BULIMIA IN ADOLESCENTS

2.0 Contact Hours

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BULIMIA IN ADOLESCENTS

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OBJECTIVES

When you complete this module, you will be able to:

1. Explain the behavior patterns and attitudes that are characteristic of bulimia
2. Identify factors associated with an increased risk of bulimia
3. Identify symptoms that may indicate that a young person has bulimia
4. Explain the health consequences, treatment, and prognosis of bulimia

BACKGROUND

Eating disorders are the third most common chronic illness in adolescence, after obesity and asthma.[1] One of the most prevalent eating disorders is bulimia nervosa, often referred to simply as "bulimia" and sometimes described as the "binge-purge" syndrome. Bulimia is characterized by the following behavior patterns and attitudes[2,3]:

- Regular consumption of large amounts of food accompanied by a sense of loss of control over eating behavior (i.e., eating "binges")
- Regular attempts to counteract the potential weight gain that might result from eating binges through inappropriate behaviors such as self-induced vomiting (purging), abuse of laxatives or diuretics, fasting, and/or intensive or prolonged exercise
- Extreme preoccupation with body weight and shape

A typical pattern of bingeing and purging in an adolescent would involve little food intake during the day, followed by an after-school binge prompted by hunger and perhaps also by boredom, followed by vomiting. Adolescents may also binge and purge late at night when the rest of the family is asleep. Vomiting after bingeing and restriction of food intake the next day are the most common measures that adolescents take to try to compensate for a binge, but this pattern leads to hunger, which encourages further bingeing.[1]

Bulimia usually begins in adolescence,[4] typically in the late teens,[3] but may continue into adulthood and even into middle age.[4] The exact prevalence of bulimia has been difficult to determine because people with this condition usually attempt to conceal it, although many recognize that their behaviors are unusual and may be unhealthful.[2] The American Academy of Pediatrics estimates that between 1% and 5% of female adolescents in the United States have bulimia.[5] Among college-age women, the prevalence has been estimated at 4%.[6] The most recent major U.S. national survey reported a lifetime prevalence of bulimia of 1.5% among U.S. women.[7]

It is sometimes assumed that bulimia and other eating disorders are seen predominantly among affluent white girls and young women, but this is not necessarily the case.[8] Bulimia is also seen in African American, Latina, Asian/Pacific Islander, and American Indian and Alaska Native girls and women; the idea that individuals from these cultures would be protected against eating disorders by cultural attitudes that are more accepting of a variety of body types does not seem to be valid.[8] Moreover, recent research indicates that there is no relationship between socioeconomic status and eating disorders.[4]

Bulimia was long thought to be rare among boys and men, who have traditionally been assumed to pay little attention to thinness and dieting. However, the data from the newest U.S. national survey indicate that the lifetime prevalence of bulimia among men is about 0.5% and that one-quarter of all people with bulimia are male.[7] The prevalence of bulimia and other eating disorders in males may have increased in recent years, reflecting an increased concern among boys and men about appearance and body image.[6] It is also possible, however, that eating disorders have always been present among boys and men but were overlooked in the past.

Instant feedback: Why should health professionals be on the alert for signs of bulimia in all adolescents, not just affluent white girls?
Answer: Because research has shown that bulimia is unrelated to socioeconomic status and occurs among all ethnic and racial groups. And the most recent survey data indicate that males account for one in four people with bulimia.

RISK FACTORS

Some adolescents are at higher risk than others for developing bulimia. Studies in teenage girls have shown that those who are concerned about their weight and are preoccupied with having a thin body, and who experience social pressure to achieve a thinner body, are more likely to develop symptoms of bulimia.[4] Depression and anxiety are also considered risk factors for bulimia,[4] and the results of several studies indicate that individuals with attention-deficit/hyperactivity disorder are also at increased risk of bulimia.[9-11] There is a correlation between bulimia and abuse of alcohol or other drugs in adolescents; this differs from the situation in adolescents with anorexia nervosa, who have low rates of substance abuse.[12] Individuals who have been treated previously for anorexia nervosa are at increased risk of developing bulimia months or years later.[3] There appears to be a genetic predisposition to eating disorders, but it is not specific to bulimia;

instead, there seems to be a common genetic factor that increases the risk of both anorexia nervosa and bulimia nervosa and may also predispose individuals to major depression.[4]

Instant feedback: What factors in an adolescent's personal or family medical history would indicate that the adolescent may be at increased risk of developing bulimia? **Answer:** A personal history of depression, anxiety, attention-deficit/hyperactivity disorder, abuse of alcohol or other drugs, or anorexia nervosa, or a family history of anorexia, bulimia, or major depression.

