psychosocial interventions,

including supportive-expressive therapy, behavior therapy, nutritional counseling, group psychoeducation, and self-help (Fairburn, 1986; Fairburn et al., 1991; NICE, 2004; Shapiro et al., 2007);

- Wide availability of treatment manuals based on prototypes used with documented effect in clinical trials (Fairburn, 1985; Fairburn, 2008; Fairburn, et al., 1995).

Only interpersonal therapy (IPT) rivaled CBT-BN in outcome at long-term follow-up (Agras et al., 2000; Fairburn et al., 1995). IPT is an empirically supported focal psychotherapy that was originally designed to treat major depression (Klerman, Weissman, Rounsaville and Chevron, 1984). IPT addresses four major areas of interpersonal difficulty: grief, interpersonal role disputes, role transitions and interpersonal deficits. IPT therapists take an active, but non-directive role in teaching patients general and problem-specific strategies for improving interpersonal functioning.

Patients improved more rapidly with CBT-BN than with IPT in two important comparison studies (Agras et al., 2000; Fairburn et al., 1991). The CBT-BN group showed greater improvement in bulimic symptoms than the IPT group after the first few weeks of treatment. The IPT group continued to lag behind the CBT group throughout the formal treatment period. However, when reassessed after longer-term follow-up of eight months to five years, the IPT group had continued to improve, and there was no longer any significant difference in treatment outcome between groups. At the conclusion of successful IPT, patients often feel fully responsible for their improvement and have a sense of interpersonal competence and empowerment, which perhaps accounts for their continued improvement after formal treatment ends.

That IPT can be effective without explicitly focusing on food and weight underscores the importance of interpersonal conflict in triggering the negative affective states that are common precipitants for bulimic behaviors. During the past decade, the cognitive-behavioral model has expanded to more explicitly acknowledge non-weight related factors such as problems with relationship skills or affect regulation that can lead to a cascade of negative thoughts, feelings, and actions that may end in a final common bulimic pathway (Figure 2). The therapist is encouraged to adopt a broad cognitive-behavioral focus that allows for examination of dysfunctional interpersonal and emotional processes that may contribute to the bulimic cycle.

Limitations of Standard CBT-BN

- Only 30-50% of intent to treat samples typically achieve abstinence from binge eating and purging, with substantial variation across studies (Agras et al., 2000; Fairburn et al., 1995; Wilson et al., 2007).
- Reported measures of statistically significant improvement may not translate into clinically significant change; for example, statistically significant change in bulimic attitudes does not necessarily equate with improvement in bulimic behaviors (Openshaw, Waller and Sperlinger, 2004).

- Dramatic reductions in average binge and purge frequencies following CBT-BN may convey a deceptively rosy picture as patients who are bingeing and purging multiple Times daily at the outset of a study still remain quite symptomatic even if treatment reduces binge and purge frequencies by 50%.

DIETING:	A perfectionist who has low self-esteem and overvalued beliefs about the importance of weight and shape begins rigid, restrictive dieting. Social reinforcement temporarily boosts self-esteem and sense of control.	Self Esteem 
BINGEING:	Negative moods as well as physiological and psychological responses to food restriction lead to preoccupation with food, and overwhelming urges to binge. Inevitable violation of the diet's restrictive rules leads the all- or- nothing thinker to conclude that she has "blown everything" so she "might as well" binge.	
PURGING:	Purging can follow, commonly triggered by: Sensations of physical fullness paired with cognitions equating feeling full with "feeling fat" or having overeaten; Negative affect, including feelings of guilt and shame; Distorted belief that purging erases the caloric effects of binge eating. Such cognitions can disinhibit binge eating and encourage larger binges, which facilitate self-induced vomiting.	

Figure 2. Typical Cognitive-Behavioral Cycle Leading to Development and Maintenance of BN.

Incorporating CBT-BN into Eclectic Treatments

In practice, clinicians commonly combine elements of CBT with other psychological treatments or with medications. There is inconclusive evidence as to whether combining or sequencing CBT-BN and medications confers an advantage over using CBT-BN alone (Shapiro et al., 2007), and combined treatments may have higher dropout rates than CBT-BN alone (Goldbloom et al., 1997).

There is also no empirical support for the common practice of combining elements of CBT with elements of psychodynamic therapy, IPT or addiction-based approaches. Combining conceptually or procedurally incompatible approaches (Fairburn, 2008; Wilson et al., 2007) might confuse the patient, dilute the focus of CBT, and undermine its effectiveness (Wilson et al., 2007). Despite these caveats it is common practice for clinicians to combine approaches, especially CBT and IPT (Fairburn, 2008; Hendricks and Thompson, 2005).

A preset timeframe for brief treatment may have advantages; it has been argued that the brief treatment structure serves to optimally concentrate the minds of patient and therapist, conveys concrete expectations for rapid improvement, and enables the patient to take ownership of the improvements that often continue in the weeks and months following cessation of treatment (Wilson et al., 2007).

There is strong evidence supporting the use of manuals in general clinical practice and little support for clinicians' commonly held belief that they can deliver equivalent care without manual guidance. Yet most clinicians work without manuals when treating eating disorders (Tobin et al., 2007) and those without manuals usually do not succeed in delivering treatments that align with ones whose efficacy has been validated in research trials (Wallace, von Ranson 2011).

What Is Cognitive Behavioral Therapy?

CBT draws from the cognitive formulations of Aaron Beck, Albert Ellis, and others (Beck, 1976; Beck, Rush, Shaw and Emery, 1979) and from the theories of Watson, Skinner, and other behaviorists (Skinner, 1950). Behaviorist explanations of psychopathology are based primarily on principles of learning and conditioning. For example a basic tenet of behaviorism is the prediction that the probability that a behavior will recur in the future generally increases if it has positive consequences and decreases if it is ignored or penalized. Behaviorists look for direct or indirect "rewarding" or stress-reducing effects that may be perpetuating dysfunctional behaviors; they also search for possible adaptive "functions" that a behavior—even a behavior that is, on the whole, maladaptive or dysfunctional—may have in a patient's life. Such "functional analyses" of behavioral logs inform suggestions for environmental change. The behaviorist model is based on the tenet that environmental change can shape behavioral changes and that behavioral changes will lead to changed thoughts and feelings.

