TOPICAL SECTION ARTICLE

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Treatment of Bulimia Nervosa: Where Are We and Where Are We Going?

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ABSTRACT

Objective: The purpose of this article is to review the extant treatment literature on bulimia nervosa and to offer suggestions for future research directions.

Method: The available treatment studies regarding both pharmacotherapy and psychotherapy are reviewed.

Results: Both pharmacotherapy and psychotherapy appear to play a role in the treatment of bulimia nervosa; however, available data suggest that cognitive behavioral therapy remains the treatment of choice.

Conclusion: Additional work is clearly indicated regarding assisted and unassisted self-help. An enhanced form of CBT and the integrative cognitive-affective therapy both deserve further study. New approaches need to be piloted. More research is needed on treatment modeling. © 2006 by Wiley Periodicals, Inc.

Keywords: bulimia nervosa; pharmacotherapy; psychotherapy

(Int J Eat Disord 2007; 40:95–101)

Since the original description of bulimia nervosa by Russell in 1979,[1] a large informative treatment literature has developed for this condition. The purpose of this article is to succinctly and critically review this literature and discuss possible new directions for research.

In thinking about the treatment of bulimia nervosa it is helpful to target the objectives of treatment which often include the following: (1) to eliminate the pattern of binge eating and compensatory behaviors, (2) to establish a more normal eating pattern with regular balanced meals, (3) to address any physical complications of the illness, such as dental enamel erosion and fluid and electrolyte abnormalities, (4) to address the psychological issues that accompany the illness including low self-esteem, body image dissatisfaction and other dysfunctional thinking patterns, (5) to address comorbid conditions such as mood disorders, and (6) over time, to prevent relapse.

Accepted 21 July 2006
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Published online 1 November 2006 in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/eat.20343
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Treatments have included pharmacological interventions, psychotherapeutic interventions, and various combinations of these methodologies. We will address each area in sequence.

Psychopharmacological of Bulimia Nervosa

Antidepressants were first used for bulimic patients because of the observation that comorbidity with affective disorders was common, and the thinking was that improvement in mood symptoms might allow patients to better control their eating behavior.[2] As is widely known, subsequently research has shown that these drugs have antibulimic effects regardless of whether participants are comorbidly depressed.[3–5] Various classes of antidepressants have been used, including tricyclic antidepressants, monoamine oxidase inhibitors and more recently serotonin reuptake inhibitors.[6–12] Although agents from all of these classes have been shown to be effective, given their side effects profile, the serotonin reuptake inhibitors appear to be the drugs of choice, and fluoxetine remains the only FDA approved medication for bulimia nervosa.[10] One small randomized trial also suggests efficacy for sertraline.[13] The dose of fluoxetine employed when treating bulimia nervosa is higher than that usually used for depression, and fluoxetine is usually prescribed in doses of 60–80 mg a day. A small open trial has also demonstrated safety and effectiveness of 60 mg of fluoxetine a day for adolescents with bulimia nervosa.[14] As would be expected the side

effects seen vary with the drug used. In the multicenter fluoxetine studies side effects included sexual dysfunction, nausea, and insomnia.[9,10,15]

A consistent problem in the antidepressant treatment literature for bulimia nervosa is the low rate of remission. In the majority of studies approximately one in five patients is able to cease engaging in binge eating and other compensatory behaviors. Relative to maintenance treatment there are some data that patients are at risk for relapse if medication is withdrawn,[16] and there are some evidence that there is a relapse prevention effect in patients treated with fluoxetine,[15] although relapse rates were substantial in this trial, even in patients taking active medication, and the dropout rate on maintenance therapy was quite high.

In addition to antidepressants several other drugs have been described in the treatment of bulimia nervosa. Topiramate was compared with placebo in two randomized controlled trials and was shown to reduce binge days.[17–19] Opioid antagonists were used experimentally because of the observation that the endogenous opioid system is be involved in controlling the hedonics of feeding. The trials at usual therapeutic doses that avoid the risk of hepatotoxicity were negative[20,21] and only open label reports using doses of 200–300 mg have demonstrated possible benefit.[22] Lithium has been shown to be ineffective in one controlled trial,[23] and in one trial the $5HT_3$ agonist ondansetron, a drug usually used to control nausea in chemotherapy patients, was superior to placebo but this drug requires multiple daily dosing and is quite expensive.[24]

Other biological interventions have included bright light therapy which has been shown to reduce binge frequency in several trials.[25–27] Case reports have appeared regarding the successful use of repeated transcranial magnetic simulation in patients with both major depressive disorder and bulimia nervosa.[28,29]

In summary, in examining the literature on biological therapies for bulimia nervosa, there is clear evidence that antidepressants such as the SSRIs are helpful in reducing symptoms and improving comorbid conditions; however, participants rarely achieve abstinence and many who have a favorable response to the drug will discontinue their use prematurely or experience relapse while still on drug therapy. Overall this suggests that drug therapy plays a legitimate but limited role in bulimia nervosa treatment.

