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## The Changing “Weightscape” of Bulimia Nervosa

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### Case

Ms. Z, a 35-year-old African-American single woman with a body mass index (BMI) of 37.8 kg/m<sup>2</sup> (height 5 feet, 5.5 inches, weight 238 lb.), presents for an evaluation for bulimia nervosa. She was referred to the eating disorders program by her primary care physician who knew about her eating disorder, but was primarily concerned about her weight and blood pressure. Ms. Z has an advanced degree and is employed full time. She has struggled with her eating, weight, and body image since childhood and began binge eating regularly (1–2× week) at age 15. Fasting and self-induced vomiting began in her early twenties, when she achieved her lowest adult BMI of 21.6 kg (weight 130 lb. at age 23). She gained 100 pounds in the past 7 years and currently binges and purges 1–2 times a day. A typical binge consists of a box of cookies, a pint of ice cream, 7 oz. of cheese, two bowls of cereal with 2 cups of milk, and 4 pickles. Ms. Z has seen five therapists to address her eating behaviors and weight concerns and participated in numerous commercial weight loss programs. She states binge eating has always served a self-soothing purpose for her.

Ms. Z has a demanding university-related job that absorbs most of her time. She has few friends and has not been in a romantic relationship for the past five years believing that no one would be interested in a woman of her size. She also claimed that food is more reliable than any man because “it’s always there when you need it and you don’t have to take care of it or stoke its ego.” She spends evenings at home working until she is completely exhausted, heads to the kitchen for an all-out binge, vomits everything up, and then cries herself to sleep. She has never smoked and does not drink alcohol. Current medications prescribed by her primary care physician include Fluoxetine (20 mg), Norvasc (5 mg), and Clonazepam (prn).

*What are Ms. Z’s treatment goals? What are her primary care physician’s? Is her medication for bulimia nervosa adequate? How well would cognitive-behavioral therapy for bulimia nervosa address her personal treatment goals? Her physician’s? What challenges might a therapist face having Ms. Z in group therapy for bulimia?*

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Recurrent binge eating, characterized by eating an unusually large amount of food coupled with a sense of feeling out of control, is the hallmark of two DSM-IV eating disorders — bulimia nervosa (BN) and binge eating disorder (BED). In BN, but not BED, binge eating is coupled with compensatory behaviors (e.g., self-induced vomiting, laxative or diuretic use, excessive exercise and/or fasting). Historically, whereas anorexia nervosa is associated with underweight (1) and BED is commonly, although not universally, associated with

overweight and obesity (2), the prototypic patient with BN presents in normal weight range (3).

During the course of an ongoing clinical trial comparing group cognitive-behavioral therapy (CBT) with online CBT for BN, we noticed a deviation from the typical weight presentation with more individuals presenting for treatment in the overweight or obese weight ranges. Our observation concurs with a report from Spain in which the prevalence of obesity has increased three-fold in patients with eating disorders characterized by binge eating (4). Moreover, these patients were seeking not only relief from their binge eating and purging, but they also expected treatment to result in demonstrable weight loss.

CBT is the “gold standard” for treatment of BN (5–7). Although fluoxetine is FDA approved for BN at a recommended dose of 60mg (8); its efficacy in reducing binge and purge episodes in the short term does not convincingly lead to long-term cure. CBT for BN is a multi-modal intervention that includes techniques such as psychoeducation, self-monitoring, modifying responses to cues, challenging automatic thoughts, thought restructuring, problem solving, exposure with response prevention, and relapse prevention (9–11). In addition to achieving abstinence from binge eating and purging, CBT address topics such as body acceptance, eliminating dietary restriction, normalization of eating, uncoupling of emotion regulation from eating, and acceptance of a wider range of foods by moving away from characterizations of foods as “bad” or “good.” Approximately 40–60% of patients who complete CBT for BN demonstrate significant improvement (11–17).

As stated by Bytryn et al. (3), “Because body weights of patients with bulimia are generally in the normal range, there is typically no attempt made to modify body weight during treatment”. CBT does address weight insofar as patients often continue to strive for weight loss even when in the normal weight range. The discussion then focuses on developing healthy weight expectations and eliminating dietary restriction. CBT has been adapted for overweight individuals with BED to address healthy approaches to weight regulation; however, these adaptations have not been routinely applied in the treatment of BN.

On the backdrop of the escalating obesity epidemic (18); however, the BMI weightscape of BN may be changing with concurrent overweight or obesity complicating the clinical picture and influencing treatment expectations. If our observations of increasing weight reflect a trend for BN patients or a subset of them, modifications to our standard approach to weight issues in BN may be required.