If the behaviorist model aims to use behavioral change to foster cognitive and affective change, then the cognitive model is in some ways the behaviorist model turned on its head. The cognitive model focuses on cognitive determinants of moods and behavior and the ways in which cognitive change can foster behavioral and mood change.

The cognitive approach to the treatment of BN is modeled on Aaron Beck's cognitive therapy for depression (Beck et al., 1976). Particularly helpful are the examples of ten common cognitive distortions and interpretive errors synthesized by David Burns (1989). These include all-or-nothing thinking, overgeneralizing, jumping to conclusions, magnifying negatives, labeling and catastrophizing. Cognitive therapy teaches patients to identify interpretive errors in general and distorted thoughts and attitudes about shape, weight and eating, in particular. Self-monitoring exercises teach patients to notice the circumstances and cognitions that precede episodes of restrictive dieting, binge eating or purging. Therapists and

patients then examine the self-monitoring logs together, noting problematic thoughts that may have preceded episodes of disordered eating.

Clinical Vignette

Directly before an episode of binge eating, Linda, a 19-year-old college student with BN, wrote the following in her log: “I’m such a loser, I have no self control. I stayed on my 800-calorie diet perfectly for two days ... and then what? I had three Oreos. Here I go again...Either I am doing great on my diet or I blow it all. I already feel fat.”

Linda’s distorted cognitive processes include all-or-nothing thinking, emotional reasoning (“I feel fat, so I must be fat”), catastrophizing, overgeneralizing and labeling. To help Linda recognize her distorted thinking, her psychotherapist asks her to objectively (as if she were providing evidence in a court of law) evaluate the statement that three cookies constitutes “blowing it all.” She is asked to list arguments or evidence that supports her conclusion and evidence that casts doubt on her conclusion and then to arrive at an alternative reasoned conclusion. Such restatements are sometimes called “reframes,” a metaphorical reference to the way in which the same painting may look different in a different frame. A template for the technique of cognitive challenge is provided in Table 1, below.

Table 1. [Template for] Cognitive Challenge of a Problematic Thought

Record the problematic thought:	
List arguments or evidence that support the statement: — — —	List arguments or evidence that cast doubt on the conclusion: — — —
REFRAME: Arrive at a reasoned conclusion or alternative statement	

While “negative self-talk” and distorted interpretations of reality such as Linda’s (above) certainly may contribute to anxiety or negative mood states, few clinicians today would endorse the simplistic perspective that distorted cognitions in themselves actually cause depression and anxiety.

Our current understanding of brain circuitry, supported by neuroimaging evidence, has made it apparent that emotional states and behavioral responses are strongly influenced by forces beneath the level of our conscious awareness (Viamontes and Beitman, 2006). Among the unconscious determinants of behavior and mood are sensory stimuli that are registered and responded to by the brain without ever reaching the level of our conscious awareness, and knowledge and associations held in unconscious pathways such as our implicit memory system. Since behaviors and emotional responses may be inaccessible to cognitive notice or modulation, there are inherent limitations to cognitive therapy. Likewise, general principles of operant conditioning and behaviorism have limitations in their ability to explain complex

behaviors such as binge eating and purging, which are likely to have genetic and evolutionary determinants. General laboratory principles of behaviorism do not account for the fact that humans can develop certain behavior patterns more readily than others. Evolutionary priming or preparedness makes particular behavioral habits relatively easy to learn and hard to extinguish (for example, overeating or bingeing on foods high in fat and sugar). Finally, our individual genetic makeup as it is expressed as a result of our interaction with our particular environment determines many characteristics that may contribute to the development of BN - for example, a tendency toward weight gain or particular personality dimensions.

Integrated cognitive-behavioral models provide a framework for attempting to assess and modulate psychopathological behaviors that result from the dynamic interaction of genes, environment, and stress-inducing maladaptive patterns of thought and behavior.

CBT Tailored for the Treatment of BN

CBT-BN targets the specific maladaptive cognitive-behavioral patterns that characteristically contribute to the development and maintenance of BN. CBT-BN also uses general CBT techniques to defuse nonspecific “negative self-talk” and other dysfunctional cognitive-behavioral habits that can trigger negative moods and bulimic behaviors.

The BN-specific cognitive behavioral vicious cycle is set in motion in the context of intersecting environmental stress and genetic vulnerability. Among the most vulnerable to developing BN are individuals with low self-esteem who are subject to sociocultural pressures to be thin. Such individuals may develop a belief in the importance of shape and weight as a principal determinant of their self-worth. As a result, they may come to equate dieting and weight loss with control and enhanced self-worth. Under certain circumstances, especially if they have a tendency toward dichotomous thinking and perfectionism, and are subject to other stressors, some of these vulnerable individuals may make radical attempts to bolster their self-esteem by implementing severely restrictive, inflexible diets in an attempt to rapidly lose weight. (*Figure 2*)

Restrictive diets and rigid dietary rules can cause strong feelings of physical and emotional deprivation, which may trigger binge eating. Purging may begin as an attempt to take charge of the out-of-control situation. The myth that purging can effectively prevent the absorption of calories may have the result of disinhibiting binge eating by uncoupling it from the deterrent fear of weight gain. Purging may in fact lead to larger binges, because it is easier to self-induce vomiting after a large binge than a small overindulgence.

