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Prevalence of Binge Eating Disorder in an Insurance-Based Weight Management Center

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Abstract

Purpose: This project was anticipated to demonstrate an increase in the number of those diagnosed with BED according to Diagnostic and Statistical Manual (DSM) 5 criteria, diagnosed with ICD-10 code F50.8 or R63.2 and treated according to best practice guidelines.

Background: Binge eating disorder (BED) is the most common eating disorder in the United States, more than both anorexia and bulimia combined. It affects 3.5 percent of women, 2 percent of men and 30 percent of those seeking weight management.

Design: This evidenced-based project consisted of a retrospective analysis of 150 patients seen in a weight management clinic setting since implementing the ICD-10 coding system 02/09/16.

Findings: Results demonstrated the prevalence of BED in this weight management center was 27.5%, 44% were diagnosed with an ICD 10 code, and approximately 20% were provided with evidence based treatments.

Clinical Implications: Understanding the prevalence of BED demonstrates the need for increased screening methods to optimize the likelihood patients obtain empirically supported treatment.

Background

When discussing eating disorders, most individuals are relatively familiar with both anorexia nervosa and bulimia nervosa. Surprisingly, the less familiar condition, binge eating disorder (BED), is in fact more common than both anorexia and bulimia combined. BED affects approximately 3.5 percent of women, 2 percent of men and at least 30 percent of those seeking weight management treatment (Binge Eating Disorder Association [BEDA], 2017).

Binge eating is not a choice and is not the cause of obesity, although up to 70 percent of those with BED are obese (BEDA, 2017). It is an emotional and behavioral disorder according to the American Psychological Association (APA). Previously, under the Diagnostic and Statistical Manual of Mental Disorders fourth edition (DSM-IV) released in 1994, BED was itemized under Appendix B as an ambiguous diagnosis of “Eating Disorder Not Otherwise Specified.” Since then, numerous studies have been conducted and published supporting BED as an independent diagnosis. In the recently updated DSM-5, released in 2013, BED became an independent diagnosis with a modification in its qualifying criteria. In addition, a recent update to the International Statistical Classification of Diseases 10 (ICD-10) has included billable codes for binge eating disorder including F50.8 (BED) and R63.2 (polyphagia).

The Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5) has specific criteria that must be met for diagnosis. An episode of binge eating must involve both recurrent episodes of binge eating in discrete periods of time and eating large quantities of food, more than an average person may eat in the same amount of time in addition to feeling a lack of control when eating (APA, 2010). Furthermore, persons must meet at least three of the associated criteria including feeling uncomfortably full, eating large amounts when not physically hungry, eating more rapidly than normal, eating alone out of embarrassment and/or

feeling disgusted, depressed, ashamed or guilty after overeating (APA, 2010). These episodes must occur at least once a week over a three-month period and cannot be associated with compensatory actions such as purging or excessive exercise as this falls under the realm of bulimia (see Table 1).

Not only does binge eating disorder result in behavioral issues such as distortional body image, anxiety, depression and substance abuse (Mehler, et al, 2010), but BED sufferers are also

DSM-5 Diagnostic Criteria for Binge-Eating Disorder

A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:

1. Eating, in a discrete period of time (for example, within any 2-hour period), an amount of food that is definitely larger than what most people would eat in a similar period of time under similar circumstances
2. A sense of lack of control over eating during the episode (eg, a feeling that one cannot stop eating or control what or how much one is eating)

B. The binge-eating episodes are associated with 3 (or more) of the following:

1. Eating much more rapidly than normal
2. Eating until feeling uncomfortably full
3. Eating large amounts of food when not feeling physically hungry
4. Eating alone because of feeling embarrassed by how much one is eating
5. Feeling disgusted with oneself, depressed, or very guilty afterwards

C. Marked distress regarding binge eating is present

D. The binge eating occurs, on average, at least once a week for 3 months

E. The binge eating is not associated with the recurrent use of inappropriate compensatory behavior as in bulimia nervosa (for example, purging) and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa

Specify current severity:

The minimum level of severity is based on the frequency of episodes of binge eating.

