



Bulimia Nervosa – A Psychiatric Eating Disorder

Bhaskaran Sathyapriya^{1*}, Purushothaman Lakshmanan², Govindarajan Sumathy³, Jinu Merlin Koshy¹, Balasubramanian Chandrakala⁴ and Elayaperumal Gokulalakshmi⁵

¹Reader, Department of Anatomy, Sree Balaji Dental College and Hospital, Bharath Institute of Higher Education and Research, Chennai, Tamilnadu, India

²Consultant Orthodontist, Apollo Hospitals and Apollo White Dental, Chennai, Tamilnadu, India

³Professor and HOD, Department of Anatomy, Sree Balaji Dental College and Hospital, Bharath Institute of Higher Education and Research, Chennai, Tamilnadu, India

⁴Senior Lecturer, Department of Anatomy, Sree Balaji Dental College and Hospital, Bharath Institute of Higher Education and Research, Chennai, Tamilnadu, India

⁵Research Assistant, Human Genetics Laboratory, Sree Balaji Dental College and Hospital, Bharath Institute of Higher Education and Research, Chennai, Tamilnadu, India

***Corresponding Author:** Bhaskaran Sathyapriya, Reader, Department of Anatomy, Sree Balaji Dental College and Hospital, Bharath Institute of Higher Education and Research, Chennai, Tamilnadu, India.

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Abstract

Bulimia nervosa (BN) is a distressing and disabling disorder. It consists of recurrent episodes of binge-eating, followed by inappropriate compensatory behaviour (American Psychiatric Association 1994). In the binge episodes, exceptionally large amounts of food are eaten, and a sense of loss of control is experienced, e.g. the individual feels unable to stop eating even if she /he wanted to. Compensatory behaviour may include self-induced vomiting, fasting, strict dieting, excessive exercise or inappropriate use of laxatives and diuretics which intend to impede or avoid weight gain. Great concern and preoccupation with body weight and shape is also usually present. This may involve feeling fat, obsessive weighing or rigid calorie counting. The disorder has many features in common with anorexia nervosa (AN). However, unlike those with AN, those with BN always have a normal or above normal body weight. This article reviews the key features, associated problems, the relevant psychological theories, major psychological features and different treatment approaches of bulimia nervosa.

Keywords: Eating Disorder; Vomiting; Psychiatric Illness; Weight Loss Dieting

Introduction

The term bulimia is derived from two Greek words. These are the word 'bous' meaning ox, and the word 'limos' meaning hunger. The Oxford English Dictionary defines bulimia simply as 'morbid hunger'. It suggests having the appetite of an ox, as well as the ability to consume an ox, or as much as an ox [1,2].

Bulimia Nervosa (BN) is a serious psychiatric ill health characterised by frequent binge-eating episodes (unusually large amounts of food is consumed over a short time period) [3,4]. Binge episodes are coupled with a feeling of loss of control follow by feelings of guilt and shame, which leads to compensatory behaviours like self-induced vomiting, fasting, over exercise and/or inappropriate use of laxatives, enemas or diuretics [5-8].

Bulimia nervosa is divided into 2 subtypes: purging and non-purging. Purging bulimics patients engage in some method, most often accomplished by self-induced vomiting to remove the binged food from their bodies. Non-purging bulimics use fasting or excessive exercise as the primary compensation for binges but do not regularly purge [9-11].

Bulimic patients generally retain an normal weight, or may be vaguely over or under normal weight for height, which is seldom identified than serious cases of Anorexia Nervosa [12-15]. There is a wrong assumption among some health care professionals that a person with an eating disorder must be underweight and thin. Hence, Bulimia Nervosa is overlooked and unnoticed for a long time.

The bulimic patients commence with weight-loss diet which leads to food denial and nutritional deficiency. These elicit a hunger response – consuming large of amount of food out of control and attempts to compensate can lead to feelings of shame, guilt and disgust [16]. These behaviours can become more irrational and unmanageable over time, and direct to an obsession with food, thoughts about eating (or not eating), weight loss, dieting and body image [17-20].