## Body Mass Index in Bulimia Nervosa

The BMIs of individuals with BN are generally in the normal or high normal range (2) with lower BMIs associated with a history of anorexia nervosa (19). Table 1 presents baseline data from clinical trials included in an Agency for Healthcare Research and Quality evidence-based review for BN that reported BMI at baseline (20) verifying that BMIs were most commonly in the normal range, with some exceptions, including one study of non-purging of BN (21), and one study from the United Kingdom (22).

BMI at presentation only tells a partial story, as the clinical trajectory of BN often includes significant weight variability (23). Presentation BMIs are often lower than self-reported highest adult BMI indicating a state of weight suppression (3, 24), defined as the discrepancy between an individual's highest adult weight, and her or his current weight (25). One study (3) suggested that greater weight suppression was associated with poorer outcome of BN treatment; whereas another reported no association (26).

## Weight and CBT for bulimia nervosa

When patients are in the normal weight range, the topic of weight in CBT for BN is generally approached from the perspective of cognitive distortions and dissatisfaction with a body that is objectively within the “healthy” weight range. CBT for BN generally results in weight change (either gains or losses) within a 1–3 kg range over the course of treatment. Although not considered to be clinically significant by researchers (27, 28), weight gain in this range may be of considerable personal significance to patients. The nature and magnitude of this significance may differ depending on whether the patient is in the healthy weight range or in the overweight or obese weight range and entering treatment with weight loss expectations.

Carter et al. (29) reported significant variability in the effect of treatment for BN on weight—with reports of gain, loss, and no change. In a 5-year follow-up study, (29) they observed considerable inter-individual differences in post-treatment weight trajectories with the majority of patients remaining fairly stable, but 30% having lost and 18% having gained 5 kg or more. At 5-year follow-up, 24% of patients fell into the overweight range (25 – 29.9 kg/m<sup>2</sup>) although mean BMI had been in the healthy range pre-treatment (22.7 kg/m<sup>2</sup> ± 2.7).

Actual or feared weight gain during treatment is a deterrent to engagement and acceptance of many interventions—both pharmacologic and psychological (30, 31). As patients recover from BN, they may experience periods of weight gain after cessation of purging when binge eating persists. Clinically, we encourage patients to be mindful that their metabolism may take time to stabilize after cessation of binge eating and purging and urge them not to launch into extreme weight control behaviors in response to small weight fluctuations.

The urgency, personal impact, and health consequences of weight fluctuations that occur during the course of treatment may be magnified in patients who are overweight or obese. If the clinical presentation of individuals with BN is changing, we may need to revisit our approach to weight, and possibly use our work with BED as a guide.

## Our Observations

While supervising group therapy and reviewing chat-transcripts, we noted a marked difference in the nature of the therapeutic conversation about weight. In contrast to expectations, therapy topics were not about striving for a societal ideal in normal weight patients, rather, patients were discussing directives from their primary care physicians to lose weight or their personal health concerns about type 2 diabetes, hypercholesterolemia, hypertension, and other medical complications secondary to overweight and obesity. Given that half of the patients were in online therapy, we did not always have visual cues to

evaluate their weight status. Were we hearing a shift in the BMI presentations of BN patients? To address this question empirically, we explored the baseline demographic data and verified that the mean BMI of the sample at the UNC site was in the overweight range ( $25.2 \text{ kg/m}^2 \pm 5.6$ ) with a full 30% of the sample at presentation in the overweight or obese range—a definite deviation from expectations.

The overweight or obese patients were clearly entering treatment with two explicit treatment goals—abstinence from bulimic behaviors and weight loss. Our intervention was, however, not designed for weight loss. Despite our carefully considered clarification at the outset of therapy that the first focus of treatment for BN is normalization of eating, these participants' stated or unstated hope was that our treatment would help them lose weight. In fact, referencing the literature on BED where BMI is often higher, whereas CBT is effective in producing abstinence from binge eating, it is fairly ineffective in producing weight loss (32, 33).

### Matching patient expectations with therapy deliverables

Our concern was that our treatment was directed toward outcomes that were not congruent with expectations of our overweight or obese patients. Dropout and premature termination is an issue for eating disorders in both clinical trials and community treatment (34) and weight loss expectations play a role (31). Dropout from CBT for BN ranges from 6–37% (20). Similarly, self-help trials report dropout rates ranging from 21–31% (20).