In the years since the development of the cognitive-behavioral model for BN, emerging data have both supported the basic tenets of the model and suggested the need for expansion and modification. Recent studies in neuroscience and neuroimaging have provided support for the observation that cognitions are distorted and biased toward the negative in patients with BN (Legenbauer, Vocks and Ruddle, 2008) as well as in patients with depression and other psychiatric diagnoses. Neuroimaging studies are beginning to demonstrate that successful treatment with CBT results in observable changes and even apparent normalization of pre-treatment abnormalities in neural circuitry that have been observed in patients with depression and anxiety disorders (Baxter et al., 1992; Goldapple et al., 2004; Linden, 2006; Brambilla, Grave, Calugi, Marchesini, Baroni, Marazziti, 2009).

The CBT-BN assumption that dieting is a key precipitant for the onset of BN in susceptible individuals has been generally supported by empirical data (Brewerton, Dansky, Kilpatrick, and O'Neil, 2000). However, it has become apparent that subsets of individuals develop BN by purging and then beginning to binge eat, without having previously engaged in strict dieting (Byrne and McLean, 2002). This is one example of a variant or alternate pathway to the development and maintenance of BN that was not part of the original model. Several researchers have experimented with broadening and individualizing basic CBT-BN, guided by functional analyses and other methods of identifying thoughts, feelings or behaviors that may play a role in the perpetuation of the eating disorder (Fairburn, Cooper and Shafran, 2003; Fairburn, 2008; Ghaderi, 2006). The Oxford group and others have suggested that CBT should be individualized transdiagnostically—not on the basis of categorical diagnostic categories, but on the basis of symptom clusters and pathological cognitive-behavioral patterns that might be addressed in a modular fashion in conjunction with standard CBT. Examples of individualized areas which might be targeted as potentially contributing to the maintenance of the disorder include “clinical” perfectionism and dichotomous thinking, interpersonal difficulties, core low self-esteem, problems with affect regulation and mood intolerance, and obsessional focus on the control of shape and weight. Whether the enhanced, more individualized CBT-BN will have greater efficacy than standardized CBT-BN remains unclear (Ghaderi, 2006; Lampard et al., 2011; Cooper, Fairburn, 2011).

CBT-BN: 20 Sessions, “from Soup to Nuts”

The following section outlines the structure and content of Fairburn’s CBT-BN (Fairburn et al., 1993). It also describes some of the features of Fairburn’s updated “Enhanced” CBT (Fairburn, 2008), and includes several clinical vignettes. (As the majority of individuals with BN are female, they are referred to in the female gender for the sake of stylistic simplicity).

Initial Evaluation

Standardized CBT-BN is generally conducted in 16 - 20 sessions over the course of 4 or 5 months. A detailed initial assessment should precede the sessions. The most important purpose of this assessment is to begin establishing a working alliance with the patient and to engage her in treatment.

It is recommended that approximately 90 minutes be allotted for the initial evaluation.

A. Topics Should Include

- Hopes, expectations and fears about treatment;
- Detailed information about current eating patterns;
- Bulimic behaviors, including binge eating, restricting, purging, exercising or other compensatory behaviors;
- Attitude about weight and shape;
- Feelings about the bulimic behaviors and their ramifications: What aspect most distresses the patient, her friends and her family? What positive and negative

role or “function” does the bulimia serve in her life? What might motivate her to change or to resist change?

- Development and evolution of the disorder, and weight history;
- Current life circumstances.

B. Additional Information to Be Obtained (Screening Questionnaires May Be Used to Gain Supplemental Information if Desired)

- 1) Current and past psychiatric, medical and substance abuse problems;
- 2) History of psychological or pharmacological treatment;
- 3) Brief social and developmental summary;
- 4) Family history.

A workbook or text dedicated to CBT for eating disorders (such as those listed at the end of this chapter before the references) can prove helpful for both clinician and patient. It can help the clinician structure the assessment and treatment. Such books usually provide templates for patient self-monitoring records and psychoeducation handouts that can be distributed to patients in order to reinforce the topics that are covered in session.

The Three Phases of CBT-BN: Objectives

Phase I: Objectives at a Glance

CBT-BN can be divided into three phases. During Phase I of treatment, the main emphases are on establishing a treatment alliance, orienting the patient to treatment, and educating the patient about the cognitive-behavioral mechanisms that maintain eating disorder behaviors. The therapist works with the patient to create a personalized formulation of the behaviors and processes that seem to be maintaining the individual’s disordered eating. In the recent “enhanced” model of CBT the therapist has the opportunity to include in the formulation issues that are “external” to the core eating disorder pathways but nonetheless appear to be contributing to maintenance of the eating disorder. These contributing issues include perfectionistic thinking, core low self-esteem, interpersonal relationship difficulties and low tolerance for stress and mood changes.

An additional important objective of the first phase is to implement monitoring procedures and to establish goals for normalizing and structuring eating patterns. CBT-BN may commence with sessions either once or twice a week.

Principal Objectives for the First Few Sessions

Introduction to Treatment

- Establish a working alliance with the patient;
- Establish treatment framework and expectations;
- Outline timeframe, structure and goals of the different phases of treatment;

- Describe structure and content of individual sessions;
- Introduce weekly weighing;
- Explain importance and rationale of self-monitoring of food-related behavior and associated thoughts, feelings and environmental circumstances.

Initial Behavior Modification

- Implement self-monitoring;
- Implement weekly weighing;
- Institute a regular but flexible daily pattern of three discrete meals and one or two planned snacks.

Presenting the Basic Cognitive Behavioral Model for BN

Using Figure 1 and Figure 2, collaborate with the patient to formulate an individualized cognitive behavioral model of the forces maintaining the individual patient's eating disorder pathology. Review:

- General principles such as the bi-directional influence between behaviors and thoughts, feelings and beliefs;
- The rationale for targeting both cognitive and behavioral change;
- The bi-directional relationship between binge eating and dieting: Binge eating motivates patients to diet; dieting also leads to binge eating;
- The bi-directional relationship between binge eating and purging: Binge eating leads to purging, but purging promotes bingeing and sets the stage for larger binges.

