IJBCS
ISSN: 2147-1428

Review

International Journal of Basic and Clinical Studies (IJBCS)
2013;2(2): 2-15. CelikF and Ozturk B

Eating Disorders: Binge Eating and Nutritional Treatment

Fatma Celik[1], Baris Ozturk[2]

[1] PhD, Assoc. Prof.Dr. Dicle University, Medical Faculty, Department of Public Health, Specialist in Nutrition

[2] PhD, Assist. Prof. Dr. Eastern Mediterranean University, Faculty of Health Sciences, Department of Nutrition and Dietetics, baris.ozturk@emu.edu.tr

Abstract

The etiology of eating disorders is complex and appears to include many factors. Eating disorders are common in the general population, more common in women than men, and more common in Western countries than in Asian countries.

Biological causes include genetic predisposition for development of eating disorders. Familial transmission has been established, and most implicated genes are within biological systems that govern food intake, appetite, metabolism, mood, and reward-pleasure responses.

Surveys assessed personal, behavioral and socio-environmental factors hypothesized to be of relevance to obesity, in addition to height and weight. Binge eating, and therefore the functionality of binge eating disorders, is motivated by the desire to escape from self-awareness. Food provides an immediate stimulus that lowers the level of self-awareness. Eating disorders were frequently followed by psychological comorbidities. Psychological stress may be associated with the development of binge eating.

The role of psychological functioning in maintenance or change of body weight over time may be different for male and females. Binge eating is an eating disorder per se and therefore it is important to treat it before the person starts weight reduction treatment. The process of the treatment of severe eating disorders, for most patients, is a difficult one. The most treatment program include individual therapy, family therapy, group therapy, nutritional counseling, and exercise counseling.

Some nutrition department offers nutrition therapy for those suffering from eating disorders and/or disordered eating. Especially establishment of nutritionally sound eating (establishment of recommended content and quantity of food), and promotion of successful recommended meal plan. Dietitians provide nutrition education, plan and prescribe meals for patients, and measure energy intake on a daily basis. People with binge eating disorder should get help from a health professional such as a dietitians, psychiatrist, psychologist, or clinical social worker.

Key words: Eating disorders, Binge eating, Nutritional treatment

Corresponding Author: Assoc. Prof.Dr. Fatma Celik, ftrsrtelik@gmail.com, Dicle University, Medical Faculty, Department of Public Health, Specialist in Nutrition
tel: 4122488001/4105

IJBCS
ISSN: 2147-1428

Review

International Journal of Basic and Clinical Studies (IJBCS)
2013;2(2): 2-15. CelikF and Ozturk B

Introduction

Stunkard (1959) first described the syndrome of Binge Eating Disorder in 1959. Eating disorders have psychopathological etiological factors where patient demonstrates abnormal diet patterns; manifesting through distorted or chaotic eating behaviors. Binge eating episodes are associated with three (or more) of the following: 1) eating much more rapidly than normal, 2) eating until uncomfortable full, 3) eating large amounts of foods when not feeling physically hungry, 4) eating alone because of being embarrassed by how much one is eating and 5) feeling disgusted with oneself, depressed, or very guilty after overeating (1-3).

The etiology of eating disorders is complex and appears to include predisposing genetic factors and serotonin dysregulation, as well as psychological factors that include a history of trauma and childhood sexual abuse (4).

The Diagnostic and Statistical Manual (DSM-IV) classifies eating disorders into four categories, including anorexia nervosa, bulimia nervosa, binge eating disorder and eating disorder not otherwise specified (5). Eating disorders are common in the general population, more common in women than men, and more common in Western countries than in Asian countries. Binge eating disorder is the most common eating disorder in the United States affecting 3.5% of females and 2% of males and is prevalent in up to 30% of those seeking weight loss treatments. The reported prevalence is increasing over time, but this may be due to changes in diagnostic criteria. Few reports have been published from underdeveloped and developing countries (6-9).

A strong positive correlation is detected between depressive mood and impulsivity with bad eating behavior. A negative correlation was detected between achievement, flexibility, motivation, persistence, sense of satisfaction and self esteem and bad eating behaviors (10). A result of binge eating is obesity which is a predominant metabolic disorder (11).