INDICATIONS THAT MAY LEAD A HEALTH PROFESSIONAL TO SUSPECT BULIMIA

Unlike anorexia nervosa, which causes severe underweight that is readily noticed, bulimia may be difficult for family members, friends, or even health professionals to spot. A person with bulimia may be thin, of normal weight, or overweight.[8] Family members may not notice anything unusual, except perhaps for the disappearance of unexpectedly large amounts of food from the kitchen. However, there are indications of bulimia that health professionals can spot, many of which result from chronic vomiting. They include the following[13]:

- Chronic sore and inflamed throat
- Swollen salivary glands in the neck and below the jaw.
- Puffiness of the cheeks and face.
- Erosion of tooth enamel as a result of exposure to stomach acids, leading to tooth decay
- Gastroesophageal reflux disorder
- Dehydration from purging of fluids

- Intestinal problems as a result of irritation from laxative abuse
- Kidney problems as a result of abuse of diuretics

PHYSICAL EXAMINATION AND LABORATORY FINDINGS

Findings on physical examination in adolescents with bulimia may include the following[5]:

- Sinus bradycardia
- Other cardiac arrhythmias
- Orthostatic by pulse or blood pressure
- Hypothermia
- Cardiac murmur (mitral valve prolapse)
- Hair without shine
- Dry skin
- Parotitis
- Russell's sign (callous on knuckles from self-induced vomiting)
- Mouth sores
- Palatal scratches
- Dental enamel erosion
- May look entirely normal

Some individuals with bulimia may seek medical treatment for symptoms linked to their bingeing and purging, such as fatigue, decreased energy, amenorrhea, abdominal pain, depression, or (less commonly) spitting up blood from a small esophageal tear.[4]

Patients with bulimia may also recognize that they have an eating disorder and seek help, unlike patients with anorexia nervosa, who rarely do so.[3]

The most common laboratory finding in bulimia is an elevated serum amylase level, usually of parotid origin. Metabolic alkalosis (a result of purging) is also found frequently, with raised serum bicarbonate levels, hypochloremia, and less commonly, hypokalemia.[4]

HEALTH CONSEQUENCES

The health consequences resulting from purging in people with bulimia can include fluid and electrolyte imbalances, hypokalemia, hyponatremia, and hypochloremic alkalosis.[5] If syrup of ipecac is used to induce vomiting, the consequences may be even more severe, including irreversible myocardial damage and diffuse myositis. Fortunately, ipecac syrup is likely to be less available to adolescents now than in the past. In 2003, the American Academy of Pediatrics reversed its former recommendation that syrup of ipecac should be kept in the home for use in the treatment of suspected poisoning. The Academy now recommends that families should not keep ipecac on hand and that those who have a bottle of ipecac syrup should discard it.[14] This ruling was based on a lack of evidence that ipecac was effective in treating poisoning, along with concerns about the potential for its abuse in various situations, including bulimia.

Instant feedback: What should health professionals teach parents about syrup of ipecac?
Answer: Not to keep it in the home for use in the treatment of poisoning, and to discard it if they already have it in the home. Ipecac has not been shown to be effective in treating poisoning, and it can be abused. If individuals with bulimia use it to induce vomiting, they can develop additional medical complications beyond those caused by chronic vomiting itself.