Additional Objectives of Phase I

- Assess eating disorder patterns;
- Discuss treatment expectations and past treatment experiences;
- Document specific details about the patient's binge eating and purging and the perceived function that they serve (e.g., weight management, self-soothing);
- Harness the expectation effect: Provide information about the effectiveness of treatment;
- Assess patient's motivation to change;
 - Enhance motivation through psychoeducation about the health consequences of bulimic behaviors:
 - Describe short and long-term physical and psychological consequences of restrictive dieting, binge eating, self-induced vomiting, laxative abuse, and compulsive exercise;

- Describe negative psychological and metabolic consequences of starvation, including anxiety, preoccupation with food, risk of bingeing;
- Discuss ineffectiveness of purging for weight control;
- Assess patient's resistance to change;
- Identify, validate and address potential obstacles to treatment, including fear of failure, fear of change, and fear of giving up familiar responses to stress.

Phase 2 Objectives

In the weekly meetings during the second phase of treatment, further emphasis is placed on identifying binge triggers, learning cognitive restructuring techniques and establishing healthy eating patterns. Self-monitoring tasks and cognitive strategies are used to analyze the thoughts, beliefs and values that trigger and maintain the bulimic behaviors. Patients work on cognitive restructuring and modifying the environmental factors that contribute to the perpetuation of the disorder.

Phase 3 Objectives

During phase three, the focus is on maintenance of change and planning for relapse prevention. The last few sessions are often conducted at bi-weekly intervals.

Self-Monitoring: A Keystone of Treatment

A keystone of CBT treatment is the self-monitoring of eating behavior. Patients are asked to record the time and setting of all food intake and associated thoughts and feelings. Since self-monitoring can be tedious and time-consuming, the therapist must set up conditions during the first session and reinforce them in later sessions so that the patient will be likely to follow through with this treatment requirement. Some suggestions for how to do this follow:

- 1) Explain the importance of self-monitoring to allow the detailed focus on thoughts and behaviors outside of the session.
- 2) Educate the patient about the widespread endorsement of self-monitoring as central to the treatment of BN and the fact that self-monitoring alone may help to reduce symptoms (Agras, Schneider, Arnow, Raeburn and Telch, 1989).
- 3) Outline the requirements for self-monitoring, and focus early in each session on the logs, praising the patient for completing them. If the logs are incomplete, devote some effort to understanding why they have not been completed, but praise the patient for any acts approximating working on the logs (e.g., thinking about filling them out, etc.).

If any episode is perceived as a binge, the patient is asked to record the emotional, physiological and environmental circumstances that preceded it. After recording these

incidents for a week or so, patterns usually emerge quite clearly. For example, some people typically binge when they are bored, others when they feel lonely; still others binge on vacations, or after they drink or use drugs.

In many instances, the patient's self-monitoring records allow the clinician to present hypotheses about the factors that may trigger bulimic behaviors. For example, it may become apparent that a patient not only typically binges at night, but that she binges on nights when more than six hours have elapsed since her last meal and she is exposed to a sensory temptation such as a buffet or a nearby bowl of candy.

In CBT-BN, each session has an agenda, and the clinician manages the pace of the session to adhere to the agenda. To preempt the possibility that the patient might feel that she is being "pushed around" or might become passive and allow the therapist to take over, the therapist must establish a therapeutic stance that has been referred to as "collaborative empiricism." The therapist and patient must collaborate as an investigative team intent on taking note of the cognitive and behavioral patterns associated with the bulimic behaviors, and developing and testing hypotheses about these patterns with the aim of instituting alternative ways of thinking and behaving.

Clinical Vignettes Modeling the Essential Elements of CBT-BN

In the following section, essential elements of CBT-BN are modeled in clinical vignettes.

Clinical Vignette 1: Mark, a 25-Year Old Professional Ballet Dancer

Mark, a 25-year-old dancer, has a genetic predisposition for weight gain. In a typical Western social environment, there would not be great social pressure for Mark, as a male, to attain a weight that was more ideal than average. However, in certain male microenvironments such as ballet, wrestling, acting, modeling or gymnastics, there is an extreme emphasis on thinness and ideal shape. In keeping with a stress-diathesis model for the pathogenesis of psychiatric disorders, the cognitive behavioral model reflects the importance of the interaction between genes and environment in the pathogenesis of eating disorders.

Mark is at risk for developing an eating disorder because of his genetic predisposition to deviate from the exacting weight expectations of his social group, combined with his low self-esteem and dependence upon the praise of others to sustain a sense of self-worth (which also may be genetically primed) (Fairburn et al., 1997).

Mark is lonely after breaking up with his girlfriend and has gained a few pounds. After a ballet rehearsal that did not go well he has been ruminating obsessively about how fat he looks compared with the other dancers. He goes on a strict 900-calorie diet that drastically restricts carbohydrates.

He sticks to the diet scrupulously, loses five pounds, and is praised by his instructor.

After the next performance, he has a few drinks at the troupe party, and can't resist a piece of chocolate cake. Feeling depressed and angry with himself, he thinks about how he

is a real “loser” who is unable to stick to a diet when everyone else can. He goes back on the low carbohydrates diet. Over time, the effects of physiological and psychological deprivation build up. After dancing, he feels irritable and exhausted due to the lack of carbohydrates and frequently violates the strict diet, leading him to have the repeated experience of feeling like a failure.

Episodes of simply overeating or violating the diet’s rules alternate with episodes of binge eating, eroding his already low self-esteem and sense of control. He adopts even more rigid and restrictive rules, believing that without them he would be completely out of control and would be binge eating all of the time. As this cycle progresses and he feels more and more out of control and fearful of weight gain, he begins “compensatory” vomiting and excessive exercising. The erroneous belief that vomiting removes most calories ingested during a binge erodes his constraints against both binge eating and purging. His binges become larger, as that makes it easier for him to self-induce vomiting. His body and brain’s system of appetite regulation and satiety, which relies on predictable absorption of nutrients after food ingestion, becomes increasingly dysregulated.

