International Journal of Social and Educational Innovation (IJSEIro)
Volume 10/ Issue 20/ 2023

EATING DISORDERS IN ADOLESCENTS

Remus RUNCAN

„Aurel Vlaicu" University of Arad, Romania.

Marius MARICI [1]

„Ștefan cel Mare" University of Suceava, Romania

Abstract

The aim of this study is to review and synthesize peer-reviewed research from scientific journals and books pertaining to eating disorders in adolescents. Our analysis will focus on both typical and atypical eating disorders, including their specific comorbidities, culture-related diagnostic issues, emotional issues, functional consequences, gender distribution, medical consequences, onset, psychosexual effects, symptoms, treatment, and cure. Additionally, we will examine the factors and predictors involved in their aetiology. This study is a crucial step towards advancing Romanian research on eating disorders in adolescents. By thoroughly examining the existing literature, we hope to identify gaps in knowledge and areas for future investigation. Ultimately, our goal is to contribute to the development of effective prevention and treatment strategies for this vulnerable population.

Keywords: *adolescents, anorexia, binge eating, bulimia, eating disorder;*

1. Introduction

1.1. Eating Disorders

There are three typical eating disorders or polysymptomatic syndromes – anorexia, binge eating disorder, and bulimia. They are defined by 'maladaptive attitudes and behaviors around eating, weight, and body image, including as well nonspecific disturbances of self-image, mood, impulse regulation, and interpersonal functioning' (Steiger, Bruce & Israël, 2003, p. 173).

There are also five atypical eating disorders or other specified feeding or eating disorders: atypical anorexia nervosa, atypical binge eating disorder, atypical bulimia nervosa,

[1] Correspondent author: marius.marici@usm.ro / +40-747-494-707;

night eating syndrome and purging. The latter is defined as ‘feeding and eating disorders that cause clinically significant distress or impairment in social life, but does not meet the full criteria for typical [eating disorders]’ (Galmiche et al., 2019, p. 1402). Atypical Anorexia Nervosa is a type of anorexia nervosa where the individual meets all the criteria for the disorder except for being underweight. Binge-Eating Disorder of low frequency and/or limited duration is characterized by recurrent episodes of binge eating, but less frequently than the typical diagnosis of binge-eating disorder. Bulimia Nervosa of low frequency and/or limited duration is similar to binge-eating disorder, but with the addition of purging behaviors such as vomiting or laxative use. Purging Disorder is characterized by purging behaviors without binge eating. (DSM-5, 2013; Zam, Saijari & Sijari, 2018) Singh (2013) presented a rare form of eating disease – pica, which refers to ‘a tendency or craving to eat substances other than normal food [such as ashes, clay, mud, or plaster], occurring during childhood or pregnancy, or as a symptom of disease’ (Lexico, n.p.). Eating disorders are commonly diagnosed and treated mental health conditions. These disorders affect a significant portion of the population and can have serious consequences if left untreated. (Steiger, Bruce & Israël, 2003)

1.2. Anorexia (nervosa)

Anorexia (nervosa) has been defined by English language dictionaries as ‘lack or loss of appetite for food (as a medical condition); an emotional disorder characterized by an obsessive desire to lose weight by refusing to eat’ (Lexico, n.p.). Anorexia nervosa is a serious eating disorder characterized by an unhealthy obsession with dieting and thinness, resulting in significant weight loss. Despite the individual's drastic weight loss, they continue to perceive themselves as overweight and fail to recognize the severity of their condition. (Strickland, 2001) Anoerxia is an eating disorder whose main feature is ‘appetitive overcontrol’, a ‘relentless pursuit of thinness and a morbid fear of the consequences of eating (usually expressed as a dread of weight gain or obesity)’ (Steiger, Bruce & Israël, 2003, p. 173). It is a disorder defined as ‘a refusal to maintain body weight at a minimally normal weight for age and height; an intense fear of gaining weight. This fear, present even in an emaciated condition, may be denied, but it is demonstrated by an intense preoccupation with thoughts of food, irrational worries about gaining weight, and rigorous exercising programs, with severe restriction of total food intake in order to prevent weight gain; a disturbance of body conceptualization. Parts of the body such as the thighs and abdomen are experienced as being excessively large; evaluation of the self is mainly in terms of body weight and shape;

and the denial of illness or the underweight condition is a hallmark symptom of this disorder; amenorrhea or cessation of menstrual cycles' (Halmi, 2004, p. 63).