Healthcare professionals should acknowledge that many people with eating disorders are ambivalent about treatment. Healthcare professionals should also recognize the consequent demands and challenges this presents. People with eating disorders seeking help should be assessed and receive treatment at the earliest opportunity (12). Treatment is directed at reducing dietary restraint in favor of more normal eating patterns, developing cognitive and behavioral skills for coping with high risk situations that trigger binge eating and purging, and modifying dysfunctional thoughts and feelings about the personal significance of body weight and shape (12-14).

There are currently three general categories of eating disorders: Anorexia Nervosa, Bulimia Nervosa and Eating Disorders Not Otherwise Specified. These are the most common eating disorder diagnosis. This diagnosis is used for patients who are suffering from eating disorders but do not follow the Anorexia Nervosa or Bulimia Nervosa diagnosis criteria. Some of these disorders are: binge eating disorder, compulsive overeating, purging disorder and night eating syndrome (15).

In the current review, binge eating, the factors that affect it and nutritional treatment will be examined.

Factors Affect Eating Disorders

Eating disorders frequently appear during the teen years or young adulthood but may also develop during childhood or

later in life. Common eating disorders and binge-eating disorder. include anorexia nervosa, bulimia nervosa, The factors influence the eating disorders are presented by Figure 1.

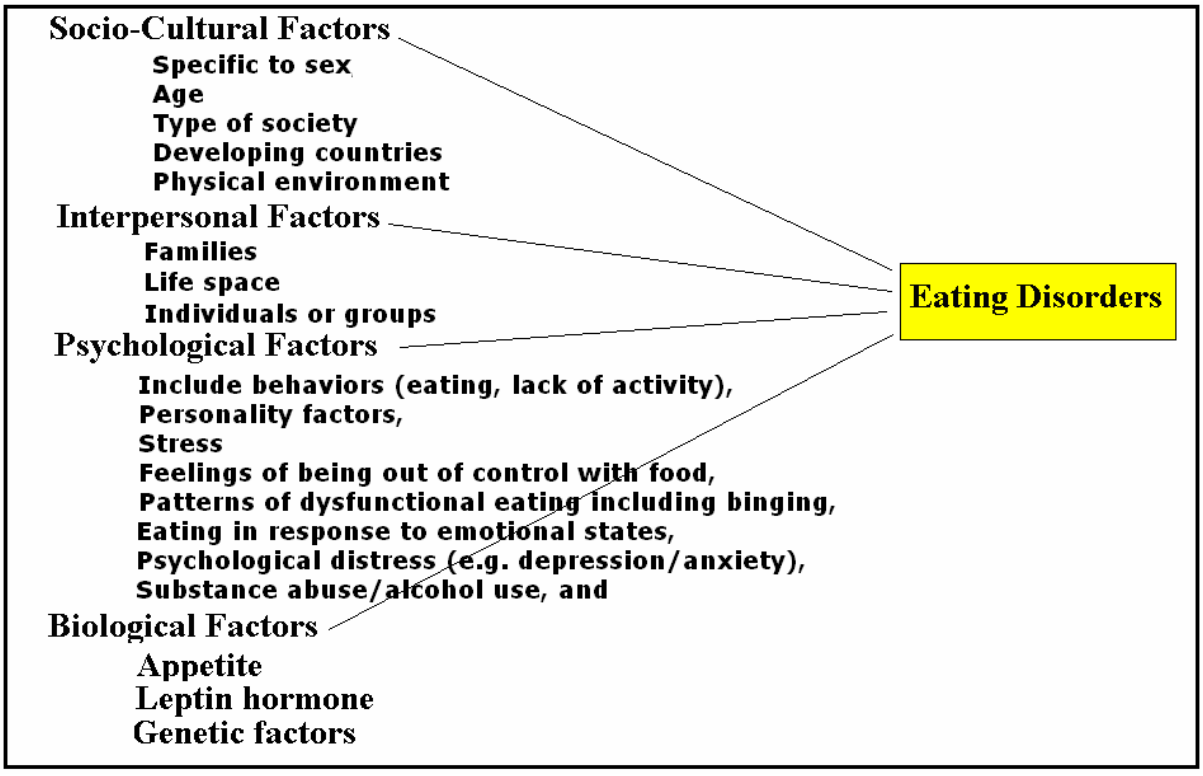

Figure 1.The factors effecting eating disorders.