These behaviours are often obscured bulimic patients can go to extensive time-span to keep their eating and exercise habits undisclosed. As a result, Bulimia can often go concealed for a long period of time.

Epidemiological research

Epidemiology as a rule concerned with three effects. These are: (1) prevalence-the proportion of the population that has the disorder at a given point or period in time; (2) incidence-the number of new cases of the disorder that occurs in a given period (often one year, and often expressed as the rate per 100 000 of the population); and (3) risk factors-conditions or variables that, if present, increase the likelihood of having, or developing, the disorder.

Prevalence

The prevalence of anorexia nervosa for women in the United States is 0.5% to 1%, the prevalence of bulimia nervosa is 2% to 3% and can be as high as 10% in vulnerable populations, such as college-aged women [21]. Males are affected by eating disorders at a rate one tenth of that of females. Demographically, most patients with bulimia nervosa are single, college educated, and in their mid-20s. However, most patients begin experiencing bulimic symptoms during adolescence [7]. Bulimia nervosa occurs in 2.3% of white women but in only 0.40% of black women [10].

Incidence

Case register studies are usually used to estimate incidence in BN, and several have been conducted in recent years. One Dutch study consulted the register of diseases in 58 general practices (1.05% of the Dutch population). The study found an incidence of 9.9 per year per 100 000, in 1985 and 1986, and a point prevalence of 20.4 per 100 000 [22]. A study in Rochester, Minnesota, USA, used a population-based data resource (the Rochester Epidemiology Project), over 10 years, from 1980 to 1990. Using the DSM-III-R (*Diagnostic and Statistical Manual of Mental Disorders*) criteria, the estimated incidence (age-adjusted) was 26.5 per 100 000 for females. The overall age and sex adjusted rate was 13.5 per 100,000 [23]. Perhaps surprisingly, some studies have found lower incidence rates for BN than for anorexia (e.g. a study in Fyn County, Denmark, conducted between 1977 and 1986) [24]. Hsu (1996) suggests this may be because the onset of bulimia is usually later than anorexia, and studies of a relatively young group may find a higher prevalence of anorexia. It is important to remember that these studies only pick up diagnosed cases, i.e. cases that have come to the attention of services, and not those who have not sought help. Comparison of figures across studies can also be difficult. They often cover different age and sex ranges, and few report figures that are standardized, i.e. adjusted for age and sex. Again, diagnostic criteria used may also vary (both between and within studies) thus producing different estimates that may not be comparable.

Risk factors

Little systematic research has been conducted on individual risk factors in bulimia nervosa. Such studies are important for targeting prevention programmes. Many factors have been identified as possible risk factors for later eating disorders. However, most of this work has focused primarily on anorexia nervosa, and few studies have investigated BN. Additionally, few researchers have assessed risk factors in a systematic way, although there are some reviews of

potential factors [25]. Two well-conducted empirical studies have produced relevant results. One investigated predictors of risk in an adolescent group, with a particular emphasis on personality variables [26]. It found that negative emotionality, low interceptive awareness, and body dissatisfaction were good predictors of later risk. The second study used a case control design to investigate predictors in those with BN, compared to healthy controls and those with other psychiatric disorders [27-29]. Important factors identified were exposure to dieting, negative self-evaluation, and certain parental problems, including alcohol misuse. In addition, those with BN were more likely to have experienced parental obesity, an early menarche, and parental psychiatric disorder, than those with AN [30,31].

BN seems less common in minority groups, and in non-Western and less traditional societies [32]. Finally, there is some suggestion that BN may have increased recently, although not all the evidence supports this.

Etiology

For bulimic patients, their eating behaviours and habits muddle through with emotional tension. They have a fear of becoming fat, of calories, and of food apart from other challenges like depression, anxiety, and incline to employ self-harm, impetuous activities and stuff misuse.

Causal factors

The exact cause is unknown, but researchers believe it stems from an amalgamation of genetic, biological, psychological, social, and behavioural factors. Bulimia is related to a fear of weight gain, but the primary factors are more complex than that [13].