In terms of comorbidity, anorexia is associated with alcohol-use, alexithymia, anxiety, bipolar, celiac disease, depressive, obsessive-compulsive, other substance-use disorders, and type 1 and type 2 diabetes mellitus (Ward et al., 1995; Karwautz et al., 2008; Young-Hyman & Davis, 2010; DSM-5, 2013; Nowakowski, McFarlane & Cassin, 2013; Runcan, 2020). Culture-related diagnostic issues: in post-industrialized, high-income countries (e.g., 'Australia, European countries, Japan, New Zealand, the United States'), (DSM-5, 2013). When it comes to emotions, the typical anorexic individual is often a strong-willed adolescent who uses their aversion to food as a misguided way of exerting control over their life due to a lack of control in other areas. Unfortunately, the functional consequences of anorexia can lead to social isolation and a failure to reach their full academic or career potential. (DSM-5, 2013) Anorexia has an increased prevalence in girls starving themselves to attain a fashionable boyish figure, with 1 of every 100 adolescent girls having anorexia nervosa (Rolls, Fedoroff, & Guthrie, 1991). In terms of medical consequences anorexia is associated with: abnormal levels of several neurotransmitters (which might be further associated with depression), amenorrhea, bluish hands and feet, constipation, fear of fatness, heart failure, infertility, kidney failure, lanugo (growth of fine body hair), loss of muscle mass, low body weight, lower blood pressure, lower body temperature, osteoporosis, perception of distortion of body shape, slowed metabolism, slowed reflexes, slower pulse, weakened heart (Rolls, Fedoroff, & Guthrie, 1991). Anorexia usually appears first in childhood (Schulherr, 2008). Anorexia is associated with an arrest of sexual development, which is a psychosexual effect in adolescents. Usually when anorexia installs it is associated with a pattern of binging and purging, compulsive exercising, continuation of weight loss despite thinness, dieting in secret, exaggerated fear of gaining weight, persistent feeling of being fat even after weight loss, loss of menstrual periods, preoccupation with calories, cooking, food, or nutrition, significant weight loss, and sleep disorders. The treatments and cure for anorexia refer to: hospitalization, medication, nutritional counselling, and psychotherapy for the individual and family group.

Zonnevylle-Bender et al. (2004) compared emotional functioning of adolescent anorexia nervosa patients with two control groups (an internalizing psychiatric outpatient group and a healthy control group).

The study conducted by the authors revealed that individuals with anorexia nervosa and those who were psychiatric outpatients with depressive and/or anxiety disorders

exhibited significant deficits in emotional functioning when compared to the healthy control group. Specifically, the anorexia nervosa group demonstrated the most significant impairment in emotional functioning. The results of the emotional tasks showed that both psychiatric groups performed worse than the healthy control group in their ability to process visual emotional information. Additionally, the psychiatric outpatients with depressive and/or anxiety disorders group had more difficulty in memorizing responses to auditory emotional stimuli than the anorexia nervosa and healthy control group. Furthermore, the psychiatric outpatients with depressive and/or anxiety disorders group processed auditory emotional information at a slower pace than the healthy control group. It is worth noting that no differences were found between the three groups on non-emotional, cognitive tasks.

Overall, these findings suggest that individuals with anorexia nervosa and those with depressive and/or anxiety disorders experience significant deficits in emotional functioning, particularly in their ability to process emotional information. Emotional intelligence, empathy and alexithymia are socio-emotional difficulties encountered by anorexia nervosa during adolescence, difficulties heightened by anxiety and depression (Rome et al., 2003; Peres et al., 2018; Runcan, 2020).

1.3. Binge Eating Disorder

Definition: **binge eating** has been defined by English language dictionaries as 'the consumption of large quantities of food in a short period of time, typically as part of an eating disorder' (*Lexico, n.p.*). Binge eating is a term used to describe the act of consuming a significant amount of food within a short period of time, often accompanied by a feeling of being unable to control one's eating habits (Strickland, 2001).