Biological causes, environmental and psychological factors effect binge eating disorder will be review as follows.

Biological Causes

Biological factors can make someone more susceptible to developing binge disorder (16). Biological causes include genetic predisposition for development of eating disorders. Familial transmission has been established, and most implicated genes are within biological systems that govern food intake, appetite, metabolism, mood, and reward-pleasure responses. These include serotonin, norepinephreine, dopamine, neuropeptide, catecholamine, and opioid biological systems. Biological etiology is not well understood, given that most study samples are conducted during the acute or recovery phase of illness, rather than premorbid, and there are physiological changes associated with prolonged starvation and eating disorder related behaviors that complicate investigation (17-20).

It has been reported that genetic contribution is up to 65% or higher. Our genes interact with our environment. Neuro-endocrine and gastrointestinal factors play a biological role. There are literally hundreds of hormones, such as

insulin, leptin, ghrelin, adiponectin, cortisol, neuropeptide Y, gastrin, cholecystokinin, amylin, and glucagon, that are produced selectively by different organs throughout the body, including the brain and even adipose tissue itself, that are involved in the maintenance of our weight (21-23).

Few studies have suggested a strong genetic contribution to binge eating in general and binge eating without compensatory behaviors. One genetic study found binge eating disorders associated with mutations in the melanocortin-4 receptor gene (a gene implicated in the development of hyperphagia and obesity) although a subsequent study 31 failed to replicate this finding (24,25).

Environmental Factors

Research suggests that the growing prevalence of obesity over recent decades is most likely due to a myriad of personal, behavioral and socio-environmental factors that, unlike genetic factors, are modifiable via public health interventions Surveys assessed personal, behavioral and socio-environmental factors hypothesized to be of relevance to obesity, in addition to height and weight. Binge eating, and therefore the functionality of binge eating disorders, is motivated by the desire to escape from self-awareness. Since shifting focus from the self can be a difficult task, the person focuses only on present and immediate environmental stimuli. Food provides an immediate stimulus that lowers the level of self-awareness. From the perspective of escape theory, when people have a distressing experience, food provides an immediate stimulus that helps them lower self-awareness to the point of not only almost dissociating from the environment, but also from the immediate eating behavior in which the person is engaging (26-28).

There are many factors specific to the individual that have been proposed as contributors to the development of eating disorders. Some of these factors (e.g., personality traits, self-esteem deficits) are seen as resident in the individual, whereas others involve personal experiences and seem to fall somewhere between the environment and the individual (29). Clinical eating disorders and disordered eating habits can seriously threaten physical health as well as the ability to learn. Although school personal are not able to treat students with an eating disorder, they can play an important role in prevention because the school environment and the social dynamics of adolescence can have a significant impact on an adolescent's
potential for developing an eating disorder (30).

Psychological Factors

Eating disorders were frequently followed by psychological comorbidities. Psychological stress may be associated with the development of binge eating (31-33).

The role of psychological functioning in maintenance or change of body weight over time may be different for male and females. Binge eating is an eating disorder per se and therefore it is important to treat it before the person starts weight reduction treatment. The hypothesis is that, if we confront the binge eating behaviour, we could significantly reduce anxiety and depression that accompany this in patients. This is very important, because anxiety and depression following the increased weight, might represent serious risk factors for the development and maintenance of cardio vascular disease (34,35)

A person with a binge eating disorder may typically (36);

1. Have periods when huge amounts of food are consumed ,
2. Eat even when full
3. Eat rapidly during a bout of bingeing
4. Feel that the eating behavior is uncontrollable
5. Have depression
6. Have anxiety
7. iet frequently without any success
8. Often eat alone
9. Hoard food
10. Hide empty food containers
11. Feel remorse, shame, guilt, disgust, despair about their eating

Psychotherapy, especially Cognitive Behavioral Therapy, that is tailored to the individual, has been shown to be effective. Again, this type of therapy can be offered in an individual or group environment. Fluoxetine and other antidepressants may reduce binge-eating episodes and help lessen depression in some patients (37).