The National Institute of Mental Health (NIMH) note that it seems to run in families and propose genetic studies may provide more information in future. Bulimia is correlated to a fear of weight gain, but the core problem usually relay on emotional and mental health. Brain imaging shows variation in brain response between women with bulimia and those of slim women and food. Conditions allied with bulimia include depression, anxiety, stress, personality disorders, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD) [33].

Environmental factors may include:

- Exposure to obstructive role models through the media and the fashion industry
- Pressures of physical activities, especially those that emphasize weight

Warning signs of Bulimia Nervosa

A sound knowledge about the signs and symptoms of BN can manifest a discernible distinction between the sternness and period of the illness. Seeking help at the first warning sign is much more effective than waiting until the illness is in full swing [34-36].

The warning signs of BN can be physical, psychological and behavioural or exhibit a combination of these symptoms.

Physical signs

- Frequent changes in weight (loss or gains)
- Signs of damage due to vomiting including swelling around the cheeks or jaw, calluses on knuckles, damage to teeth and bad breath
- Feeling bloated, constipated or developing intolerances to food
- Loss of or disturbance of menstrual periods in girls and women
- Fainting or dizziness
- Feeling tired and not sleeping well

Psychological Signs

- Preoccupation with eating, food, body shape and weight
- Sensitivity to comments relating to food, weight, body shape or exercise
- Low self-esteem and feelings of shame, self-loathing or guilt, particularly after eating
- Having a distorted body image (e.g. seeing themselves as overweight even if they are in a healthy weight range for their age and height)
- Obsession with food and need for control
- Depression, anxiety or irritability
- Extreme body dissatisfaction

Behavioural Signs

- Evidence of binge eating (e.g. disappearance or hoarding of food)
- Vomiting or using laxatives, enemas, appetite suppressants or diuretics
- Eating in private and avoiding meals with other people
- Anti-social behaviour, spending more and more time alone
- Repetitive or obsessive behaviours relating to body shape and weight (e.g. weighing themselves repeatedly, looking in the mirror obsessively and pinching waist or wrists)
- Secretive behaviour around food (e.g. saying they have eaten when they haven't, hiding uneaten food in their rooms)
- Compulsive or excessive exercising (e.g. exercising in bad weather, continuing to exercise when sick or injured, and experiencing distress if exercise is not possible)
- Dieting behaviour (e.g. fasting, counting calories/kilojoules, avoiding food groups such as fats and carbohydrates)
- Frequent trips to the bathroom during or shortly after meals which could be evidence of vomiting or laxative use
- Erratic behaviour (e.g. spending large amounts of money on food)
- Self harm, substance abuse or suicide attempts

Diagnosis

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) includes the following diagnostic criteria for bulimia nervosa [37]:

- Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:
 - Eating, in a discrete period of time (e.g., within a two hour period), an amount of food that is definitely larger than what most people would eat during a similar period of time and under similar circumstances.
 - Lack of control over eating during the episode (e.g., a feeling that you cannot stop eating, or control what or how much you are eating).
- Recurrent inappropriate compensatory behaviour to prevent weight gain, such as self-induced vomiting, misuse of laxatives, diuretics, or other medications, fasting, or excessive exercise.
- The binge eating and unsuitable compensatory behaviours both occur, on average, at least once a week for three months.
- Self-evaluation is unduly influenced by body shape and weight.
- Binging or purging does not occur exclusively during episodes of behaviour that would be common in those with anorexia nervosa.

Diagnostic Tests for Bulimia Nervosa

If your doctor suspects that you have bulimia, they will typically conduct several tests to help narrow down the diagnosis, eliminate other medical causes for weight loss or gain and check for any related complications [38-41].