Mark’s therapist explains to him the way in which purging and restricting fuel the fires of binge eating. The therapist helps Mark to challenge the assumption that a very low carbohydrate diet is realistic for a dancer and that other people could adhere to it. He encourages Mark to consider the possibility that his repeated experiences of failure may be a result of having set such unrealistic standards.

Standard supportive psychotherapy might explore the origins of his low self-esteem and perfectionism at this point. The CBT-BN therapist however, stays focused on the current dysfunctional eating. In doing so, the therapist is able to address the way in which bulimic behaviors are triggered by the negative affective states that indirectly result from rigid perfectionism, dichotomous thinking, and self-deprecating cognitions.

Mark agrees to institute a regimen of three meals and two planned snacks, each one containing a balance of carbohydrates (with an emphasis on complex carbohydrates), protein, and fats. After two weeks of self-monitoring and the balanced food regimen, Mark is relieved to find that he has ceased binge eating and feels less irritable and more energetic.

Table 2, which follows, presents a vignette and commentary about Pamela, a 33-year old accountant with BN. Pamela is reluctant to begin treatment because she is afraid that she will gain weight if she stops purging. The vignette below presents a model for how a therapist might effectively address these concerns.

CBT-BN helps patients, such as the one described above appreciate that their problem is not solely either binge eating or purging, but an interactive cycle in which dieting, purging and dysfunctional attitudes about weight and shape all interact to perpetuate the eating disorder. Once patients understand and accept this concept, they may be willing to experiment with behavioral changes such as instituting a structured pattern of meals and snacks.

In addition, with the modified and broader model of more individualized CBT-BN, clinicians can use the powerful tools of CBT to address distorted non-food-related cognitions that may underlie the negative affective states that commonly trigger dysfunctional eating. The tools and exercises learned in CBT can help patients to recognize the positive results of behavioral changes in interpersonal domains as well as in eating behavior, which can further motivate them to experiment with alternative patterns of thought and behavior.

Table 2. Presenting Essential Elements of CBT-BN

Session 1 Therapy Objectives	Vignette and commentary: Pamela, a 33-year-old accountant
Establish rapport and a therapeutic alliance	<p>The strength of the therapeutic alliance has consistently been correlated with treatment outcome in various types of psychotherapy, including CBT-BN (Loeb et al., 2005). The strength of the alliance has been related to expectation effects, attunement, and the therapist’s communication of a coherent treatment framework to the patient.</p>
Establish a stance of collaborative investigation	<p>To establish a positive working relationship, it is helpful for the therapist to convey a sense of confidence and positive expectation but to avoid any stance that might be interpreted as controlling or patronizing. Individuals with eating disorders are often particularly sensitive to control issues. Parents and competitive peers may have scrutinized them or used coercive force to try to get them to eat differently, to gain weight, or to stop purging. Patients may be in the habit of lying and hiding bulimic behaviors in order to avoid scrutiny. Therefore, it is vital that the therapist establish a collaborative stance and a tone of investigative curiosity as opposed to one of accusation or argument. The therapist must convey to the patient the sense that, for example, a question such as, “Why did you delay dinner until 8 pm?” is meant to communicate neutral curiosity and interest in the reasoning that led to the delay, not an accusation implying “Why did you do something so stupid as to delay dinner?”</p>
Validate the patient’s concerns, using language that is as neutral as possible	<p>During the first session, the therapist explores the patient’s motivation to engage in treatment as well as her concerns about treatment. The therapist validates the patient by acknowledging that the patient has these trepidations and concerns, without trying to “talk her out of” them at this point.</p>

Table 2. (Continued)

Session 1 Therapy Objectives	Vignette and commentary: Pamela, a 33-year-old accountant
<p>Communicate positive expectations about treatment outcome</p> <p>Avoid reinforcing the patient's negative cognitions</p> <p>Communicate the importance of fact-finding in developing a joint formulation</p>	<p>Pamela (P): "I came here because I am fed up with this disgusting out-of-control eating. But I'm worried that if I stop purging I will gain weight."</p> <p>Therapist (T): "I appreciate your letting me know that you are concerned about what might happen to your weight when you stop bingeing and purging. When I explain our treatment model today, I will specifically address those concerns."</p> <p>T is already applying cognitive-behavioral principles in addressing P's concern. Behavior modification is based upon the premise that behaviors that are rewarded or reinforced will occur more often, and behaviors that are punished or ignored will occur less frequently. Rewards come in many forms -- including positive thoughts and feelings and positive environmental or social consequences—such as getting attention from others. Similarly, punishment can involve internal or external consequences, including negative emotions and being ignored by others.</p> <p>A premise of cognitive therapy is that negative cognitions play an important role in the chain of events precipitating dysfunctional behaviors. In the dialog above, T provides immediate and selective reinforcement of P's adaptive cognitions and avoids giving attention (even negative attention) to maladaptive cognitions. T does not ignore or trivialize P's fear of weight gain; however, T avoids reinforcing her "worry thoughts" by reiterating them verbatim. Instead, T reframes P's worries that "I will gain weight" in more neutral language as concern about "what may happen to your weight." In addition, T communicates positive expectations about the outcome of the treatment by rephrasing P's speculation about "if I stop purging" to a projection about "when you stop bingeing and purging."</p>

Table 2. (Continued)