Nutritional Treatment

The process of the treatment of severe eating disorders, for most patients, is a difficult one. The most treatment program include individual therapy, family therapy, group therapy, nutritional counseling, and exercise counseling. Especially establishment of nutritionally sound eating (establishment of recommended content and quantity of food), and promotion of successful recommended meal plan. Dietitians provide nutrition education, plan and prescribe meals for patients, and measure energy intake on a daily basis. The following components of the therapeutic program are as follows (38).

1. **Nutrition education.**
2. **Meal planning.**
3. **Therapeutic meals.**

In the United States, treatment for binge eating disorder is typically conducted on an outpatient basis. Psychological and dietary interventions aim to reduce binge eating and control eight. Common psychotherapeutic approaches include cognitive-behavioral and interpersonal psychotherapy; nutritional approaches include very low calorie diets and behavioral self management strategies. Pharmacotherapy targeting both the core symptoms of binge eating and weight loss is also available as off-label interventions (39-40).

It is possible that the satiety functioning of binge eating disorder patients and their longer-term treatment outcome might be improved by encouraging the consumption of low energy density foods. In obese patients, greater weight-loss was achieved after one year on a low-fat, low energy density diet relative to a low-fat but higher - energy density diet. Though binge eating problems were mild in this sample, there was also a significant reduction in the severity of binge eating problems in the low energy density group (Ello-Martin et al., 2007). A sizable proportion of patients with binge eating disorder are able to achieve long-term remission from binge eating with psychological treatment, and a low-ED diet might potentially improve treatment outcome for the minority of patients who do not respond to treatment or for the

majority of patients who do not lose significant weight in treatment. It is also important that future research identify the physiological mechanisms for the effect of energy density on food intake in women with binge eating disorder. It may be that like individuals without eating disorders, those with frequent binge eating regulate the amount they eat according to volume or weight, rather than energy, as suggested by the present findings. It may also be that a greater volume of food consumed, regardless of the food's energy density, may be needed to fill BED patients' increased gastric capacity and thus produce satiation. It is possible that lower-ED foods may enable these women to reach this satiated state while consuming fewer calories (41).

Some nutrition department offers nutrition therapy for those suffering from eating disorders and/or disordered eating. The initial individual nutrition therapy assessment session lasts 75 minutes. This session includes a comprehensive assessment of eating patterns and typical food intake, weight history, disordered eating history, exercise patterns, body image concerns, supplement use and identification of any gastrointestinal symptoms**.** Follow-up visits may be weekly or less frequent and last between 20 to 45 minutes depending on a patient's individual needs. The program applied with patients and their families, if appropriate. Covered during a typical nutrition therapy session was presented as follows (42).

What is covered during a typical nutrition therapy session?

- Nutrition education, including how much and what kinds of carbohydrates, proteins and fats your body needs
- Education on metabolic rate and the effect that restricting, bingeing, purging and yo-yo dieting have on your metabolism
- Identification of beliefs about food, weight and body issues that might be contributing to the disordered behaviors
- Understanding of internal and external cues related to food and body
- Structured meal plans using an exchange system when appropriate
- Overcoming challenges with fear foods and social-eating environments, as well as learning how to feel comfortable eating in all types of social settings
- Portion size education and how to eat in a balanced, moderate way with an increasing variety of foods
- Intuitive eating or a non-diet approach where you create a healthy relationship with food, mind and body; learn how to distinguish between physical and emotional hungers; make peace with all foods and decrease your time spent thinking about food
- Healthy exercise goals including how much exercise you need to be healthy
- Nutritional supplement assessment, requirements and/or recommendations

A study on this topics recommendations are as follows (43):

"If you always binge on carbs, don't eat carbs"
"Have you tried Overeaters Anonymous?"
"Consider a lap band, you will lose weight and feel better about yourself."
"Eat 1400 calories a day, that's all you need. Once you get to 1400 don't eat anything more."
"Eat 3 meals and 1 or 2, 200 calories snacks daily."
"Measure out all of your food according to the list I'm giving you and don't go over that."
"Eat more protein, you will be more full and will eat fewer calories overall."
"The metabolic testing shows your genetic type needs more carbs, so, eat more."

In conclusion, there are biological causes, environmental and psychological factors effect binge eating. It will be necessary for future research to elucidate the sources of common genetic and environmental influences so that they can be targets for prevention and intervention.

People with binge eating disorder who are obese may benefit from a weight-loss program that also offers treatment for eating disorders.