Several techniques that have been useful in providing augmentation therapy in patients with other psychiatric disorders surprisingly have not been studied systematically in patients with bulimia nervosa. These would include such things as augmentation with lithium, buspirone hydrochloride, atypical antipsychotics, thyroid hormone, and perhaps the addition of drugs with different mechanisms of action that are also useful for depression including modafanil and atomoxetine. Also, duloxetine, a combined serotonin and norepinephrine reuptake inhibitor, has been reported as effective in a case report. Given the interesting pharmacologic profile of this drug and its dual action, additional work with this agent appears indicated.

Psychotherapy for Bulimia Nervosa

This topic has recently been reviewed in depth by Fairburn.[30] There is general consensus in the field that the best established form of psychotherapy for bulimia nervosa is cognitive behavioral therapy (CBT), which can be administered in group or individual formats.[31–33] The NICE guidelines recently assigned in grade of A for CBT for BN attesting to the database that has developed supporting the efficacy of this treatment.[34] Two studies also suggest that interpersonal therapy (IPT) can be used for bulimia nervosa although overall this therapy takes longer to have an effect.[32,35] Theoretically, the efficacy of IPT is quite interesting. IPT is an adaptation of a psychotherapy originally used as maintenance oriented treatment for depression.[36,37] IPT for bulimia nervosa is based on evidence that interpersonal factors seem to play a significant role in etiology and maintenance of this disorder.[38] As in previous applications of IPT, this bulimia-focused treatment emphasizes four categories of interpersonal problems: interpersonal deficits, interpersonal role disputes, role transitions, and grief. Several techniques are used to address difficulties in these four problem areas, including feedback on problematic interactive styles, modifying expectations, communication training, exploration of feelings, and grief related emotional processing. IPT is the only psychological treatment that has demonstrated outcomes comparable with CBT.[32,35] Comparisons with CBT suggest that abstinence rates at the end of treatment are less favorable in IPT, but by 1-year follow-ups, differences are minimal. Thus, IPT appears to be an alternative treatment for BN that may be appropriate for individuals with interpersonal problems or reluctance to engage in CBT.

TABLE 1. Self-help treatment studies of BN

Year	Author	Random	*N*	Supervised	Abstinent
1993	Schmidt, et al.[47]	–	28	–	46%
1994	Cooper, et al.[48]	–	18	+	50%
1996	Cooper, et al.[49]	–	80	+	33%
1996	Treasure, et al.[50]	+	110	–	22%
1997	Mitchell, et al.[51]	+	90	–	16%
1997	Dalle Garve[52]	–	17	+	35%
2000	Bailer, et al.[53]	+	81	+	23%
2001	Thiels, et al.[54]	+	62	+	13%
2002	Palmer, et al.[55]	+	121 (also BED)	Phone/person	25%
2003	Carter, et al.[56]	+	28	–	54% (improved)
2003	Durand and King[57]	+	34	+	Results = specialist care
2003	Ghaderi and Scott[58]	+	31 (also BED, EDNOS)	+/–	33% ↓ BE with no differences
2004	Bailer, et al.[59]	+	40	+/–	40%
2004	Pritchard, et al.[60]	–	18	+	31%
2004	Walsh, et al.[61]	+	91	+	12%
2005	Banasiak, et al.[62]	+	54	+	28%

Although CBT and IPT seem theoretically quite different, a case study involving an integrated approach with elements of both treatments has been published.[39] Similarly, another treatment, which has been modified from its original application to eating disorders, is dialectical behavior therapy (DBT).[40] Originally developed for the treatment of suicidal, self-injurious behaviors and those associated with borderline personality disorder, clinicians have increasingly implemented this technique in the treatment of eating disorders[41] and DBT has also been shown to be efficacious in one small randomized trial.[42] DBT relies on weekly individual psychotherapy, group sessions, telephone consultations, and regular consultation among therapists. Treatment involves a variety of strategies that focus on behavioral change (e.g. problem solving) and also strategies based on acceptance (i.e. validation). Treatment is constantly focused on the dynamic relationship between change and self-acceptance. Four primary skill modules are involved in group oriented skill acquisition: mindfulness, interpersonal effectiveness, emotion regulation, and distress tolerance. A significant possibility is that DBT targets underlying emotion dysregulation problems, which may serve to maintain BN. Consequently, the emotion-focused aspect of DBT may be particularly useful in this population.