Mild: 1-3 binge-eating episodes per week.

Moderate: 4-7 binge-eating episodes per week.

Severe: 8-13 binge-eating episodes per week.

Extreme: 14 or more binge-eating episodes per week.

at increased risk for several comorbid conditions such as Type 2 diabetes, hypertension, dyslipidemia, osteoarthritis and sleep apnea (Tanofsky-Kraff, et al, 2012). This raises the level of care needed to improve mortality and quality of life of those with BED.

Evidence-based treatments for binge eating disorder include, both pharmacologic and psychotherapeutic modalities. Of the psychotherapeutic therapies, cognitive behavioral therapy, dialectic behavior therapy and interpersonal psychotherapy have been associated with binge frequency reduction rates and significant abstinence rates (APA, 2010). The anti-epileptic drug, topiramate has been studied and shown to reduce hunger, promote weight loss, and demonstrated a significant reduction in binge episodes and impulsivity (Amiato, Ottone, Daga & Fassino, 2015). Currently, lisdexamfetamine dimesylate (Vyvanse) is the only FDA-approved medication for the treatment of BED. According to Saules, Carey, Carr and Sienko (2015), studies of lisdexamfetamine showed a significant reduction in number of binge days, with strong effect sizes.

Overall, this project is anticipated to demonstrate an increase in the number of patients identified with BED in congruence with the recent updates to DSM-5 criteria, ICD-10 codes, and an increase in evidence-based treatment methods provided to those of those diagnosed with BED.

Purpose/Aims

The purpose of this evidenced-based practice project was to examine the prevalence of BED determined by DSM-5 criteria, whether these patients were assigned ICD-10 codes F50.8 or R63.2, determine severity and demographics associated with those with BED, compare level of comorbidities in those with and without BED as well as determine whether evidence-based treatments were being utilized.

Literature Review

To accomplish the objective of determining if evidence-based treatment for binge eating disorder was being used, a systematic literature search was conducted using MEDLINE, CINHALL, and PUBMED using the terms 'Binge Eating Disorder,' 'BED' and 'Binge eating disorder treatment.' The Agency for Healthcare Research and Quality (AHRQ), APA and various eating disorder association websites were also searched. A total of 25 articles were reviewed, all of which were relevant, with a total of six used to support latest evidence-based treatments.

According to APA guidelines (2012), the evidence-based treatment recommendations for BED include cognitive behavioral therapy, dialectic behavior therapy and interpersonal psychotherapy. These treatment modalities were associated with binge frequency reduction and significant binge abstinence rates during active treatment. Cognitive approaches focusing on self-acceptance and healthy lifestyle, not weight loss, were effective in reducing binge eating and depression, anxiety, body dissatisfaction as well as cholesterol and blood pressure (Tanco, Linden, & Earle, 1998). A retrospective chart review analyzing the use of the SSRI, venlafaxine, in obese patients with binge eating disorder reported positive effects on binge eating, weight and mood (Malhotra, King, Welge, Brusman-Lovins & McElroy, 2002). Two studies, one a retrospective review of patients with affective disorders and co-occurring binge eating disorder (Shapira, Goldsmith & McElroy, 2000) and a randomized, double-blind, placebo-controlled study (McElroy, et al, 2003), found topiramate to be effective for both binge suppression and weight loss.

In 2016, the AHRQ conducted a systematic review of evidence on the effectiveness of binge eating treatments. In regards to psychological and behavioral interventions, therapist-led

CBT reduced binge-eating frequency and increased binge-eating abstinence (AHRQ, 2016). In regards to pharmacological interventions, a meta-analysis by McElroy, et al (2015) showed substantial evidence that lisdexamfetamine increased binge-eating abstinence. Second-generation antidepressants also increased binge-eating abstinence but also reduced binge-eating frequency as well as eating-related obsessions and compulsions (AHRQ, 2016). A randomized, placebo-controlled trial by McElroy, et al (2007) produced added evidence that topiramate reduced binge-eating frequency, eating-related obsessions and compulsions, and weight.