People with binge eating disorder are usually very upset by their binge eating and may become depressed. They may also miss work, social activities, or communicate with people to binge eat. They have more health problems, stress, trouble sleeping, and suicidal thoughts than do people without an eating disorder. They also have from binge eating disorder could include digestive problems, headaches, joint pains, menstrual problems, and muscle pains.

People with binge eating disorder should get help from a health professional such as a dietitians, psychiatrist, psychologist, or clinical social worker.

References

1. Adriaens A, Pieters G, Davy Vancampfort D, Probst M and Vanderlinden J. A Cognitive-Behavioural Program (One Day a Week) for Patients With Obesity and Binge Eating Disorder: Short-Term Follow-up Data. Psychological Topics 17. 2008; 2: 361-371
2. Bhargava S, Motwani MB, Patni V. Oral implications of eating disorders: a review. Arch OrofacSci 2013; 8(1): 1-8.
3. Russo L, Campisi G, Di Fede O, Di Liberto C, Panzarella V, Lo Muzio L. Oral manifestations of eating disorders: a critical review. Oral Dis. 2008; 14(6): 479-484.
4. Patrick L. Eating Disorders: A Review of the Literature with Emphasis on Medical Complications and Clinical Nutrition. Altern Med Rev 2002;7(3):184-202
5. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (4 th edn). Washington, DC: American Psychiatric Association; 1994; 539-50
6.Fath Al Alim M Abdelrahim, Noon H Abdelmutti , Abdelghani Alshaikh. Eating disorders symptoms among a university students: an exploratory study. Sudan Med J. 2012;48(3)
7. Jie QIAN , Qiang HU, Yumei WAN, Ting LI, Mudan WU , Zhiqun REN, Dehua YU. Prevalence of eating disorders in the general population: a systematic review. Shanghai Archives of Psychiatry, 2013;25: 4
8. Hudson JI, Hiribi E, Pope HG, Kessler RC. prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. Biol Psychiatry 2007;1:61(3): 348-58.
9. Villarejo, C., Aranda F. Lifetime obesity in patients with eating disorders: increasing prevalence, clinical and personality correlates. Eur Eat Disord Rev. 2012;20(3): 250-4.

10. Kazem YMI, Elassar SY, El-Shebini SM, Moaty MIA, Ahmed NH, Tapozada ST et al. Personality Characteristics and Eating Behaviors Associated with Obesity and the Ability to Adhere to a low caloric diet in Middle age Egyptian Females. J. Appl. Sci. Res. 2013;9(1): 352-359
11. Chowdhury K, Datta N,Rao MV. Management of Sthaulya (obesity) through Kunjal kriya, Int. J.Res. Ayurveda Pharm. 2013; 4(4):599-604.
12. Quick reference guide, Eating disorders Core interventions in the treatment and management of anorexia nervosa, bulimia nervosa and related eating disorders. Published by the National Institute for Clinical Excellence, January 2004.
13. Fairburn, CG., Marcus, MD, Wilson, GT. Cognitive-behavioral therapy for binge eating and bulimia nervosa: a comprehensive manual. In C. G. Fairburn, & G. T. Wilson (Eds.), Binge eating: nature, assessment, and treatment. New York: Guilford Press. 1993; 361-404
14.Latner JD, Wilson GT. Cognitive-behavioral therapy and nutritional counseling in the treatment of bulimia nervosa and binge eating. Eating Behaviors 1. 2000; 3-21
15. NIH, National Institute of Health. Eating Disorders, National Institute of Mental Health. 2007; 1-26. http://www.nimh.nih.gov/health/publications/eating-disorders/complete-index.shtml
16. Binge Eating Disorder is added to the DSM-5. A Publication of the National Eating Disorders Association. 2013
17. Eating disorders prevention, treatment & managment: An Evidence Review Prepared for the Commonwealth Department of Health and Ageing March 2010.
18. Bhargava S , Motwani MB, Patni V. Oral implications of eating disorders: a review. Arch OrofacSci. 2013; 8(1): 1-8
19. Klump KL, Kaye WH, Strober M (2001). The evolving genetic foundations of eating disorders. Psychiatr Clin North Am, 24(2): 215-225.
20. Klump, KL & Culbert KM. Molecular genetic studies of eating disorders: Current status and future directions. Current Directions in Psychological Science. 2007; 16: 37-41
21. Sylvia R. Karasu SR. Of Mind and Matter: Psychological Dimensions in Obesity. American Journal of Psychotherapy. 2012; 66: 2
22. Rankinen T, Zuberi A, Chagnon YC, Weisnagel SJ, Argyropoulos G, Watts B, Pe´russe L et al. The human obesity gene map: the 2005 update. Obesity (Silver Springs). 2006; 14(4): 529–644
23. Karasu SR, Karasu TB. The Gravity of Weight: A Clinical Guide to Weight Loss and Maintenance. Washington, D.C.: American Psychiatric Publishing, Inc. 2010
24. Hudson JI, Lalonde JK, Berry JM, Pindyck LJ, Bulik CM, Crow SL et al.Binge-Eating Disorder as a Distinct Familial Phenotype in Obese Individuals. Arch Gen Psychiatry. 2006;63:313-319
25. Branson R, Potoczna N, Kral JG, Lentes KU, Hoehe MR, Horber FF. Binge eating as a major phenotype of melanocortin 4 receptor gene mutations. NEnglJMed. 2003;348:1096-1103.
26. Vega N. Binge eating disorder: a literarture review Clinical Competency Project Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science, Department of Psychology Illinois State University.
27. Virginia Quick1*, Melanie Wall3, Nicole Larson2, Jess Haines4 and Dianne Neumark-Sztainer. Personal, behavioral and socio-environmental predictors of