- **Physical Exam:** This may include measuring the height and weight; checking vital signs, such as heart rate, blood pressure and temperature; checking the skin and nails; listening to the heart and lungs, and examining the abdomen.
- **Lab Tests:** These may include a complete blood count and more specialized tests to check electrolytes and protein, as well as functioning of your liver, kidney and thyroid. A urinalysis may also be performed.
- **Psychological Evaluation:** A therapist or mental health provider will likely inquire about thoughts, feelings and eating habits. The patient may also be asked to complete a psychological self-assessment questionnaire. The SCOFF (an acronym describing five key screening questions for ED, which can be recalled through the mnemonic <Sick, Control, One stone, Fat, Food>) questionnaire screens for eating disorders using 5 simple, easy-to-remember questions [42]. An eating disorder can be suspected with 84.6% sensitivity and 89.6% specificity if a patient responds positively to 2 or more questions [43]. The negative predictive value is 99.3% for the SCOFF questionnaire, which makes this tool useful for screening in clinical practice.
- The SCOFF was recently tested against a new instrument, the Eating Disorder Screen for Primary Care [44].

- A 2-item assessment specific to bulimia nervosa may also be an effective screening tool. For responders who answered positively to 1 of the 2 screening questions, the positive and negative predictive values were 22% and 91% when based upon the gold-standard of a clinical assessment that found a 16% prevalence of bulimia nervosa in the studied population [45]. These 2 screening items had been previously shown to have a sensitivity of 1.00 and specificity of 0.90 for bulimia nervosa [8].
- The Bulimic Investigatory Test, Edinburgh (BITE) questionnaire is a brief test for the detection and description of bulimia nervosa [46]. The BITE consists of a set of 33 questions (30 yes/no type and 3 graded-responses) that simultaneously assess the presence and relative severity of a binge-eating disorder.
- The Eating Attitudes Test has been widely used in epidemiologic studies, particularly to assess for symptoms of anorexia nervosa [13,15,16,47]. The instrument has been validated for bulimia nervosa and modified for use in patients with diabetes mellitus [17,48,49].
- **Other Studies:** X-rays may be taken to measure the bone density, check for stress fractures or broken bones, or evaluate the bulimic patients for pneumonia or heart problems. Electrocardiograms may be used to identify heart irregularities.

Treatment

Treatment focuses not just on food and nutrition education but also mental health treatment. The bulimic patients may need several types of treatment, although combining psychotherapy with antidepressants may be the most effective for overcoming the disorder. Treatment generally involves a team approach that includes the patient, the patients' family, primary care doctor or other health care provider, as well as a mental health provider and a dietician experienced in treating eating disorders [50,51].

Psychotherapy

Psychotherapy, also known as talk therapy or psychological counselling, involves discussing bulimia and related issues with a mental health provider. Evidence indicates that these types of psychotherapy help improve symptoms of bulimia [52-56]:

- Cognitive behavioural therapy to identify unhealthy, negative beliefs and behaviours and replace them with healthy, positive ones.
- Family-based therapy to help parents intervene to stop their teenagers' unhealthy eating behaviours, then to help the teen regain control over his or her own eating, and lastly to help the family deal with problems that bulimia can have on the teenagers' development and the family.
- Interpersonal psychotherapy, which addresses difficulties in your close relationships, helping to improve your communication and problem-solving skills.

Medications

Antidepressants may help reduce the symptoms of bulimia when used along with psychotherapy. The only antidepressant explicitly accepted by the Food and Drug Administration (FDA) to treat bulimia is fluoxetine, a type of selective serotonin reuptake inhibitor (SSRI) [57-61].

Nutrition education and healthy weight

Dieticians and other health care providers can propose an eating plan to attain a healthy weight, normal eating habits and good nutrition. The bulimic patients may benefit from a medically supervised weight-loss program.

Hospitalization

Bulimia is generally treated outside of the hospital by offering some eating disorder programs but severe bulimic patients with serious health complications may be hospitalized.

Outlook

Bulimia can be life threatening if it's left untreated or if treatment fails. Bulimia is both a physical and psychological condition, and it may be a lifelong challenge to control it. However, bulimia can be overcome with successful treatment. The earlier bulimia is detected the more effective treatment will be. Effective treatments focus on food, self-esteem, problem solving, coping skills, and mental health. These treatments help patients maintain healthy behaviours in the long-term [62,63].