Comorbidity: alexithymia, anxiety disorders, bipolar disorders, celiac disease, depressive disorders, substance use disorders, and type 1 and type 2 diabetes mellitus (Ward *et al*., 1995; Karwautz *et al*., 2008; Young-Hyman & Davis, 2010; *DSM-5*, 2013; Nowakowski, McFarlane & Cassin, 2013; Runcan, 2020). ***Culture-related diagnostic issues***: It is noteworthy that this phenomenon is observed with comparable frequency across various industrialized nations, including Australia, Canada, European countries, New Zealand, and the United States. ***Emotional issues***: feeling of disgust with oneself, of distress, of embarrassment by how much he/she eats, of guilt (*DSM-5*, 2013). ***Functional consequences***: Binge eating has been found to be linked with higher healthcare utilization when compared to individuals with a similar body mass index (BMI). Additionally, it can lead to the development of obesity, a decrease in health-related quality of life and life satisfaction, an

increase in medical issues and mortality rates, a higher risk for weight gain, and difficulties with social role adjustment. (*DSM-5*, 2013) ***Gender distribution***: The gender ratio is significantly less imbalanced in individuals with binge-eating disorder compared to those with bulimia nervosa. This suggests that the prevalence of the disorder is more evenly distributed among males and females in the former, while the latter is more commonly observed in females. (*DSM-5,* 2013) ***Indicative of***: *borderline personality* ("mental illness characterized by erratic and impulsive self-destructive behaviour and an intense fear of abandonment" (Ford-Martin, in *Gale*, 2001, p. 88), and *bulimia* (Strickland, 2001). ***Medical consequences***: Abdominal pain, electrolyte imbalances, and intestinal damage can lead to serious health complications such as cardiac arrest, muscle weakness, and vomiting. ***Onset***: in adolescence (Schulherr, 2008). ***Psychological effects***: depression. ***Specific behaviours***: binge eating, often followed by fasting, purging, or vomiting, is a common symptom of an eating disorder. This behavior is often accompanied by a deep-seated fear of gaining weight or becoming fat. (Rolls, Fedoroff & Guthrie, 1991) ***Symptoms***: binge eating, also known as uncontrollable eating, is characterized by the consumption of large quantities of food within a short and defined time frame. This behavior is often followed by purging, which can take the form of abusing diuretics or laxatives, engaging in excessive exercise, fasting, or inducing vomiting. ***Treatment and cure***: binging can be a result of various underlying psychological factors such as stress, anxiety, or depression. By identifying and addressing these root causes, patients can gain a better understanding of their behavior and learn to manage their impulses. Behavior modification techniques can also be helpful in breaking the cycle of binging. This may include setting achievable goals, practicing mindfulness, and developing healthy coping mechanisms. ***Triggers***: hunger, interpersonal stressors, negative mood, thoughts about weight and shape (Black Becker, 2004).

1.4. Bulimia (nervosa)

Definition: **bulimia (nervosa)** has been defined by English language dictionaries as 'an emotional disorder characterized by a distorted body image and an obsessive desire to lose weight, in which bouts of extreme overeating are followed by fasting or self-induced vomiting or purging' (*Lexico, n.p.*) Bulimia nervosa is a serious eating disorder that is defined by three primary symptoms. These include recurrent episodes of binge eating, inappropriate compensatory behaviors, and an extreme preoccupation with body weight. (Black Becker, 2004)

Comorbidity: alexithymia, anxiety disorders, bipolar and depressive disorders, celiac disease, low self-esteem, borderline personality disorder, substance use, and type 1 and type 2 diabetes mellitus (Ward *et al*., 1995; Karwautz *et al*., 2008; Young-Hyman & Davis, 2010; *DSM-5*, 2013; Nowakowski, McFarlane & Cassin, 2013; Runcan, 2020). ***Culture-related diagnostic issues***: in the majority of industrialized nations, such as Australia, Canada, various European countries, Japan, New Zealand, South Africa, and the United States, there is a common trend. ***Emotional issues***: experiencing intense feeling of guilt and shame over binging, feeling out of control, and realizing the abnormality of the eating pattern. ***Functional consequences***: severe role impairment in the social-life domain (*DSM-5*, 2013). ***Gender distribution***: far more common in females than in males (Rolls, Fedoroff & Guthrie, 1991; *DSM-5*, 2013). ***Medical consequences***: abdominal pain and electrolyte imbalances can potentially lead to serious health complications such as cardiac arrest or weakness. ***Onset***: in late adolescence (Schulherr, 2008). ***Physiological causes***: a defective satiety mechanism. ***Psychological effects***: depression swings, mood swings. ***Specific behaviours***: bulimia is a disorder characterized by a tendency to engage in crash diets, consume high-calorie junk food (such as candy bars, cookies, and ice cream) in secret, eat until experiencing stomach aches, drowsiness, or external interruptions, and experience weight fluctuations within a 4.5 kg range. Additionally, individuals with bulimia may engage in binge eating followed by fasting, purging, or vomiting, and experience a fear of gaining weight. (Rolls, Fedoroff & Guthrie, 1991) ***Symptoms***: eating uncontrollably (binging) large amounts of food (e.g., a loaf of bread, several boxes of cookies) in a short and well-defined time period (at least twice a week and twice or more times a day), and then purging by abusing diuretics or laxatives, dieting, exercising, fasting, vomiting; alcohol abuse, bloating, dental problems, drug abuse, heartburn, irregular periods, swollen cheeks. ***Treatment and Cure***: Anti-depressant medication, such as anticonvulsants, diphenylhydantoin (such as Dilantin), and tricyclic antidepressants, can be used to alleviate symptoms of depression. Additionally, individual and/or group psychotherapy can be employed to investigate the patient's unconscious motivations for binging, in combination with behavior modification techniques to help cope with the disease. Nutritional counselling is also an important aspect of treatment, as it can help patients develop healthy eating habits and maintain a balanced diet. In severe cases, hospitalization may be necessary to provide intensive care and support.