Session 1 Therapy Objectives	Vignette and commentary: Pamela, a 33-year-old accountant
<p>Educate the patient about the physiological and emotional consequences of food deprivation</p>	<p>“I made up my mind that I would go back on a strict lemon cleanse regime the first thing in the morning. I decided that I had to buy another package of chocolates to put in my co-worker’s jar before she got to work, but I was angry at having to buy them. I was also angry that I’d blown the diet when I had been so perfect up until then. I had the thought that it might be a long time before I could eat chocolate again once I got back on board with the diet. So I decided that I might as well finish the chocolate in front of me. I ate everything left in the jar, even though I was stuffed. When I got home I felt so fat and my stomach was so huge that I used a whole package of laxatives.”</p> <p>T now has an opportunity to review with the patient the cognitive behavioral model of the maintenance of bulimia nervosa (Figure 1) in terms of the patient’s particular issues. Patients commonly consider binge eating to be the problem and vomiting and strict dieting (“being good” or “perfect”, in P’s words) to be the solution or attempted solution (even though it may be a dysfunctional one). T challenges this distorted thinking by explaining that laxatives actually have very little effect on the absorption of the calories taken in during a binge; they mainly affect fluid balance. T also challenges the notion that dieting can counteract binge eating; T explains how dieting can actually perpetuate bingeing.</p> <p>T gives P a factual handout about the psychological and physiological effects of severe food restriction. It includes a description of the famous Minnesota study of semi-starvation, conducted during World War II (Keys et al., 1950). During this study, male volunteers were put on a very low calorie diet for six months; by the end of this period, they had lost approximately 25% of their original body weights. Although the men had no previous history of eating disorders, while on the diet they became preoccupied with thoughts about food and eating, and many became irritable, apathetic and depressed. During the refeeding phase of the experiment, many of these normal volunteers were overwhelmed by urges to binge eat. For months after the restriction ended, many had difficulty stopping themselves once they started eating, even after they felt very full.</p>

Table 2. (Continued)

Session 1 Therapy Objectives	Vignette and commentary: Pamela, a 33-year-old accountant
<p>Continue working with the patient on understanding how her specific cognitive and behavioral patterns may be contributing to the maintenance of her eating disorder</p>	<p>In addition, T explores the emotional and environmental circumstances surrounding the binge, noting that sometimes negative cognitions and mood states trigger binge eating and purging:</p> <p>T: “Now that we understand some of the physiological factors that might have made you vulnerable to binge eating on Monday, it would also be helpful to examine what you were feeling and thinking, as negative moods and thought processes also commonly trigger binge eating.”</p> <p>P: “Well, Mondays are never great days; I was tired and looking forward to getting home when my boss asked me-- at the last minute-- to work late. I was angry that he was asking again, but I felt trapped; I felt that I couldn’t refuse. He asks me to work late more than my co-workers because he knows that I don’t have anything better to do at night. I remember thinking how pathetic it is that I don’t have a husband or family, and that I only had myself to blame for having to work overtime.”</p> <p>T comments that P was feeling tired, angry at her boss and at herself, ashamed about eating her co-worker’s chocolates, and angry at having to buy more. T asks if she ever binged on other occasions when tired or angry. P recalls that she has binged on previous occasions when she has felt angry with someone but has felt powerless to change the situation.</p> <p>Now T can review Figure 1 with P and draw up an individualized model illustrating some of the factors that may be maintaining P’s BN. T can also discuss the negative role of perfectionism, all-or-nothing thinking and other distorted cognitions. Examples include the notion that a few chocolates constitute the difference between being “good” or “perfect” and being “a pig” who has “blown it all,” and the idea that since she has gone off the diet, she “might as well” finish the rest of the chocolate.</p>

Conclusion

CBT-BN is widely considered the first line treatment for BN. CBT-BN is brief and cost effective, and it is widely available to clinicians in manualized form. Recent modifications such as Enhanced CBT (CBT-E) afford clinicians greater opportunities to deliver personalized treatment. CBT-E also describes additional mechanisms that are important in maintenance of the disorder in certain individuals. These include low core self-esteem, perfectionism, interpersonal problems and mood intolerance. There is evidence that some of these added variables may improve explanatory power of the model, but further study is needed before CBT-E can be embraced as a comprehensive treatment tool (Lampard et al., 2011; Cooper, Fairburn, 2011).

CBT Workbooks and Manuals

- Agras WS, Apple RF. (2007). *Overcoming Eating Disorders A Cognitive-Behavioral Therapy Approach for Bulimia Nervosa and Binge-Eating Disorder*. Therapist Guide and (separate) Patient Manual, 2nd edition. Oxford University Press.
- Cash TF. (1997). *The Body Image Workbook: An 8-Step Program for Learning to Like Your Looks*. Oakland, CA: New Harbinger.
- Fairburn, CG. (2008). *Cognitive behavior therapy and eating disorders*. New York: Guilford Press.
- Goodman LJ, Villapiano M. (2001). *Eating Disorders: The Journey to Recovery Workbook*. New York: Brunner-Routledge (client workbook).
- Goodman LJ, Villapiano M. (2001). *Eating Disorders: Time for Change. Plans, Strategies, and Worksheets*. New York: Brunner-Routledge (therapist workbook).
- Gowers SG, Green L. (2009). *Eating disorders: Cognitive behaviour therapy with children and younger people*. London, UK: Routledge.
- Schmidt U, Treasure J. (1993). *Getting Better Bit(e) by Bit(e): A survival kit for Sufferers of Bulimia Nervosa and Binge eating Disorder*. London: Routledge.
- Waller G, Cordery H, Corstorphine E, Hinrichsen H, Lawson R, Mountford V, Russell K. (2007). *Cognitive-behavioral therapy for the eating disorders: A comprehensive treatment guide*. Cambridge, UK:Cambridge University Press.

References

- Agras WS, Apple RF. (2007). *Overcoming Eating Disorders A Cognitive-Behavioral Therapy Approach for Bulimia Nervosa and Binge-Eating Disorder*. Therapist Guide and (separate) Patient Manual, 2nd edition. Oxford University Press.
- Agras WS, Rossiter EM, Arnow B, Schneider JA, Telch CF, Raeburn SD, Bruce B, Perl M, Koran LM. (1992). Pharmacologic and cognitive-behavioral treatment for bulimia nervosa: a controlled comparison. *American Journal of Psychiatry*,149, 82-87.