Conclusion

Bulimia Nervosa is characterised by repeated episodes of binge eating followed by compensatory behaviours. In addition, people with bulimia place an excessive emphasis on body shape or weight in their self-evaluation. Many people with BN experience weight fluctuations and do not lose weight; they can remain in the normal weight range, be slightly underweight, or may even gain weight. Regardless of subtype, bulimic patients have negative self-evaluations, placing inappropriate importance on weight and body image. This can lead to the person's sense of self-esteem and self-worth being defined by the way they look. The reasons for developing BN will differ from person to person. Known causes include genetic predisposition and a combination of environmental, social and cultural factors.

Bulimia nervosa is generally a curable disease when diagnosed early. Nevertheless, better results are coupled with prevention and early detection of abnormal eating habits.

Bibliography

1. Parry-Jones W L and Parry-Jones B. "Implications of historical evidence for the classification of eating disorders". *British Journal of Psychiatry* 165.3 (1994): 287-292.
2. Tobe BA and Wolinsky J. "From exhaustion, exposure, and hunger to extreme voraciousness: bulimia". *British Medical Journal* 293.6562 (1986): 1647-1648.

3. American Psychiatric Association. "Practice Guideline for the Treatment of Patients with Eating Disorders". *American Journal of Psychiatry* 157.1 (2000): 1-39.
4. American Psychiatric Association. "Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. Washington, DC: American Psychiatric Association (1994).
5. Kerzhnerman I and Lowe MR. "Correlates of subjective and objective binge eating in binge-purge syndromes". *International Journal of Eating Disorders* 31.2 (2002): 220-228.
6. Jansen A., et al. "Clinical and non-clinical binges". *Behaviour Research and Therapy* 28.5 (1990): 439-444.
7. Lee NF, et al. "Bulimia and depression". *Journal of Affective Disorders* 9 (1985): 231-238.
8. Freund KM., et al. "Detection of bulimia in a primary care setting". *Journal of General Internal Medicine* 8.5 (1993): 236-242.
9. Becker AE., et al. "Eating disorders". *New England Journal of Medicine* 340 (1999): 1092-1098.
10. Striegel-Moore RH., et al. "Eating disorders in white and black women". *American Journal of Psychiatry* 160.7 (2003): 1326-1331.
11. Carlat DJ., et al. "Eating disorders in males: a report on 135 patients". *American Journal of Psychiatry* 154.8 (1997): 1127-1132.
12. Mehler PS. "Diagnosis and care of patients with anorexia nervosa in primary care settings". *Annals of Internal Medicine* 134.11 (2001): 1048-1059.
13. Garner DM and Garfinkel PE. "Socio-cultural factors in the development of anorexia nervosa". *Psychological Medicine* 10.4 (1980): 647-656.
14. Russell G. "Bulimia nervosa: an ominous variant of anorexia nervosa". *Psychological Medicine* 9.3 (1979): 429-448.
15. Garner DM and Garfinkel PE. "The eating attitudes test: an index of the symptoms of anorexia nervosa". *Psychological Medicine* 9.2 (1979): 273-279.
16. Garner DM., et al. "The eating attitudes test: psychometric features and clinical correlates". *Psychological Medicine* 12.4 (1982): 871-878.
17. Gross J., et al. "Validity of the eating attitudes test and the eating disorders inventory in bulimia nervosa". *Journal of Consulting and Clinical Psychology* 54.6 (1986): 875-876.
18. Rosen JC., et al. "Binge-eating episodes in bulimia nervosa: the amount and type of food consumed". *International Journal of Eating Disorders* 5.2 (1986): 255-267.