Ward et al. (1995) have found that when diabetes is combined with an eating disorder, adolescents become doubly disabled. This is a particularly challenging situation for adolescents because type 1 diabetes requires a significant lifestyle adjustment, even with the

advancements in medical technology. This chronic disease prevents individuals from living a carefree life. Additionally, eating disorders bring about a host of disorder-specific disadvantages (Grylli et al., 2002).

According to Quick, Byrd-Bredbenner & Neumark-Sztainer (2013), research indicates that young individuals with chronic illnesses that necessitate a dietary component, such as celiac disease, cystic fibrosis, inflammatory bowel disease, irritable bowel syndrome, and type 1 diabetes mellitus, may be susceptible to developing disordered eating habits that can escalate into a full-blown eating disorder during their treatment.

2. Material and Method

Given the complexity of eating disorders, we have consulted acta (of psychiatrics), books (on eating disorders), dictionaries, encyclopaedias (of behavioural sciences and psychology), handbooks (of eating disorders and psychology), journals (of behaviours, body image, care / therapeutics / treatment, clinical nutrition, eating disorders, health psychology, health, medicine, nutrients, nutrition, paediatrics, paediatric psychology, prevention, psychiatry, psychosomatics, scientific research, and weight disorders), manuals (of mental disorders), reviews (on eating disorders).

The search of the articles and books related to eating disorders was done using a specific search related controlled vocabulary.

3. Results

Literature has investigated both *factors involved in the aetiology of eating disorders* and *predictors of eating disorders*.

3.1. Factors Involved in the Aetiology of Eating Disorders

Biological, *developmental*, *familial*, *psychological*, and *sociocultural factors* are involved in the aetiology of eating disorders (Rolls, Fedoroff & Guthrie, 1991).

Biological factors (Connan & Stanley, 2003):

- *Endocrine changes* along the hypothalamic-pituitary-gonadal axis;
- *Genetic predisposition* (Winchester & Collier, 2003): there is a 55% concordance rate of monozygotic twins for an eating disorder with only a 7% concordance rate for dizygotic twins;

- *Serotonin* (a brain neurotransmitter regulating appetite, mood, pain, and sleep) *alteration by dieting* in women but not in men, a biological difference that could explain why eating disorders are more common in women than in men.

Developmental factors:

- After puberty, girls have twice as much fat as boys and grow away from the lean female ideal (hence more dissatisfaction with their body and dieting as a way to take control), while boys acquire more lean muscle and develop toward the accepted male ideal.

Familial factors:

- Families of individuals with anorexia nervosa often exhibit characteristics such as being achievement-oriented, enmeshed, overprotective, and rigid. These traits can hinder the development of autonomy and foster dependency in the affected family member. Additionally, families of both anorexics and bulimics tend to place excessive emphasis on appearance, diet, food, physical fitness, and weight. There is also a higher likelihood of a family history of alcoholism, affective disorders, and eating disorders in first-degree relatives. In contrast, families of bulimics tend to be less structured than those of anorexics. Emotional distance, increased overt conflict, neglect, and rejection are common in these families. It is important to note that these generalizations do not apply to all families of individuals with eating disorders and should not be used to stereotype or stigmatize them.