Chronic vomiting can also lead to esophagitis, dental erosion, Mallory-Weiss tears, and rarely, to esophageal or gastric rupture or aspiration pneumonia.[5] The dental consequences of chronic vomiting can be quite severe since the damage to the teeth is progressive and irreversible. Tooth damage can eventually involve the pulp of the tooth and result in tooth loss.[15] Continued vomiting may also interfere with the effectiveness of restorative dental treatment by causing loss of tooth structure.[15]

Those who purge by using laxatives may develop metabolic acidosis resulting from potassium bicarbonate depletion; increased blood urea nitrogen concentration and predisposition to renal stones from dehydration; hyperuricemia; hypocalcemia; hypomagnesemia; and chronic dehydration.[5] Individuals who discontinue the use of laxatives may experience very noticeable fluid retention, leading to a weight gain of as much as 10 lb. in 24 hours.[5]

Amenorrhea or menstrual irregularity may occur in female patients with bulimia, even those who are of normal weight or overweight, and can contribute to osteopenia.[5]

TREATMENT AND PROGNOSIS

Patients with bulimia may be treated with psychotherapy, medication, or a combination of both. Cognitive-behavioral therapy has been demonstrated to be more effective than other types of psychotherapy.[4,16] Approximately 50% of patients with bulimia who complete cognitive-behavioral therapy recover, and 20% to 30% more show improvement.[4] Therapy that involves the family as well as the patient may be valuable.[17]

Antidepressants, including both the tricyclic antidepressants, such as desipramine, and the selective serotonin reuptake inhibitors, such as fluoxetine, have been shown to be

effective in the treatment of bulimia, with a 20 to 30% success rate.[4] The anticonvulsant topiramate has also been used successfully in patients with bulimia.[4] For reasons of cost, it may be appropriate for antidepressant medication to be tried first, with cognitive-behavioral therapy reserved for those patients who fail to improve with medication.[4]

Instant feedback: What forms of therapy have been used most successfully in patients with bulimia?
Answer: Cognitive-behavioral therapy and antidepressant medications.

Because thin patients with bulimia who have low serum potassium levels are at risk for fatal cardiac arrhythmias, discontinuation of laxative use and supplementation with potassium are indicated in such cases.[4] Other consequences of bulimia that may require treatment include dental complications and osteopenia.

Bulimia is usually treated on an outpatient basis. In some instances, however, hospitalization may be necessary. The Society for Adolescent Medicine and the American Academy of Pediatrics have established the following criteria for hospital admission in children, adolescents, and young adults with bulimia.[5]

- Syncope
- Serum potassium concentration <3.2 mmol/L
- Serum chloride concentration <88 mmol/L
- Esophageal tears
- Cardiac arrhythmias including prolonged QTc
- Hypothermia
- Suicide risk
- Intractable vomiting

- Hematemesis
- Failure to respond to outpatient treatment

The prognosis for patients with bulimia is relatively good. Long-term follow-up studies have shown that approximately 70% of patients with bulimia recover.[4] Some of these patients, however, continue to have psychological problems such as anxiety and depression.

Unexpected deaths have been reported in patients with bulimia, usually in those with low body weight, low blood potassium levels, and cardiac arrhythmia.[4] Deaths have also been reported from complications of gastric dilation[18] or duodenal obstruction[19] resulting from extreme eating binges, but such cases are rare.

Relapse can occur in patients with bulimia or other eating disorders. In a recent nine-year follow-up study of women who had been treated for bulimia, 35% relapsed.[20] Greater body image disturbance and worse psychosocial functioning were associated with higher risks of relapse.

BULIMIA AND THE INTERNET

Web sites that promote eating disorders — and a smaller number of sites that promote recovery from eating disorders — have recently appeared on the Internet. The pro-eating disorder sites consist of communities of individuals who engage in abnormal eating practices and use the Internet to discuss them. Some of these sites promote eating disorders as lifestyle choices rather than illnesses, and the sites may provide information about weight loss or purging techniques.

A recent pilot study of the awareness and usage of eating disorder–related websites among adolescents with eating disorders found that 35.5% of patients visited pro-eating disorder sites, 41% visited pro-recovery sites, 25% visited both, and 48.7% did not visit any of the sites.[21] Among those who visited pro-eating disorder Web sites, 96.0% reported learning new weight loss or purging techniques, and 69.2% reported trying techniques they had learned from these sites. However, 46.4% of users of pro-recovery sites also learned new techniques, suggesting that even these sites may not be harmless. Users of pro-eating disorder sites did not differ from nonusers in health outcomes but had a longer duration of illness. About half of the parents of the adolescents surveyed were aware of the existence of pro-eating disorder Web sites, but the parents were often unaware that their children had visited the sites, and most of the parents had not discussed the sites with their children. Further study of the impact of Web sites on bulimia and other eating disorders in adolescents is needed.

