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MEDICAL EDUCATION ARTICLE

Binge-eating disorder

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Binge-eating disorder (BED) is a newly defined eating disorder that has a significant effect on an individual's emotional and physical health and is an important public health problem. It is important for primary care providers to have a better understanding of BED—its signs and symptoms, medical concerns, diagnosis, and treatment. The lifetime prevalence of BED was determined to be 3.5% in women and 2.0% in men. Patients may be of normal weight but most are obese. It may be associated with other psychiatric disorders. It is characterized by binge eating even when not hungry until uncomfortably full, eating alone, and feeling embarrassed about the amount of food eaten. The main treatment modalities include psychotherapy and pharmaceutical agents; although, psychotherapy especially cognitive behavior therapy has been shown to be more beneficial. More studies to determine which modality can produce long-term remission are needed.

Introduction

Eating disorders are prevalent in the general population. Anorexia nervosa and bulimia nervosa are familiar. Binge-eating disorder (BED) is a proposed third category. Like the others, BED has a significant effect on an individual's emotional and physical health and is an important public health problem. It is important for the primary care provider to have an understanding of BED—its signs and symptoms, medical concerns, diagnosis, and treatment.

Prevalence

In a study conducted by James Hudson et al., the lifetime prevalence of BED was determined to be 3.5% in women and 2.0% in men.[1] This prevalence rate is significantly higher than the prevalence of both anorexia nervosa and bulimia nervosa. This study also noted that lifetime BED is associated with current severe obesity.[1] Villarejo and associates noted that 87% of patients with BED were obese.[2] The recognition of this disorder is very important when assessing an individual with obesity. Compared with obese individuals without BED, those with BED consume more calories in laboratory studies of eating behavior, report greater functional impairment and lower quality of life, and show significantly greater levels of psychiatric comorbidity.[3] On the one hand, if this is not addressed during the treatment of obesity, the patient is very likely to fail whatever treatment regimen is initiated. On the other hand, some patients with BED have a normal body mass index (BMI). It has been noted that such individuals engage in more healthy behaviors between binges than their obese counterparts.[4]

Diagnosis

Eating disorders, as a group, fall under mental health for diagnosis, hence the Diagnostic and Statistical Manual of Mental Disorders (DSM) provides the criteria for diagnosis of these disorders. The DSM V is scheduled to be published in May 2013. It is expected that BED will be a specific

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entity in this publication. Presently, BED is defined in the DSM IV under Eating Disorder NOS and is expanded under recommended research criteria on page 785. A synopsis of these diagnostic criteria is given in the article.

Diagnostic Features

Recurrent episodes of binge eating associated with impaired control over and significant distress about the binge eating

A *binge* is defined under bulimia nervosa as eating in a discrete period of time an amount of food that is definitely larger than most individuals would eat under similar circumstances (criterion A1). A "discrete period of time" refers to a limited period, usually less than 2 hours.

> Absence of regular use of inappropriate compensatory behaviors.
> Impaired control includes eating very rapidly, eating until feeling uncomfortably full, eating large amounts of food when not hungry, eating alone because of embarrassment over how much one is eating, and feeling disgust, guilt, or depression after overeating.
> Binge episodes must occur, on average, at least 2 days per week for a period of at least 6 months. It has been suggested that the number of binge days be counted, rather than episodes, as many individuals have a hard time separating these behaviors into discrete episodes.
> The symptoms do not occur exclusively during anorexia nervosa or bulimia nervosa. There is some conflict as to whether or not an individual would fit under this diagnosis if they engaged in any compensatory behaviors.[5]

A statistical review of these criteria by M.A. White and C.M. Grilo confirm that these criteria have a high predictive value for the diagnosis of BED. The best overall indicators for correctly identifying binge eating as either BED or Bulimia Nervosa were "eating large amounts of food when not hungry" and "eating alone because embarrassed."[6]

Some researchers feel that overvaluation or excessive influence of shape or weight on self-evaluation should be included in the diagnostic criteria for BED. Higher levels of overvaluation are associated with higher levels of depression and other comorbid conditions and lower levels of self-esteem. This may also indicate difficulty in attaining remission during treatment.[7] The conditions that have been associated with BED include bipolar disorder, major depressive disorder, bulimia nervosa, anxiety disorder, substance use disorder, body dysmorphic disorder, kleptomania, irritable bowel syndrome, and fibromyalgia.[8] Additionally these patients are at risk for conditions associated with obesity such as type 2 diabetes mellitus, cardiovascular disease, gastrointestinal problems, and sleep apnea.

Primary care physicians are ideally placed to screen for eating disorders. The American Academy of Pediatrics recommends discussing eating patterns and body image at the annual physical examination or during sports evaluations.[9] The Bright Futures guidelines provide examples for addressing these issues for each age group. For adults, several questionnaires have been studied. The Binge-Eating Disorder Test, Bulimia Test—Revised and the Eating Disorder Examination Questionnaire—Eating Concerns Subscale had high sensitivity and specificity for diagnosing BED. The latter is shorter and may be easier to use.[10] The physician may also initiate communication on this topic by using the questions listed in the Table. Additionally, during the examinations, the provider should note height, weight, and BMI. A change in trend could signal a problem although a patient who does not have weight gain due to binge eating would not be identified by this method alone.