Psychological factors

- Individuals with anorexia nervosa often exhibit traits such as compliance, impaired autonomy, limited spontaneity, and perfectionism. Both anorexics and bulimics struggle with conflicts of autonomy and identity, low self-esteem, and a sense of ineffectiveness. Additionally, both groups tend to display obsessive personality traits, such as being preoccupied with calorie counting and mental imaging of food. Bulimics, on the other hand, are more likely to have a history of childhood maladjustment and have been obese or had an obese mother. They are often extroverted and active, but may have a history of trouble with the law, such as theft, and problems with alcohol abuse. Furthermore, bulimics often have a history of unstable mood and attempted suicide, which suggests a deficit in the regulation of affect and control. (Kaltiala-Heino *et al*., 1999; Serpell & Troop, 2003; *DSM-5*, 2013)

Sociocultural factors

- Certain professions prioritize appearance and weight over performance, requiring individuals to maintain a specific weight. Modelling, acting, and professional sports are some of the industries that place a significant emphasis on physical appearance. In these fields, maintaining a certain weight is often considered crucial for success. Other professions that require weight maintenance include athletics such as jockeys, runners, and wrestlers, as well as dancing and jockeying.
- However, this emphasis on weight can lead to negative consequences such as the greater incidence of bulimia in boarding schools and college dorms of competitive and stressful schools and campuses where dating is emphasized. The internalization of values and beliefs that equate thinness with attractiveness and success is a prevalent issue in our society. This phenomenon refers to the process by which individuals adopt societal norms and expectations regarding body image and internalize them as personal beliefs. This can lead to weight dissatisfaction, weight concern, and dieting.
- Social pressure also plays a role in the idealization of the thin female form and pressures on women to compete and perform well while still being attractive and feminine. Additionally, social status can contribute to the prevalence of anorexia and bulimia among upper-class and middle-class 12-25-year-old females in developed countries. (Kaltiala-Heino *et al*., 1999; Nasser & Katzman, 2003; Sundgot-Borgen, Skarderud & Rodgers, 2003; *DSM-5*, 2013)

Rome *et al*. (2003, 100) identified as ***risk factors for the development of an eating disorder*** the following:

- Affective alcoholism or illness in first-degree relative;
- Ballet, gymnastics, modelling, visual sports;
- Body-image dissatisfaction;
- Family history of eating disorder or obesity;
- History of compulsive exercise, excessive dieting, frequently skipped meals;
- Low self-esteem;
- Parental eating behaviour and weight;
- Personality traits (e.g., perfectionism);
- Physical or sexual abuse.

Schmidt (2003) identified several factors that contribute to the development of eating disorders. These include genetic and environmental factors, as well as life events and societal pressures.

- *Genetically*, there is evidence that certain genes related to dopamine, weight control, feeding, and energy expenditure, as well as serotonin, may increase the risk of developing an eating disorder. Additionally, there is a heritability of both behavioral and attitudinal symptoms, such as binge eating, dietary restraint, and self-induced vomiting.
- *Environmental* factors also play a role, with childhood adversity, childhood abuse, childhood maltreatment, and maladaptive maternal behavior among the risk factors. *Perinatal* risks, such as birth problems, and attachment patterns, such as insecure or unresolved attachment status, also contribute to the risk model.
- *Life events*, such as acute or chronic stressors and crises perceived as shameful or disgusting, can also precipitate the development of an eating disorder. *Puberty* is another critical period when physical and psychosocial challenges must be navigated.
- Finally, societal pressures, particularly in the Western world, where there is a sharp contrast between the availability of calorific, cheap, and highly palatable foods and the excessive value placed on dietary restraint and slimness, can contribute to the development of eating disorders. The daily bombardment of images of emaciated supermodels and other thin role models can also institute the norm among young women.
- It is important to note that there is a unique versus shared genetic risk, such as body mass index, that can also contribute to the development of eating disorders. By understanding these factors, we can better identify and treat individuals who may be at risk for developing an eating disorder.

Zeeck *et al*. (2011) investigated everyday ***emotions*** and the relationship between binge eating, the desire to eat, and emotions and found that, from 24 emotions (anger, boredom, contempt, disappointment, disgust, enjoyment, exhaustion, fear, guilt, helplessness, hope, hurt, interest, jealousy, loneliness, longing, power, powerlessness, relaxation, sadness, satisfaction, shame, surprise, tenseness), anger, feelings of loneliness, disgust, exhaustion or shame lead to binge eating behaviour with the highest probability.