A mismatch between therapist's and patient's treatment goals can also contribute to dropout (31). If patients are entering treatment with the expectation of abstinence from bulimic behaviors and weight loss and our treatment only addresses one expected outcome, if this discrepancy is not addressed explicitly, we run the risk of creating a goal mismatch and ultimately treatment discontinuation and failure. Furthermore, even if patients do not discontinue treatment, in the absence of therapeutic attention to weight-related issues, they may pursue weight loss outside of therapy. Engaging in unhealthy weight loss through extreme food restriction or food elimination could actively jeopardize their ability to cease binge eating and purging behaviors despite their active participation in CBT.

Moreover, our interventions for BN should consider all relevant health goals and, above all else, do no harm. If patients have weight-related medical morbidities, and they gain weight during the course of CBT for BN, then we may be inadvertently exacerbating other health problems. At this time, it is unknown to what extent reductions in binge eating and purging influence various metabolic parameters in the absence of weight loss. This is an important research question. We must also ask whether our approach to treatment of individuals with BN who are overweight or obese needs to be modified to address the potential complications of obesity. The nature of the conversation about weight in CBT for BN may have to vary depending on the medical status of the individual by carefully considering health parameters related to current BMI.

Marcus and Levine underscore to patients in the beginning of BED treatment that typical CBT is not associated with weight loss. In fact, CBT for BED helps the patient accept a larger body size by promoting recognition that a larger body can be both attractive and

healthy (an ongoing emphasis on physical activity is also helpful in promoting body acceptance) (35). Working toward acceptance of a larger body size is important to avoid extreme dieting and unhealthy weight control practices that perpetuate disordered eating, but does not give license for the patient or provider ignore health risks associated with obesity. It is likely that we will come under increasing pressure from patients and their primary care providers to develop or adapt CBT for BN that achieves not only abstinence from disordered eating but also incorporates effective lifestyle modifications that support healthy weight regulation.

Approaches have been developed and tested in the treatment of BED such as Appetite Awareness Training (36), behavioral weight loss (with appropriate adaptations for individuals with BN) (35, 37), and appetite focused cognitive-behavioral therapy (CBT-A) (38). Such strategies that bring appetite and eating into the foreground and directly address weight regulation may need to be incorporated into “typical” CBT for individuals with BN who have weight-related medical morbidities. Failure to do so may lead to greater dropout, poorer outcome, poorer adherence, and greater patient dissatisfaction with treatment.

## Summary and recommendations

In the absence of guidelines about how best to treat individuals with BN with associated weight-related morbidities, our clinical recommendation is to begin with a comprehensive evaluation of patients’ weight history including highest and lowest past adult BMI, childhood and adolescent weight and weight concerns, frequency, degree, and duration of weight fluctuations, and deviation of current weight from both highest and lowest adult BMI. Family weight and medical history are also relevant in determining the likelihood of gaining/losing weight with treatment and obesity-related health risks. It is critical to establish clear communication with primary care providers to develop a comprehensive clinical picture that includes any weight-related morbidities and to ensure that recommendations made by the primary care provider related to weight regulation are consonant with the goals of treatment for BN (e.g., not recommending dieting for weight loss).

Leveraging our knowledge about BED, the clinician and patient should work together to establish and sequence treatment goals. Sound clinical practice would be to use known CBT tools to reduce binge eating and purging while also introducing approaches that address healthy lifestyle changes and appetite awareness. Incorporating and encouraging moderate (non-obsessive) exercise (for health rather than for weight loss), regular physical activity, a moderation focus, assistance with strategies to help manage appetite and satiety, and reducing eating as a means of emotional regulation are the best common-sense tools we have available at this time.

Weight should remain part of the conversation lest dissatisfaction with personal weight goals or distress over weight gain during treatment lead to premature termination or a return to unhealthy compensatory behaviors or extreme weight loss strategies. Also worthy of consideration is consultation with dietitians and certified trainers who are knowledgeable about eating disorders and able to work within the parameters of CBT. Although not always

feasible, collaboration with these practitioners may decrease treatment duration ultimately leading to a more cost-effective course of treatment.

One additional side effect of this shift in patient BMI is potential heterogeneity in therapy group membership. A CBT group for BN that includes both individuals who are overweight and seeking weight loss and individuals who are borderline underweight with a history of anorexia nervosa can lead to unexpected discomfort and therapeutic challenges. Discussions about weight regulation and desires for weight loss outcomes can be triggering for patients with histories of anorexia nervosa and fuel urges to restrict. Moreover, for overweight patients, participation in a group with low-weight members could lead to negative body comparisons and self-evaluation that prompt early treatment discontinuation.