19. Gleaves DH., et al. "Additive effects of mood and eating forbidden foods upon the perceptions of overeating and binging in bulimia nervosa". *Addictive Behaviors* 18.3 (1993): 299-309.
20. Hetherington MM., et al. "Eating behaviour in bulimia nervosa: multiple meal analyses". *American Journal of Clinical Nutrition* 60 (1994): 864-873.
21. Hsu LK. "Epidemiology of the eating disorders". *Psychiatric Clinics of North America* 19.4 (1996): 681-700.
22. Hoek H W. "The incidence and prevalence of anorexia nervosa and bulimia nervosa in primary care". *Psychological Medicine* 21.2 (1991): 455-460.
23. Soundy T J., et al. "Bulimia nervosa in Rochester, Minnesota from 1980 to 1990". *Psychological Medicine* 25.5 (1995): 1065-1071.
24. Joergensen J. "The epidemiology of eating disorders in Fyn County, Denmark, 1977-1986". *Acta Psychiatrica Scandinavica* 85.1 (1992): 30-34.
25. Striegel-Moore R H., et al. "Prevalence of eating disorder symptoms in preadolescent and adolescent girls with IDDM". *Diabetes Care* 15 (1992): 1361-1368.
26. Leon G R., et al. "Personality and behavioural vulnerabilities associated with risk status for eating disorders in adolescent girls". *Journal of Abnormal Psychology* 102.3 (1993): 438-444.
27. Fairburn CG., et al. "Risk factors for bulimia nervosa". *Archives of General Psychiatry* 54.6 (1997): 509-517.
28. Fairburn CG. "Interpersonal psychotherapy for bulimia nervosa". In *Handbook of Treatment for Eating Disorders (2nd edition)* (DM Garner and PE Garfinkel, ed.). New York: Guilford (1997a).
29. Fairburn C G. "Eating disorders". In *Science and Practice of Cognitive Behaviour Therapy*. DM Clark and CG Fairburn (eds). Oxford: Oxford University Press (1997b).
30. Fairburn CG., et al. "Risk factors for anorexia nervosa: three integrated case-control comparisons". *Archives of General Psychiatry* 56.5 (1999): 468-476.
31. Fairburn CG., et al. "The natural course of bulimia nervosa and binge eating disorder in young women". *Archives of General Psychiatry* 57.7 (2000): 659-665.
32. Hsu LK. "Epidemiology of the eating disorders". *Psychiatric Clinics of North America* 19.4 (1996): 681-700.
33. Fairburn C G and Cooper P J. "Self-induced vomiting and bulimia nervosa: an undetected problem". *British Medical Journal* 284.6323 (1982): 1153-1155.
34. Fairburn CG., et al. "The clinical features and maintenance of bulimia nervosa". In: Brownell KD, Foreyt JP, eds. *Handbook of Eating Disorders: Physiology, Psychology and Treatment of Obesity, Anorexia and Bulimia*. New York, NY: Basic Books (1986): 389-404.
35. Matsunaga H., et al. "A comparison of clinical features among Japanese eating disordered women with obsessive-compulsive disorder". *Comprehensive Psychiatry* 40.5 (1999): 337-342.
36. Fairburn C G and Cooper P J. "The clinical features of bulimia nervosa". *British Journal of Psychiatry* 144 (1984): 238-246.
37. Garner DM., et al. "Critical appraisal of the DSM-III-R criteria for eating disorders". In *Child Psychopathology: Diagnostic Criteria and Clinical Assessment* (SR Hooper and GW Hynd, ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc (1991).
38. Garfinkel P E., et al. "Views on classification and diagnosis of eating disorders". *Canadian Journal of Psychiatry* 40.8 (1995a): 445-456.
39. Keel PK., et al. "Social adjustment over 10 years following diagnosis with bulimia nervosa". *International Journal of Eating Disorders* 27.1 (2000b): 21-28.
40. Polivy J and Herman C P. "Diagnosis and treatment of normal eating". *Journal of Consulting and Clinical Psychology* 55.5 (1987): 635-644.