Wooldridge & Lytle (2012) advanced the idea that there are four – *biological* (malnutrition, osteoporosis, pre-morbid obesity, puberty), *cultural and gender-related* (body image, homosexuality, weight-related teasing), *familial* (excessive parental expectations, greater achievement, conflict and control orientation, less autonomy, less independence), and *psychodynamic* (conflict about sexual identity, loss of sexual drive, over-involvement of

caretakers, perfectionism) – not just one factor involved in male anorexia nervosa. Holland & In 2016, Tiggemann highlighted the significant influence that social networking sites have on body image and disordered eating outcomes. This impact is primarily driven by seeking negative feedback through status updates and the uploading and viewing of photos. Appearance-based social comparison plays a crucial role in mediating these outcomes. According to Lacoste (2017), family issues and past experience with sexual abuse explain the transition to anorexia in female adolescents.

In 2018, Marzilli, Cerniglia & Cimino conducted a comprehensive analysis of the factors contributing to the development of binge eating disorder. Their research identified several key risk factors, including biological, environmental, and psychological factors. Biological risk factors, such as familial genetic predisposition and epigenetic processes, play a significant role in the development of binge eating disorder. These factors can increase an individual's susceptibility to the disorder and make it more difficult to manage. Environmental risk factors, including early adverse experiences, parental influences on childhood eating behavior, parental psychopathology, and traumatic experiences in the parents, can also contribute to the development of binge eating disorder. These factors can create a stressful and unstable environment that may lead to disordered eating behaviors. Psychological risk factors, such as personality traits of perfectionism and impulsivity, negative affect or depressive symptoms, weight and eating concerns, and body dissatisfaction, can also increase an individual's risk of developing binge eating disorder. These factors can lead to negative self-image and a preoccupation with food and weight, which can contribute to the development of disordered eating behaviors.

3.2. Predictors of Eating Disorders

In 2006, Haines et al. conducted a study to determine whether weight-related teasing had any impact on the development of disordered eating behaviors among adolescents. The study found that weight teasing during adolescence predicted disordered eating behaviors at a 5-year follow-up. Interestingly, the patterns of these associations differed by gender. Boys who were teased about their weight were more likely to initiate binge eating with loss of control and unhealthy weight control behaviors, while girls who were teased were more likely to become frequent dieters. In a more recent study conducted by Tan et al. in 2022, weight teasing was investigated in association with various health risk behaviors in adolescents. These behaviors included binge eating, lack of healthy dietary behavior, lack of physical activity, sedentary behaviors, sleep disturbance, and unhealthy dietary behavior.

In 2011, Day et al. conducted a study to investigate the specific risk factors associated with the development of early-onset bulimia nervosa and subclinical bulimia nervosa. The study identified certain correlates, such as parental depression during the same period as the onset of eating pathology, as well as markers like ethnicity, age, and weight. Additionally, the study found that early menarche, parental obesity, and parental psychiatric disorder were all risk factors for the development of bulimia nervosa.

In 2015, Micali et al. conducted a study that focused on predicting eating disorders. The study identified various risk factors, including body dissatisfaction, body mass index, self-esteem, maternal eating disorders, and economic disadvantage. Interestingly, the study found that these risk factors varied according to gender.

Finally, in 2018, Zam, Saijari, and Sijari identified several signals that may indicate the presence of an eating disorder. These signals include body weight, fatal illnesses, obsessions with food, and shape.

4. Conclusions

After conducting a thorough investigation of various references, several conclusions can be drawn regarding eating disorders in adolescents. Firstly, there are three typical eating disorders and five atypical eating disorders that are prevalent in this age group. It is worth noting that eating disorders are among the most frequently diagnosed and treated mental disorders.

Typical eating disorders have specific comorbidities, culture-related diagnostic issues, emotional issues, functional consequences, gender distribution, medical consequences, onset, psychosexual effects, symptoms, and treatment and cure. For instance, anorexia nervosa involves emotional functioning and socio-emotional issues, while binge eating has its own triggers such as hunger, interpersonal stressors, negative mood, and thoughts about weight and shape. Additionally, bulimia nervosa combined with diabetes requires a change in lifestyle.

The aetiology of eating disorders is complex and involves biological, developmental, familial, psychological, and sociocultural factors. Predictors of eating disorders include body weight, fatal illnesses, obsessions with food, different risk factors, and shape and weight-related teasing.

It is possible to reduce the risks of eating disorders by changing cultural ideals that connect thinness and beauty to self-worth and happiness. This can be achieved by helping

children and adolescents establish healthier attitudes and eating behaviours, and learn to value themselves and others for intrinsic qualities, rather than extrinsic qualities focusing on appearance.