Table The provider can ask these questions. The more "yes" answers, the more likely the patient has binge-eating disorder

1.	Do you feel out of control when you're eating?
2.	Do you think about food all the time?
3.	Do you eat in secret?
4.	Do you eat until you feel sick?
5.	Do you eat to escape from worries, relieve stress, or to comfort yourself?
6.	Do you feel disgusted or ashamed after eating?
7.	Do you feel powerless to stop eating, even though you want to?

Adapted from http://www.helpguide.org/mental/binge_eating_disorder.htm.

Treatment

Management is complicated for the clinician. To date, numerous treatments including psychological, pharmacologic, and surgical interventions have been studied to determine which is the most effective in reducing binge eating in the long term. The goal of therapy is to reduce episodes of binge eating and normalize eating patterns, improve psychological well-being and regulate weight.

Psychological Interventions

When compared to with a behavioral weight-loss treatment (BWL) program that promotes caloric limitations and increased exercise, cognitive behavior therapy (CBT) was shown to be more effective in improvement in reduction of binge eating. Other modalities, such as dialectical behavior therapy (DBT), are in the literature and offer promise but comparison with accepted methods need to be made.

CBT is a well-established treatment for BED.[11] In this approach, patients are encouraged to set eating goals, to employ self-monitoring, and to modify negative views of themselves to reduce binge eating.[12] CBT generally achieves total remission from binge eating in more than 50% of patients, along with broad improvement in specific eating disorder psychopathology (e.g., overvaluation of body shape and weight), associated depression, and psychosocial functioning.[13] When compared with a behavioral weight-loss

program (BWL) that promotes caloric limitation and increased exercise, CBT was shown to be more effective in improvement in reduction of binge eating. However, there was no difference in the groups at 12-month follow-up.[14] A second study showed CBT was superior to BWL for producing reductions in binge eating through 12-month follow-up, but BWL had a higher reduction in BMI.[15] However, a third study, which followed patients after 6 years of treatment, found that the remission rate defined as having no objective binge-eating episode during the last 28 days as 20% in CBT and 17% in BWL.

Self-guided CBT has been studied and was shown to have higher remission rates (46%) than the control group (13%). CBT was also found to be superior to fluoxetine in controlling symptoms of BED[16] and better long-term effectiveness in a 12-month follow-up study.[17]

IPT has been shown to be comparable to CBT in the treatment of BED. This management supports the development of healthy interpersonal skills that promote a positive self-image and decrease binge eating. The primary emphasis is on helping patients' identify and change current interpersonal problems that are hypothesized to be maintaining the eating disorder.[13] In a randomized study, Wifley and colleagues found that binge-eating remission was equivalent in CBT and IPT. After treatment, the rate of remission for CBT and IPT was 79% and 73%, respectively, and 59% vs 63% at 1-year follow-up, respectively.[18]

The literature also reports one case study in which electroconvulsive therapy was beneficial in decreasing episodes of binge eating in an obese patient. The patient was also treated aggressively for his bipolar disorder, and in 2 years the patient returned to normal weight.[19]

Pharmaceutical Interventions

Pharmaceuticals are often prescribed for the treatment of BED; however, evidence of efficacy is scarce. No medications are FDA approved for BEDs.[20] Additionally, current data suggest that pharmacologic treatments are not as effective as physiological intervention.[21] Various drugs have been studied in recent years for this indication. The list includes antidepressants, antiobesity agents, muscle relaxants, and antiepileptic agents.

McElroy and colleagues reviewed 22 prospective, randomized, placebo-controlled pharmacotherapy studies for BED. They concluded the studies had a too small sample size, were of short duration and excluded patients with comorbid conditions. Authors found antidepressants were modestly effective over the short term.[21] Antiepileptic agents, especially topiramate, have shown improvement in binge eating but with unpleasant side effects.[21] Orlistat, an antiobesity agent, was studied in combination with CBT. It was found to have significant success in reducing the number of binge-eating episodes but there was poor outcome in follow-ups.[21] Pharmacotherapeutic evaluation is in the early stages with more studies being necessary before recommendations can be made.

Surgical intervention

Researchers suggest bariatric surgery will decrease binge eating, and those with the disorder will achieve weight-loss goals.[22] A meta-analysis of the literature by Niego and colleagues affirms 64% of patients who seek bariatric surgery have BED. Additionally, patients with presurgical BED are more likely to retain the eating pathology and, if they do, have poorer weight-loss outcomes.[23]

Conclusion

BED is a newly defined eating disorder more prevalent than anorexia nervosa and bulimia nervosa. The primary care physician should be aware of the diagnostic criteria. It is essential that the provider screen for BED among his or her adolescent and adult patients. Once the diagnosis has been made, the patient should be referred for a psychotherapeutic treatment approach. The use of other modalities should be determined on a case-by-case basis.

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1. d, 2. b, 3. b, 4. a, 5. d, 6. d, 7. b, 8. c, 9. c, 10. a