A variety of other approaches has been advocated in the literature including psychodynamic and psychoanalytic approaches but are not supported by controlled trial data.[43,44]

As with pharmacotherapy, CBT also frequently results in disappointingly low rates of complete remission. In the two largest studies to date, a trial funded by the NIMH found abstinence rate of 29% in the intention to treat sample and 40% in the completer sample,[35] while in a trial funded by the McKnight Foundation the corresponding figures were 31% and 41%.[45] Because of this, sequential therapies have been tried. In one study a significant number of patients did respond to drug therapy who failed to achieve remission with CBT or IPT.[46] In another study the likelihood of patients dropping out was higher than the rate of response in patients who had not responded to an initial course of CBT and were then switched either to interpersonal therapy or medication trials.[45]

In several randomized trials, researchers compared self-help with no guidance or with different intensities or types of guidance, with waiting list controls or full CBT or both (Table 1). Carter et al.[56] compared a CBT self-help manual specific with BN to a nonspecific self-help manual that emphasized self-assertion. They found no significant differences in outcome, with the former group showing a 54% reduction and the latter group a 50% reduction in binge-eating/purging, compared with 31% in the waiting list control group; however, abstinence rates were low. Palmer et al.[55] compared self-help with minimal guidance with a face-to-face or telephone guidance, and a waiting list control. Participants who received guided self-help either face-to-face or over the phone, did better than those on the waiting list but, at 12-month follow-up, consumption of services in terms of sessions attended were comparable across all four groups. Banasiak et al.[62] compared guided self-help with a delayed treatment control and found that the guided self-help, provided by general practitioners, to be superior to the waiting list control, with good maintenance of results at the 6-month follow-up visit. Bailer et al.[59]

compared guided self-help with full CBT and found no differences between groups in remission rates. Durand and King[57] compared self-help delivered by general practitioners with specialist care with patients receiving either full CBT or IPT. Again there were no differences in outcome.

Relative to the issue of guided versus unguided self-help, Palmer et al.[55] found that guided self-help was superior to unguided self-help. A study by Ghaderi and Scott[58] found no differences.

The study by Walsh et al.[61] is also of particular relevance. This study involved 91 patients with BN who were seen in primary care settings. Participants were randomized to receive fluoxetine alone, placebo alone, fluoxetine plus guided self-help or placebo plus guided self-help. Guidance was provided by nurses in the physicians' offices, who received very minimal training. The dropout rate was very high and remission rates were low. Patients assigned to active drug achieved a greater reduction in binge eating and vomiting than those receiving placebo, but the guided self-help delivered by nurses seemed to have no effect on retention or improvement.

A study by Bell and Newns[63] is also of relevance. This study examined whether comorbidity with multi-impulsivity problems affected outcome in a cohort of mixed patients with BN, BED, or EDNOS. Eleven patients met criteria for multi-impulsivity and were treated with guided self-help. The results suggested that the multi-impulsive group remained moderately to severely ill.

Overall the results of the available studies suggest that self-help can be quite useful. The question as to whether some amount of guidance from a professional is superior to unsupervised self-help is unclear. It does appear that guidance, if used, may be best provided by a mental health professional.

Schmidt et al.[47] found support for the notion that personalized feedback improved outcome from guided CBT self-help. As can be seen the results of GSH vary widely in the different studies. However, it may make sense to provide GSH as a first line of treatment followed by medication and/or CBT if GSH was not effective.