References

Black Becker, Carolyn. (2004). Bulimia. In W. E. Craighead & C. B. Nemeroff (eds.), *The Concise Corsini Encyclopedia of Psychology and Behavioral Science* (164-148), Third Edition. Hoboken, NJ: John Wiley & Sons, Inc.

Connan, Frances & Stanley, Sarah. (2003). Biology of Appetite and Weight Regulation. In J. Treasure, U. Schmidt & E. Van Furth, E. (eds.), *The Handbook of Eating Disorders* (63-88). Chichester: John Wiley & Sons Ltd.

Day, Jemma, Schmidt, Ulrike, Collier, D., Perkins, Sarah, Van den Eynde, Frederique, Treasure, Janet, Yi, Irene, Winn, Suzanne, Robinson, P., Murphy, Rebecca, Keville, Saskia, Johnson-Sabine, E., Jenkins, Mari, Frost, Susie, Dodge, Liz, Berelowitz, M. & Eisler, I. (2011). Risk Factors, Correlates, and Markers in Early-Onset Bulimia Nervosa and EDNOS. ***International Journal of Eating Disorders*, 44(4), 287-294.** DOI: 10.1002/eat.20803.

Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. (2013). Washington, DC & London: American Psychiatric Association. (*DSM-5*)

Ford-Martin, Paula. (2001). Borderline Personality. In B. R. Strickland (ed.), *Gale Encyclopedia of Psychology* (88-89), Second Edition. Detroit – New York – San Francisco – London – Boston – Woodbridge: Gale Group.

Galmiche, Marie, Déchelotte, P., Lambert, G. & Tavolacci, M. P. (2019). Prevalence of Eating Disorders over the 2000-2018 Period: A Systematic Literature Review. *American Journal of Clinical Nutrition*, 109(5), 1402-1413. DOI: 10.1093/ajcn/nqy342.

Gander, Manuela, Sevecke, Kathrin & Buchheim, Anna. (2015). Eating Disorders in Adolescence: Attachment Issues from a Developmental Perspective. *Frontiers in Psychology*, 6, 1-12. https://doi.org/10.3389/fpsyg.2015.01136.

Grylli, Vasileia, Hafferl-Gattermayer, Andrea, Wagner, Gudrun, Schober, Edith & Karwautz, A. (2002). Eating Disorders and Eating Problems among Adolescents with Type 1 Diabetes. Exploring Relationships with Temperament and Character. *Journal of Pediatric Psychology*, 30(2), 197-206. DOI: 10.1093/jpepsy/jsi007.

Haines, J., Neumark-Sztainer, Dianne, Eisenberg, Marla E. & Hannan, P. J. (2006). Weight Teasing and Disordered Eating Behaviors in Adolescents Longitudinal Findings from Project EAT (Eating Among Teens). *Pediatrics*, 117(2), 209-215. DOI: 10.1542/peds.2005-1242.

Halmi, Katherine. (2004). Anorexia nervosa. In W. E. Craighead & C. B. Nemeroff (eds.), *The Concise Corsini Encyclopedia of Psychology and Behavioral Science* (63-65), Third Edition. Hoboken, NJ: John Wiley & Sons, Inc.

Herpertz, S. & Nielsen, S. (2003). Comorbidity of Diabetes Mellitus. In J. Treasure, U. Schmidt & E. Van Furth, E. (eds.), *The Handbook of Eating Disorders* (401-414). Chichester: John Wiley & Sons Ltd.

Holland, Grace & Tiggemann, Marika. (2016). A Systematic Review of the Impact of the Use of Social Networking Sites on Body Image and Disordered Eating Outcomes. *Body Image*, 17, 100-110. http://dx.doi.org/10.1016/j.bodyim.2016.02.008.

Kaltiala-Heino, R., Rissanen, A., Rimpelä, M. & Rantanen, P. (1999). Bulimia and Bulimic Behaviour in Middle Adolescence: More Common than Thought? *Acta Psychiatrica Scandinavica*, 100(1), 33-39. https://doi.org/10.1111/j.1600-0447.1999.tb10911.x.

Karwautz, A., Wagner, Gudrun, Berger, G., Sinnreich, Ursula, Grylli, Vasileia & Huber, W.-D. (2008). Eating Pathology in Adolescents with Celiac Disease. *Psychosomatics*, 49(5), 399-406. https://doi.org/10.1176/appi.psy.49.5.399.