- Agras WS, Schneider JA, Arnow B, Raeburn SD, Telch CF. (1989). Cognitive-behavioral and response-prevention treatments for bulimia nervosa. *Journal of Consulting and Clinical Psychology*, 57, 215–21. New York: William Morrow and Co.
- Agras WS, Walsh BT, Fairburn CG, Wilson GT, Kraemer HC. (2000). A multicenter comparison of cognitive-behavioral therapy and interpersonal psychotherapy for bulimia nervosa. *Archives of General Psychiatry*, 57, 459–466.
- American Psychiatric Association. (2006). Practice guideline for the treatment of patients with eating disorders, third edition. *American Journal of Psychiatry*, 163 suppl. pp. 1-26.
- Anderson CB, Joyce PR, Carter FA, McIntosh VV, Bulik CM. (2002). The effect of cognitive-behavioral therapy for bulimia nervosa on temperament and character as measured by the temperament and character inventory. *Comprehensive Psychiatry*, 43(3), 182-188.
- Baxter L, Schwartz JM, Bergman K, Szuba MP, Guze BH, Mazziotta JC, Alazraki A, Selin CE, Ferng HK, Munford P, Phelps ME. (1992). Caudate glucose metabolic rate changes with both drug and behavior therapy for obsessive-compulsive disorder. *Archives of General Psychiatry*, 49(6) 181-89.
- Beck AT. (1976). *Cognitive therapy and the emotional disorders*. NY: International Universities Press. Beck AT, Rush AJ, Shaw BF, Emery G. (1979). *Cognitive therapy of depression*. NY: Guilford Press. Brambilla F, Grave RD, Calugi S, Marchesini G, Baroni S, Marazziti D (2009). Effects of cognitive-behavioral therapy on eating disorders: Neurotransmitter secretory response to treatment. *Psychoneuroendocrinology* 35, 729-737.
- Brewerton TD, Dansky BS, Kilpatrick DG, O’Neil PM. (2000). Which comes first in the pathogenesis of bulimia nervosa, dieting or bingeing? *International Journal of Eating Disorders*, 28, 259-264.
- Bulik CM, Marcus MD, Zerwas S, Levine MD, La Via M (2012). The changing 'weightscape' of bulimia nervosa. *American Journal of Psychiatry* 169 (10), 1031-1036.
- Burns DD. (1999). *The Feeling Good Handbook*. The Penguin Group, pp. 8-11.
- Byrne SM, McLean NJ. (2002). The cognitive-behavioral model of bulimia nervosa: a direct evaluation. *International Journal of Eating Disorders*, 31, 17-31.
- Cash TF. (1997). *The Body Image Workbook: An 8-Step Program for Learning to Like Your Looks*. Oakland, CA, New Harbinger.
- Cooper Z, Fairburn CG. (2011). The evolution of “enhanced” cognitive behavior therapy for eating disorders: Learning from treatment nonresponse. *Cognitive and Behavioral Practice* 18, 394-401.
- Cooper PJ, Steere J. (1995). A comparison of two psychological treatments for bulimia nervosa: implications for models of maintenance. *Behaviour Research and Therapy*, 33, 875-885.
- Fairburn CG. (1985). Cognitive-Behavioral Treatment for Bulimia. *Handbook of Psychotherapy for Anorexia Nervosa and Bulimia*. Edited by Garner DM, Garfinkel PE. New York: Guilford Press, pp. 160-192.
- Fairburn CG, Cooper Z, Shafran R. (2003). Cognitive behavior therapy for eating disorders: A “transdiagnostic” theory and treatment. *Behavior Research and Therapy*, 41, 509-528.
- Fairburn CG, Jones R, Peveler RC, Carr SJ, Solomon RA, O’Connor ME, Burton J, Hope RA. (1991). Three psychological treatments for bulimia nervosa: A comparative trial. *Archives of General Psychiatry*, 48, 463–9.

- Fairburn CG, Marcus MD, Wilson GT. (1993). Cognitive-behavioral therapy for binge eating and bulimia nervosa: a comprehensive treatment manual. In *Binge Eating: Nature, assessment and treatment*. Edited by Fairburn CG, Wilson GT. New York: Guilford Press, pp. 361-404.
- Fairburn CG, Norman PA, Welch SL, O'Connor ME, Doll HA, Peveler RC. (1995). A prospective study of outcome in bulimia nervosa and the long-term effects of three psychological treatments. *Archives of General Psychiatry*, 52, 304-312.
- Fairburn CG, Welch SL, Doll HA, Davies BA, O'Connor, ME. (1997). Risk factors for bulimia nervosa. *Archives of General Psychiatry*, 54, 509-517.
- Fairburn CG. (2008). *Cognitive behavior therapy and eating disorders*. New York: Guilford Press.
- Fairburn CG. (1981). A cognitive behavioral approach to the management of bulimia. *Psychological Medicine*, 11, 707-711.
- Fairburn CG, Kirk J, O'Connor M, Cooper PJ. (1986). A comparison of two psychological treatments for bulimia nervosa. *Behaviour Research and Therapy*, 24, 629-43.
- Ghaderi A. (2006). Does individualization matter? A randomized trial of standardized (focused) versus individualized (broad) cognitive behavior therapy for bulimia nervosa. *Behaviour Research and Therapy*, 44, 273-288.
- Goldapple K, Segal Z, Garson C, Lau M., Bieling P, Kennedy S. et al. (2004). Modulation of cortical-limbic pathways in major depression: Treatment-specific effects of cognitive behavior therapy. *Archives of General Psychiatry*, 61, 34-41.
- Goldbloom DS, Olmsted M, Davis R, Clewes J, Heinmaa M, Rockert W, Shaw B. (1997). A randomized controlled trial of fluoxetine and cognitive behavioral therapy for bulimia nervosa: short-term outcome. *Behaviour Research and Therapy*, 35, 803-811.
- Goodman LJ, Villapiano M. (2001). *Eating Disorders: The Journey to Recovery Workbook* (client workbook) and *Eating Disorders: Time for Change. Plans, Strategies, and Worksheets* (therapist workbook). New York: Brunner-Routledge.
- Gowers S G, Green L. (2009). *Eating disorders: Cognitive behaviour therapy with children and younger people*. London, UK: Routledge.
- Hay PJ, Bacaltchuk J, Stephano S. (2004). Psychotherapy for bulimia nervosa and bingeing. *Cochrane Database of Systematic Reviews*, 3:CD000562.
- Hendricks PS, Thompson JK. (2005). An integration of cognitive-behavioral therapy and interpersonal psychotherapy for bulimia nervosa: A case study using the case formulation method. *International Journal of Eating Disorders*, 37, 171-174.
- Jacobi C, Dahme B, Dittmann R. (2002). Cognitive-behavioral, fluoxetine and combined treatment for bulimia nervosa: short- and long-term results. *European Eating Disorders Review*, 10, 179-198.
- Keys A, Brozek J, Henschel A, Mickelsen O, Taylor HL. (1950). *The Biology of Human Starvation*. Minneapolis: The University of Minnesota Press.
- Klerman GL, Weissman MM, Rounsaville BJ, Chevron ES. (1984). *Interpersonal Psychotherapy of Depression*. NY: Basic Books.
- Lampart A M, Byrne S M, McLean N, Fursland A (2011). An evaluation of the enhanced cognitive- behavioural model of bulimia nervosa. *Behaviour Research and Therapy*, 49(9), 529-535.