Our patients and their evolving clinical presentations drive and motivate the evidence base. BN in overweight and obese individuals may represent the natural evolution of the eating disorder on the backdrop of the obesity epidemic. Indeed, we have seen an increase in former patients with both anorexia and BN, years after recovery from their eating disorder, asking how they can regulate their weight without re-triggering their eating disorder. These clinical observations converge to alert clinicians and researchers to a possible weight trend in individuals with BN and challenge us to adapt our interventions appropriately to deal with an evolving clinical presentation.

### Case Follow-up

Ms. Z sought consultation with a psychiatrist who discussed treatment options. The psychiatrist offered the option of increasing the fluoxetine dose to recommended levels (60 mg) or joining a CBT therapy group. She explained that fluoxetine does lead to short-term reduction in binge eating, but that the evidence for CBT was stronger in terms of long-term outcome. She also clarified that they could adjust medication later if necessary, but recommended commencing one intervention at a time, rather than starting therapy and increasing medication simultaneously. Ms. Z opted for the group. The majority of CBT sessions were led by a clinical psychologist with four sessions by a registered dietitian. The group was anchored in principles of CBT and enriched with elements of dialectical behavior therapy. The group began with psychoeducation; reviewed the language of CBT focusing on behaviors, thoughts, and feelings; emphasized successful self-monitoring; normalization of meals; and transitioned through challenging automatic thoughts, thought restructuring; chaining; and relapse prevention.

The group started with five participants, four of whom were overweight or obese. During the very first session, weight was a central topic. Patients discussed all of the diet programs they had tried and they discussed wanting to get their blood pressure or “sugar” under control. When the therapist included the general caveat that CBT for BN does not necessarily lead to weight change, the four overweight participants immediately chimed in that they expected to achieve weight loss from treatment in addition to getting over their BN. After this first session, the fifth participant, who had a history of anorexia nervosa and was on the low end of normal weight range, opted not to continue with group claiming that she felt out of place with the four other women who were facing different recovery challenges. The other group members felt for her, but also agreed that the issues that they faced were different.



Rather than follow the standard CBT curriculum, the therapist decided to work with this unique group of patients to adapt CBT to address their BN and their weight concerns. For example, Ms. Z initially wanted to lose 50 pounds and stop binge eating and purging. The therapist worked with her to develop more realistic goals and indicated that the first and most important step toward recovery was normalization of eating. The therapist clarified that the treatment would borrow from CBT for BED and include elements of appetite awareness, portion control, mindful eating, development of strategies other than eating for emotion regulation, and regular physical activity and exercise into the treatment plan. She also focused their attention more on other health parameters (e.g., blood pressure, blood sugar, triglycerides) rather than the number on the scale. The patients decided as a group that they wanted to incorporate more physical activity and exercise goals into their treatment plan. The psychologist identified an exercise physiology practicum student who worked with the therapist to incorporate appropriate physical activity and exercise into the overall treatment plan.

Ms. Z was an active group participant, self-monitored regularly, and fought against her tendency to want to fix everything at once. Her expectations were immediate and linear recovery and rapid and sustained weight loss to get her health under control. In the past when she had high treatment expectations and then failed to meet them, her disappointment resulted in a full-blown relapse of bulimic symptoms and a sense that she was a failure. When she had entered exercise programs in the past, she had overdone it, gotten injured, and then dropped out. Modulating her expectations and developing realistic goals and timelines became her primary issue in the group.

The dietitian taught the group how to work with the exchange system and self-monitor. She emphasized moderation rather than restriction and reinforced the CBT sessions using mindful eating techniques, portion control, and appetite awareness training.

The exercise physiology intern developed an aerobic and resistance training home-based intervention plan. They were instructed to engage in the exercise intervention 5 times per week, starting with 30 min. of moderate exercise/day for the first 4 weeks and gradually increasing. The intern was careful to ensure that exercise did not become obsessive and took a clear approach that exercise was for health not specifically for weight loss. He encouraged patients to look beyond the scale for success and to pay more attention to the labs, the sphygmomanometer, and their self-reports of mood and well-being than the scale.

By week 16, Ms. Z was abstinent from binge eating and purging and remained that way. She joined a yoga class for “large women” where she found comfort in not having to compare herself to the other “teeny yoga bunnies.” She lost 10 pounds during CBT without dieting, which she admits was far from her expectation of 50, but her blood pressure had normalized to the point where her primary care physician tapered her Norvasc. Her intentions were to enjoy a “planned plateau” and to consolidate her abstinence and new weight and blood pressure before engaging in the next step of her health reform plan (which included getting more fit).