In examining the use of CBT, investigators have attempted to modify this therapy to address the problems of adolescents and find this to be a promising intervention.[64] Other work has examined other aspects of CBT therapy. Shah et al.[65] showed that abstinence from bulimic behaviors correlated with the introduction of regular balanced meals and snacks, whereas patients who were unable to achieve this degree of regularity had low rates of abstinence. Binford et al.[66] demonstrated that social support seeking as a coping strategy at 1-month follow-up predicted 6-month remission following group CBT for BN. Butryn et al.[67] showed that patients who were not engaging in weight suppression but were closest to their highest premorbid weight were more likely to achieve abstinence with CBT, while Loeb et al.[68] showed that early evidence of a good therapeutic alliance predicted better outcome.

Much recent effort has been devoted to developing new forms of psychotherapy. One that is now being studied is an enhanced form of CBT by Fairburn, Cooper, and Shafran at Oxford.[69] A second, called integrative cognitive-affective therapy is being developed at the Neuropsychiatric Research Institute and the University of Minnesota and also appears to show promising results.[70]

The enhanced form of cognitive behavioral therapy being developed by Fairburn and colleagues builds on the existing cognitive behavioral theory of bulimia nervosa by extending it to embrace four additional maintaining mechanisms, including clinical perfectionism, interpersonal difficulties, core low self-esteem, and mood intolerance. This model also argues for a transdiagnostic approach to eating disorders. Therefore, the treatment is designed to be suitable for all forms of eating disorder patients who are receiving outpatient treatment. The treatment is offered in two versions, a 20-session treatment for most patients and a 40-session treatment for patients who have a BMI $\leq$17.5. Both treatments are administered initially twice weekly. The treatment includes four stages: (1) Stage 1 focuses on engaging the patient in treatment and creating a formulation of the patients' problems, as well as attempting early behavior change. (2) During Stage 2 information obtained up to that point is reviewed and another treatment plan is developed based on the likely contributions of the four additional mechanisms described above. (3) Stage 3 includes the bulk of the treatment and involves modifying eating disorder psychopathology but also "modules" focusing on the four additional areas. (4) Stage 4 focuses on relapse prevention and ensuring that progress will continue after treatment. Fairburn and colleagues are currently engaged in a study applying the therapy to a large cohort of eating disorder patients to examine efficacy.

The integrative cognitive-affective therapy, in contrast to traditional CBT, places greater emphasis on cultural factors, self-oriented cognition, interpersonal schemas, interpersonal patterns and emotional experience, drawing heavily on personality

theory. The model posits that individuals with bulimia nervosa are likely to experience various situations in their lives that interfere with the attachment process. Also, self-discrepancy theory is cited, in that individuals with bulimia nervosa are posited to perceive a self-deficit, which reflects a discrepancy between their actual self-concept and a comparative ideal standard that they apply to themselves or that they believe others apply to them. The model also posits that negative affectivity and aversive self-awareness are caused by the self-related discrepancy. The model further posits that bulimic individuals engage in specific repetitive interpersonal patterns across a variety of relationships, attempting to avoid interpersonal rejection or abandonment. As conceptualized, this therapy is also administered in phases: (1) Phase 1 that includes the first three sessions focuses on psychoeducation and enhancing motivation, (2) Phase 2 that transpires over 5 sessions focuses on the development of coping skills and the normalization of eating behavior, (3) Phase 3 which encompasses sessions 9–18 involves a shift to a focus to interpersonal and cognitive (intrapsychic) factors. In Phase 3 effort is placed on identifying repetitive cognitive styles, repetitive interpersonal patterns, the connection between self-discrepancy and interpersonal patterns and cognitive style, and interpersonal schema or rules for interpersonal behavior. (4) Phase 4 focuses on relapse prevention and the development of a maintenance plan.

Other possible new treatment directions are also worth noting. Burton and Stice[71] assigned 85 female participants with full or subthreshold BN to a six-session healthy dieting intervention or to a weight list condition. Those receiving the active intervention showed modest weight loss but also demonstrated significant improvement in bulimic symptoms which persisted at 3-month follow-up. The authors interpreted this to indicate that dieting behaviors do not maintain BN, suggesting the need for alternative maintenance models. Motivational enhancement therapy has also been recommended.[72] Also, Ghaderi[73] found that a more individualized, broader CBT guided by logical functional analysis was superior on a number of variables to a manual-based, more focused traditional approach, concluding that the study showed preliminary support for superiority of the individualized approach.

Although it would be premature to come to any conclusions regarding these new therapies or modifications of existing therapies, the field has clearly reached a point where the limitations of current approaches are obvious, and the development of new psychotherapies as well as new medication management strategies should receive a very high priority.

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