- Legenbauer T, Vocks S, Rueddel H. (2008). Emotion recognition, emotional awareness and cognitive bias in individuals with bulimia nervosa. *Journal of Clinical Psychology*, 64(6), 687-702.
- Linden DEJ. (2006). How psychotherapy changes the brain – the contribution of functional neuroimaging. *Molecular Psychiatry*, 11, 528–538.
- Loeb KL, Wilson GT, Labouvie E, Pratt EM, Hayaki J, Walsh BT, Agras WS, Fairburn CG. (2005). Therapeutic alliance and treatment adherence in two interventions for bulimia nervosa: A study of process and outcome. *Journal of Consulting and Clinical Psychology*, 73(6), 1097-1107.
- McIntosh VVW, Carter FA, Bulik CM, Frampton CMA, Joyce PR (2010). Five-year outcome of cognitive behavioral therapy and exposure with response prevention for bulimia nervosa. *Psychological Medicine* 41, 1061-1071.
- Mitchell JE, Agras S, Wonderlich S. (2007). Treatment of bulimia nervosa: Where are we and where are we going? *International Journal of Eating Disorders*, 40(2), 95-101.
- National Institute for Clinical Excellence (NICE) (2004). Eating disorders: Core interventions in the treatment and management of anorexia nervosa, bulimia nervosa and related eating disorders. *NICE Clinical Guideline 9*. The British Psychological Society and the Royal College of Psychiatrists. (www.nice.org.uk).
- Openshaw C, Waller G, Sperlinger D. (2004). Group cognitive-behavior therapy for bulimia nervosa: statistical versus clinical significance of changes in symptoms across treatment. *International Journal of Eating Disorders*, 36, 363-75.
- Pyle RL, Mitchell JE, Eckert ED, Hatsukami DK, Pomeroy C, Zimmerman R. (1990). Maintenance treatment and 6-month outcome for bulimic patients who respond to initial treatment. *American Journal of Psychiatry*, 147, 871-75.
- Russell GFM. (1979). Bulimia nervosa: An ominous variant of anorexia nervosa. *Psychological Medicine*, 9, 429-448.
- Schmidt U, Treasure J. (1993). *Getting Better Bit(e) by Bit(e): A survival kit for Sufferers of Bulimia Nervosa and Binge eating Disorder*. London, Routledge.
- Shapiro JR, Berkman ND, Brownley KA, Sedway JA, Lohr KN, Bulik CM. (2007). Bulimia nervosa treatment: A systematic review of randomized controlled trials. *International Journal of Eating Disorders*, 40(4), 321-336.
- Skinner BF. (1950). Are theories of learning necessary? *Psychological Review*, 57, 193-216.
- Tobin DL, Banker JD, Weisberg L, Bowers W (2007). I know what you did last summer (and it was not CBT): A factor analytic model of international psychotherapeutic practice in the eating disorders. *International Journal of Eating Disorders*, 40, 754-757.
- Viamontes GI, Beitman, B. (2006). Neural substrates of psychotherapeutic change: Part I: The default brain *Psychiatric Annals*, 36(4), 225-236.
- Wallace LM, von Ranson KM. (2011). Treatment manuals: Use in the treatment of bulimia nervosa. *Behaviour Research and Therapy*, 49, 815-820.
- Waller G, Cordery H, Corstorphine E, Hinrichsen H, Lawson R, Mountford V, Russell K. (2007). *Cognitive-behavioral therapy for the eating disorders: A comprehensive treatment guide*. Cambridge, UK: Cambridge University Press.
- Walsh BT, Hadigan CM, Devlin MJ, Gladis M, Roose SP. (1991). Long-term outcome of antidepressant treatment for bulimia nervosa. *American Journal of Psychiatry*, 148, 1206–12.

-
- Wilfley DE, Cohen LR. (1997). Psychological treatment of bulimia nervosa and binge eating disorder. *Psychopharmacology Bulletin*, 33, 437-454.
- Wilson GT, Fairburn CC, Agras WS, Walsh BT, Kraemer H. (2002). Cognitive-behavioral therapy for bulimia nervosa: time course and mechanisms of change. *Journal of Consulting and Clinical Psychology*, 70(2), 267-74.
- Wilson GT, Grilo CM, Vitousek KM. (2007). Psychological treatment of eating disorders. *American Psychologist*, 62(3), 199-216.
- Wilson GT, Pike KM. (2001). Eating Disorders. In *Clinical Handbook of Psychological Disorders, 3rd edition: A Step-by-step treatment manual*. Edited by Barlow DH. New York and London: Guilford Press, pp. 332- 375.
- Wilson GT, Vitousek K, Loeb KL. (2000). Stepped-care treatment for eating disorders. *Journal of Consulting and Clinical Psychology*, 68, 564-572.