overweight incidence in young adults: 10-yr longitudinal findings. International Journal of Behavioral Nutrition and Physical Activity 2013, 10:37

28. Ogden C, Carroll M, Kit B, Flegal K. Prevalence of obesity and trends in body mass index among US children and adolescents, 1999–2010. JAMA. 2010; 307:483–490

29. Polivy J,Herman CP. Causes of eating disorders. Annu. Rev. Psychol. 2002; 53:187–213

30. Keca J, Cook-Cottone C. Eating Disorders: Prevention Is Worth Every Ounce. Counseling. 2005;101

31. Köster EP. Diversity in the determinants of food choice: a psychological perspective. Food Qual Prefer 2009;20:70-82.

32. Suisman JL, Slane JD, Burt SA, Klump KL. Negative affect as a mediator of the relationship between weight-based teasing and binge eating in adolescent girls. Eat Behav 2008;9:493-6.

33. Gonçalves JA, Moreira EAM, Trindade EBS, Fiates GMR. Eating disorders in childhood and adolescence: Review. Rev Paul Pediatr 2013;31(1):96-103.

34 Pokrajac-Bulian AP, Tkal M, Ambrosi-Randi N. Binge eating as a determinant of emotional state in overweight and males with cardiovasculardisease obese. Maturitas. 2013; 74: 352– 356

35. Klump KL, K. M. Culbert KM. "Molecular genetic studies of eating disorders: current status and future directions," Current Directions in Psychological Science,2007; 16(1):37–41

36. Mayo Clinic, USA. www.mayoclinic.com 2013

37. Dietitians Guide to Eating Disorders. Vantage Professional Education. Vantage Professional Education. Copyright 2013

38. Stewart TM, Williamson DA. Multidisciplinary Treatment of Eating Disorders—Part 2, Primary Goals and Content of Treatment. Behavior Modification. 2004; 28 (6): 831-853

39. Wonderlich SA, de Zwaan M, Mitchell JE, Peterson C, Crow S**.** Psychological and dietary treatments of binge eating disorder: conceptual implications. Int J Eat Disord. 2003;34 Suppl: 58-73.

40. Agency for Healthcare Research and Quality U.S. Department of Health and Human Services. Management of Eating Disorders, 2006

41. Janet D. Latner, Juliet K. Rosewall, Amy M. Chisholm. Energy density effects on food intake, appetite ratings, and loss of control in women with binge eating disorder and weight-matched controls. Eating Behaviors. 2008; 9:257–266

42. http://www.pamf.org/nutrition/services/eatingdisorder_therapy.html

43. Stellato K. Binge Eating Disorder: Nutrition Therapy. Registered and Licensed Dietitian/Nutritionist, kstellato@waldenbehavioralcare.com, 2013.