A meta-analysis conducted by Vocks, et al (2010), comprising 38 studies with a total of 1973 participants, demonstrated that psychotherapy and structured self-help based on cognitive behavioral interventions, were found to have large effects on the reduction of binge eating. The study also demonstrated that the integration of SSRI medication showed moderate binge-eating episode reduction.

Additionally, a recent systematic review and meta-analysis conducted by Brownley, et al (2016), which analyzed 34 trials, determined that cognitive behavioral therapy, lisdexamfetamine, second generation antidepressants and topiramate were effective in reducing binge eating episodes and related psychological conditions. This study further demonstrated that both lisdexamfetamine and topiramate were effective in reducing weight in adults with binge-eating disorder.

A literature review by Saules, Carey, Carr and Sienko (2015) also determined that cognitive behavioral therapy is the most well-established and empirically supported treatment for BED. They further found that a central nervous system stimulant, lisdexamfetamine dimesylate, significantly reduced the number of binge days. Aminato, Ottone, Daga and Fassino (2015) determined topiramate was effective in reducing impulsivity, binge episodes and thus reducing

hunger and promoting weight loss.

Project Plan Process

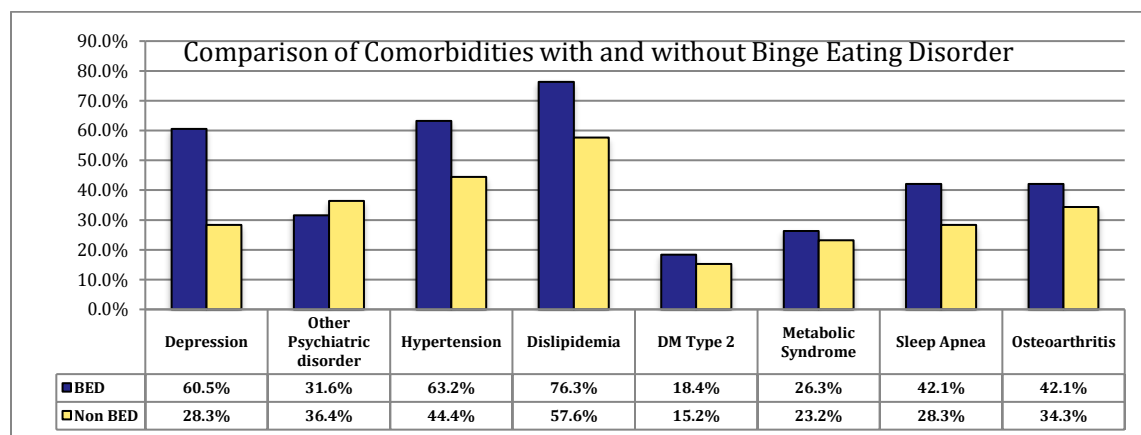
The Iowa Model was utilized to guide this project in a weight management clinic setting. This evidenced-based project consists of a retrospective review of 150 patient medical records seen in an outpatient weight management clinic setting since the clinic implemented ICD-10 coding from February 09, 2016 through November 2016. Twelve patients were excluded as they met some criteria of both BED patients and those without BED. A total of 138 patients were included in this study. Data was analyzed to determine the prevalence of BED determined by DSM-5 criteria, whether these patients were assigned the ICD-10 code F50.8 or R63.2, BED severity distribution of patients, demographics associated with those with BED, a comparison of comorbidities of those with or without BED as well as the determination if evidence-based treatments are being provided.