REFERENCES CITED

1. Gonzalez A, Kohn MR, Clarke SD. Eating disorders in adolescents. *Aust Fam Physician.* 2007;36:614-619.
2. National Eating Disorders Association. Bulimia nervosa. Fact sheet dated 2006. Available online at http://www.nationaleatingdisorders.org/p.asp?WebPage_ID=286&Profile_ID=41141.Accessed December 5, 2007.
3. Nicholls D, Viner R. Eating disorders and weight problems. *BMJ.* 2005;330:950-953.

4. Agras WS. 13 Psychiatry, IX The Eating Disorders. ACP Medicine Online. Dale DC, Federman DD, eds. WebMD Inc., New York, NY 2000.
5. Committee on Adolescence, American Academy of Pediatrics. Policy statement. Identifying and treating eating disorders. *Pediatrics.* 2003;111:204-211.
6. ANRED (Anorexia Nervosa and Related Eating Disorders, Inc. Statistics: How many people have eating disorders? Webpage dated 2007. Available online at http://www.anred.com/stats.html. Accessed December 2, 2007.
7. Hudson JI, Hiripi E, Pope HG Jr, Kessler RC. The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biol Psychiatry.* 2007;61:348-358.
8. National Women's Health Information Center. Bulimia nervosa. FAQ dated 2007. Available online at http://womenshealth.gov/faq/Easyread/bulnervosa-etr.htm. Accessed December 5, 2007.
9. Surman CG, Randall ET, Biederman J. Association between attention-deficit/hyperactivity disorder and bulimia nervosa: analysis of 4 case-control studies. *J Clin Psychiatry.* 2006;67:351-354.
10. Biederman J, Ball SW, Monuteaux MC, Surman CB, Johnson JL, Zeitlin S. Are girls with ADHD at risk for eating disorders? Results from a controlled, five-year prospective study. *J Dev Behav Pediatr.* 2007;28:302-307.
11. Cortese S, Isnard P Frelut ML et al. Association between symptoms of attention-deficit/hyperactivity disorder and bulimic behaviors in a clinical sample of severely obese adolescents. *Int J Obes (Lond).* 2007;31:340-346.

12. Conason AH, Sher L. Alcohol use in adolescents with eating disorders. Int *J Adolesc Med Health.* 2006;18:31-36.
13. American Psychiatric Association. What Is an Eating Disorder? Fact sheet dated 2005. Available online at http://www.healthyminds.org/multimedia/eatingdisorders.pdf. Accessed December 2, 2007.
14. Committee on Injury, Violence, and Poison Prevention, American Academy of Pediatrics. Policy statement. Poison treatment in the home. *Pediatrics.* 2003;112:1182-1185.
15. Burkhart N, Roberts M, Alexander M, Dodds A. Communicating effectively with patients suspected of having bulimia nervosa. *J Am Dent Assoc.* 2005;136:1130-1137.
16. Mitchell JE, Agras S, Wonderlich S. Treatment of bulimia nervosa: where are we and where are we going? *Int J Eat Disord.* 2007;40:95-101.
17. Le Grange D, Crosby RD, Rathouz PJ, Leventhal BL. A randomized controlled comparison of family-based treatment and supportive psychotherapy for adolescent bulimia nervosa. *Arch Gen Psychiatry.* 2007;64:1049-1056.
18. Gyurkovics E, Tihanyi B, Szijarto A, Kaliszky P, Temesi V, Hedvig SA, Kupcsulik P. Fatal outcome from extreme acute gastric dilation after an eating binge. *Int J Eat Disord.* 2006;39:602-605.
19. Ikegaya H, Nakajima M, Shintani-Ishida K, Uemura K, Yoshida K. Death due to duodenal obstruction in a patient with an eating disorder: a case report. *Int J Eat Disord.* 2006;39:350-352.

20. Keel PK, Dorer DJ, Franko DL, Jackson SC, Herzog DB. Postremission predictors of relapse in women with eating disorders. *Am J Psychiatry.* 2005;162:2263-2268.
21. Wilson JL, Peebles R, Hardy KK, Litt IF. Surfing for thinness: a pilot study of pro-eating disorder Web site usage in adolescents with eating disorders. *Pediatrics.* 2006;118:e1635-e1643.