She developed healthier approaches to stress tolerance and better solutions to boredom than binge eating and purging. She could identify warning signs of an impending binge and knew that her tendency to skip breakfast and boost her energy with caffeine set her up for evening binges. Her binge “hangover” the next morning would then facilitate skipping breakfast and lunch again thereby perpetuating the cycle. Rather than succumbing to the work stress, she began to predict high stress times and planned in advance to ensure that she would continue eating healthful breakfasts and lunches to avoid those strong evening urges. She also benefitted from the technique of acting opposite. On evenings when all she wanted to do was binge and purge, she learned how to avoid putting on her “binge sweats”, but rather changing into casual clothes and getting out of the house whether to a book reading, or a movie, or some other non-food-related activity. All in all, she was pleased with the outcome of abstinence from binge eating and purging but required considerable work to adjust her weight loss expectations.

A year after treatment, she remained abstinent from binge eating and purging and continued to reap the medical benefits of her healthier lifestyle. Her fluoxetine had been discontinued, which was sensible given her abstinence from bulimic behavior and prolonged underdosing (8). She worked hard to maintain a health rather than weight focus, but occasionally still felt the pull towards a drive for thinness. Small upward weight fluctuations still triggered urges to purge, but she recognized that this was a trap for her and that she would continue to have to apply active strategies to combat this urge.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

## Presentation BMIs in Bulimia Nervosa Clinical Trials\*

Study	Treatment	Baseline BMI kg/m <sup>2</sup>
Agras et al. 2000 (39)	CBT and IPT	23.0 (4.7)
Bailer et al. 2004 (40)	Self-help group CBT group	21.7 (3.1) 20.7 (2.4)
Beumont et al. 1997 (41)	Nutritional counseling and fluoxetine	22 (2)
Bulik et al. 1998 (42)	CBT and exposure	22.4 (2.5)
Carruba et al. 2001 (43)	Moclobemide Placebo	20.35 (0.43) 20.49 (0.41)
Carter et al. 2003 (44)	Self-help	23 (5)
Chen et al. 2003 (45)	Group vs. individual CBT	22.19 (2.81)
Esplen et al. 1998 (46)	Guided imagery	21.2 (1.1)
Fairburn et al. 1991 (47)	CBT, IPT, BT	22.2
Faris et al. 2000 (48)	Ondansetron	21.6 (2.5)
Fichter et al. 1996 (49)	Fluvoxamine Placebo	20.7 (4.0) 19.9 (3.3)
Fluoxetine Group, 1992 (8)	Placebo Fluoxetine: 20 mg/d Fluoxetine: 60 mg/d	22.6(3.3) 22.7(4.2) 22.4(3.2)
Goldbloom et al. 1997 (50)	Fluoxetine and CBT	23(2.5)
Goldstein et al. 1999 (51)	8 week trial 16 week trial	22 21
Kennedy et al. 1993 (52)	Brofaromine Placebo	26.2 (6.5) 24.2 (4.8)
Laessle et al. 1991 (53)	Stress management Nutritional management	16.8 (2.1) 18.2 (1.8)
Mitchell et al. 2002 (54)	IPT Antidepressants	23.2 (3.7) 21.9 (2.5)
Romano et al. 2002 (55)	Fluoxetine Placebo	22.5 (3.9) 23.0 (3.8)
Safer et al. 2001 (56)	DBT	23.7 (5.6)
Sundgot-Borgen, et al. 2002 (57)	Exercise Cognitive Nutrition Waiting List Control	21.0 (2.0) 20.0 (1.9) 21.0 (2.1) 22.0 (2.5) 21.0 (1.9)
Thiels et al. 1998 (58)	CBT Guided self-change	21.31 22.57
Treasure et al. 1999 (22)	CBT MET	24.0 26.3
Walsh et al. 2004 (59)	Guided self-help plus fluoxetine Guided self-help plus placebo Pills only (fluoxetine) Pills only (placebo)	21.79 22.78 24.29 24.00
Walsh et al. 1991 (60)	Placebo Desipramine	22.0 22.4
Wilfley et al. 1993 (21)	Group CBT and IPT	32.8

Study	Treatment	Baseline BMI kg/m <sup>2</sup>
Walsh et al. 1997 (61)	CBT + medication	21.6
	CBT + placebo	22.1
	Supportive psychotherapy + medication	21.7
	Supportive psychotherapy + placebo	21.7
	Medication only	22.3
	Combined:	21.9

• Data presented as M(SD) (when available) for total sample or by treatment group or as presented in text.

•• CBT: cognitive behavioral therapy; MET: motivation enhancement therapy; DBT: dialectical behavioral therapy; BT: behavioral therapy; IPT: interpersonal psychotherapy