Results

After conducting a thorough data analysis, it was determined that the prevalence of binge eating disorder in this weight management center was 27.5%, which is comparable to the results of the APA at 30 percent of those seeking weight management (APA, 2010). Demographics of the 38 patients meeting criteria for BED include an average age of 52.8 years old, 52.6 percent were male and 47.3 percent were female. The majority of those suffering from BED were Caucasian at 73.7 percent, 18.4 percent were Hispanic and the remaining 7.9 were a combination of other races. The average weight of the 38 BED patients was 263.58 with a mean body mass index of 40.93, which falls in the severe obesity category. Of the 38 patients who met DSM 5 criteria for BED, 14 had 1-3 binge-eating episodes per week (mild), 20 had 4-7 episodes per week (moderate) and 4 had severe BED with 8-13 binge eating episodes per week. Furthermore,

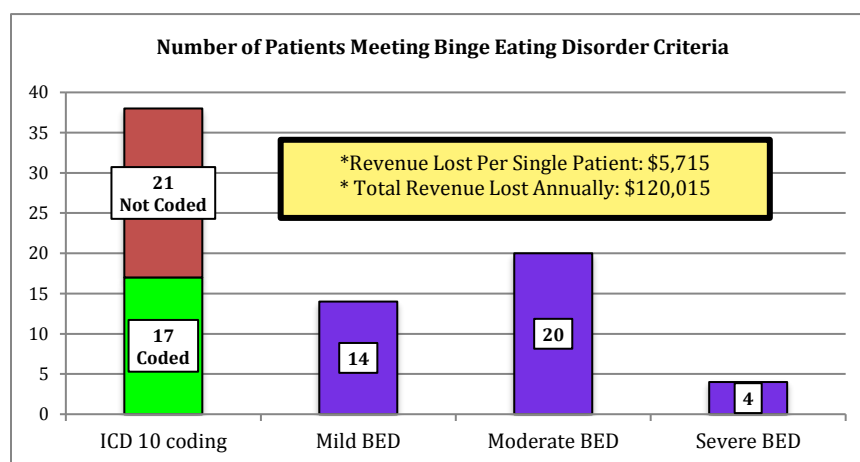
only 17 of the patients that met DSM-5 criteria were diagnosed with either ICD-10 code F50.8 or R63.2, leaving 21 patients without a diagnosis of binge eating disorder (see Figure 1).

Figure 1



Comorbidity levels were also compared in those with BED and those without BED in effort to determine if there was an increase in comorbidities associated with BED. The categories analyzed included depression, other psychological disorders, hypertension, dyslipidemia, diabetes type 2, metabolic syndrome, osteoarthritis and obstructive sleep disorder. Those with BED were found to experience higher levels of comorbid disorders than those without BED in all but one category (see Figure 2).