41. Ewing JA. "Detecting alcoholism: the CAGE questionnaire". *Journal of the American Medical Association* 252.14 (1984): 1905-1907.
42. Morgan JF, et al. "The SCOFF questionnaire: assessment of a new screening tool for eating disorders". *BMJ* 319.7223 (1999): 1467-1468.
43. Luck AJ, et al. "The SCOFF questionnaire and clinical interview for eating disorders in general practice: comparative study". *BMJ* 325.7267 (2002): 755-756.
44. Cotton MA, et al. "Four simple questions can help screen for eating disorders". *Journal of General Internal Medicine* 18.1 (2003): 53-56.
45. Freund KM, et al. "Secret patterns: validation of a screening tool to detect bulimia". *Journal of Women'S Health and Gender-Based Medicine* 8.10 (1999): 1281-1284.
46. Henderson M and Freeman CP. "A self-rating scale for bulimia: the "BITE". *British Journal of Psychiatry* 150.1 (1987): 18-24.
47. Mann AH, et al. "Screening for abnormal eating attitudes and psychiatric morbidity in an unselected population of 15-year-old schoolgirls". *Psychological Medicine* 13.3 (1983): 573-580.
48. Cantwell R and Steel JM. "Screening for eating disorders in diabetes mellitus". *Journal of Psychosomatic Research* 40.1 (1996): 15-20.
49. Robertson P and Rosenvinge JH. "Insulin-dependent diabetes mellitus: a risk factor in anorexia nervosa or bulimia nervosa? an empirical study of 116 women". *Journal of Psychosomatic Research* 34.5 (1990): 535-541.
50. Powers PS. "Initial assessment and early treatment options for anorexia nervosa and bulimia nervosa". *Psychiatric Clinics of North America* 19.4 (1996): 639-655.
51. Fairburn CG, et al. "Three psychological treatments for bulimia nervosa: a comparative trial". *Archives of General Psychiatry* 48.5 (1991): 463-469.
52. Fairburn C. "A cognitive behavioural approach to the treatment of bulimia". *Psychological Medicine* 11.4 (1981): 707-711.
53. Agras WS, et al. "A multicenter comparison of cognitive-behavioral therapy and interpersonal psychotherapy for bulimia nervosa". *Archives of General Psychiatry* 57.5 (2000): 459-466.
54. Halmi KA, et al. "Relapse predictors of patients with bulimia nervosa who achieved abstinence through cognitive behavioral therapy". *Archives of General Psychiatry* 59.12 (2002): 1105-1109.
55. Bulik CM, et al. "Predictors of rapid and sustained response to cognitive-behavioral therapy for bulimia nervosa". *International Journal of Eating Disorders* 26.2 (1999): 137-144.
56. Herzog D B, et al. "Prognostic factors in outpatient psychotherapy of bulimia". *Psychotherapy and Psychosomatics* 56.1-2 (1991a): 48-55.
57. Fichter MM, et al. "Fluoxetine versus placebo: a double-blind study with bulimic inpatients undergoing intensive psychotherapy". *Pharmacopsychiatry* 24.1 (1991): 1-7.
58. Goldstein DJ, et al. "Fluoxetine Bulimia Nervosa Research Group. Long-term fluoxetine treatment of bulimia nervosa". *British Journal of Psychiatry* 166.5 (1995): 660-666.
59. Fluoxetine Bulimia Nervosa Collaborative Study Group. "Fluoxetine in the treatment of bulimia nervosa: a multi-center, placebo-controlled, double-blind trial". *Archives of General Psychiatry* 49.2 (1992): 139-147.
60. Mitchell JE, et al. "The relative efficacy of fluoxetine and manual-based self-help in the treatment of outpatients with bulimia nervosa". *Journal of Clinical Psychopharmacology* 21.3 (2001): 298-304.
61. Romano SJ, et al. "A placebo-controlled study of fluoxetine in continued treatment of bulimia nervosa after successful acute fluoxetine treatment". *American Journal of Psychiatry* 159.1 (2002): 96-102.
62. Olmsted MP, et al. "Rate and prediction of relapse in bulimia nervosa". *American Journal of Psychiatry* 151.5 (1994): 738-743.
63. Herzog D B, et al. "The course and outcome of bulimia nervosa". *Journal of Clinical Psychiatry* 52 (1991b): 4-8.

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