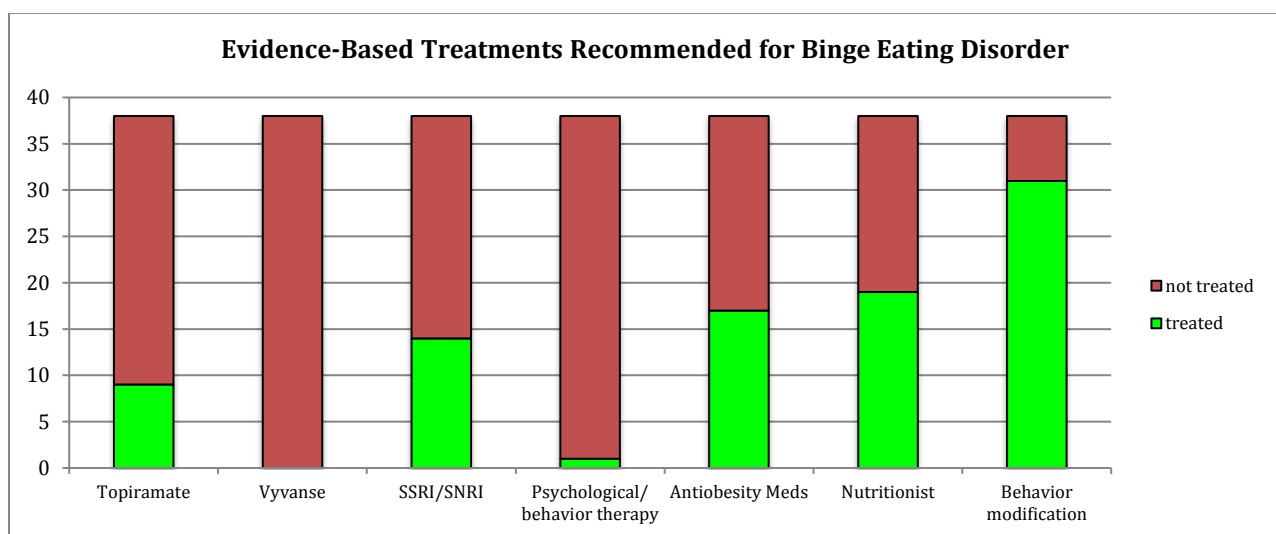
Figure 2



As shown in the literature, evidence-based treatments for those with BED include both psychotherapeutic and pharmacologic methods. BED patients provided with, or referred to, psychological/behavioral interventions was only 2.6 percent, surprisingly as this is recommended as the first-line intervention shown to reduce binge frequency and increase abstinence in those with BED. Evidence-based medications shown to improve symptoms of BED include topiramate, lisdexamfetamine and non-BED specific SSRI/SNRIs. Of the 38 BED patients, 23.7 percent were prescribed topiramate, none of the patients were provided lisdexamfetamine and 36.8 percent were taking an SSRI or SNRI although for reasons other than BED. In regards to non-evidence-based treatments, anti-obesity medications were prescribed to 44.7 percent of BED patients, a dietician consult to 50 percent and suggestive behavior modification to 81.6 percent (see Figure 3).

The retrospective analysis of the weight management center demonstrates that sufferers of binge eating disorder are significantly under diagnosed and lacked evidence-based interventions shown to reduce, or eliminate, the effects of BED.

Figure 3



The retrospective analysis of the weight management center demonstrates that sufferers of binge eating disorder are significantly under diagnosed and lacked evidence-based interventions shown to reduce, or eliminate, the effects of BED.

Cost Benefit Analysis

As mentioned, 21 of the 38 patients were not diagnosed with a billable ICD 10 code for binge eating disorder, which leaves the weight management center with potential lost income. According to the Butterfly Foundation of Eating Disorders (2015), the cost of BED treatment under optimal intervention is \$5,715 annually. An additional, analysis by Bellows, et al (2015) found outpatient costs for one year of BED treatment at \$5,730. Using the average of the two findings, the average cost, or potential income, for each patient diagnosed with a billable ICD 10 code for BED is \$5,722.50. Given that 21 patients were not provided an ICD code in the 9-month analysis period, the income lost to this clinic during this time is approximately \$120,173. This could lead to approximately \$160,230 for a 12-month period.

Discussion

The prevalence of binge eating disorder in this weight management clinic is 27.5 percent, which is significantly higher than the general population. Unfortunately, those who meet the DSM-5 criteria for BED are not being effectively coded which further leads to under-treatment, ongoing illness and comorbidities, and lack of productivity which correlates with increased health care costs of nearly \$20,970 per person (Butterfly Foundation, 2015). Recognizing these factors demonstrate the need for increased screening methods in both weight management and primary care settings. By doing so, BED patients will be increasingly recognized and further provided vital treatments necessary to overcome not only BED, but also the comorbidities related to it.

Implications for Practice

Binge eating disorder is likely to be more prevalent in both the primary and specialty care settings where a large percentage of patients are obese. The under diagnosed problem may be hidden underneath the guise of being overweight and the problem never discussed. This can pose a significant problem in assisting those with BED ensuring the appropriate treatment and attaining a healthy weight and lifestyle. With proper screening and referrals in the primary care setting, providers can optimize the likelihood patients obtain evidence-based treatments.

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