Lacoste, M. (2017). Looking for the Origins of Anorexia Nervosa in Adolescence – A New Treatment Approach. *Aggression and Violent Behavior*, 36, 76-80. https://doi.org/10.1016/j.avb.2017.07.006.

Lexico. Available at: https://www.lexico.com. Accessed on January 2, 2021.

Marzilli, Eleonora, Cerniglia, L. & Cimino, Silvia. (2018). A Narrative Review of Binge Eating Disorder in Adolescence Prevalence, Impact, and Psychological Treatment Strategies. *Adolescent Health, Medicine and Therapeutics*, 9, 17-30. http://dx.doi.org/10.2147/AHMT.S148050.

Micali, N., De Stavola, B., Ploubidis, G., Simonoff, E., Treasure, J. & Field, A. E. (2015). Adolescent Eating Disorder Behaviours and Cognitions: Gender-Specific Effects of Child, Maternal and Family Risk Factors. *The British Journal of Psychiatry*, 207(4), 320-327. DOI: 10.1192/bjp.bp.114.152371.

Nasser, Mervat & Katzman, Melanie. (2003). Sociocultural Theories of Eating Disorders: An Evolution in Thought. In J. Treasure, U. Schmidt & E. Van Furth, E. (eds.), *The Handbook of Eating Disorders* (139-150). Chichester: John Wiley & Sons Ltd.

Nowakowski, Matilda E., McFarlane, Traci & Cassin, Stephanie. (2013). Alexithymia and Eating Disorders: A Critical Review of the Literature. *Journal of Eating Disorders*, 1(21), 1-14. https://doi.org/10.1186/2050-2974-1-21.

Peres, Victoire, Corcos, M., Robin, Marion & Pham-Scottez, Alexandra. (2018). Emotional Intelligence, Empathy and Alexithymia in Anorexia Nervosa during Adolescence. *Eating and Weight Disorders*, 25(1), 1-8. https://doi.org/10.1007/s40519-018-0482-5.

Quick, Virginia M., Byrd-Bredbenner, Carol & Neumark-Sztainer, Dianne. (2013). Chronic Illness and Disordered Eating: A Discussion of the Literature. *Advances in Nutrition*, 4(3), 277-286. DOI: 10.3945/an.112.003608.

Rolls, Barbara J., Fedoroff, Ingrid C. & Guthrie, Joanne F. (1991). Gender Differences in Eating Behavior and Body Weight Regulation. *Health Psychology*, 10(2), 133-142. 10.1037/0278-6133.10.2.133.

Rome, Ellen S., Ammerman, S., Rosen, D. R., Keller, R. J., Lock, J., Mammel, Kathleen A., O'Toole, Julie, Mitchell Rees, Jane, Sanders, Mary J., Sawyer, Susan M., Schneider, Marcie, Sigel, E. & Silber, T. J. (2003). Children and Adolescents with Eating Disorders: The State of the Art. *Pediatrics*, 111(1), 98-108.

Runcan, R. (2020). Alexithymia in Adolescence: A Review of Literature. *Agora Psycho-Pragmatica*, 14(1), 24-34.

Schmidt, Ulrike. (2003). Aetiology of Eating Disorders in the 21st Century: New Answers to Old Questions. *European Child & Adolescent Psychiatry*, 12(1), 30-37. DOI: 10.1007/s00787-003-1105-9.

Schulherr, Susan. (2008). *Eating Disorders for Dummies*. Hoboken, NJ: John Wiley & Sons, Inc.

Serpell, Lucy & Troop, Nicholas. (2003). Psychological Factors. In J. Treasure, U. Schmidt & E. Van Furth, E. (eds.), *The Handbook of Eating Disorders* (151-168). Chichester: John Wiley & Sons Ltd.

Singh, Anita P. (2013). Pica - A Case Report on Eating Disorder of Rural Adolescent Girl. *International Journal of Scientific and Research Publications*, 3(9), 1-5.

Steiger, H., Bruce, K. R. & Israël, Mimi. (2003). Eating Disorders. In G. Stricker & T. A. Widiger (Eds.), *Handbook of Psychology. Volume 8. Clinical Psychology* (173-194). Hoboken, NJ: John Wiley & Sons, Inc.

Sundgot-Borgen, J., Skårderud, F. & Rodgers, S. (2003). Athletes and Dancers. In J. Treasure, U. Schmidt & E. Van Furth, E. (eds.), *The Handbook of Eating Disorders* (385-400). Chichester: John Wiley & Sons Ltd.

Tan, Y., Lu, W., Gu, W., Yu, Z. & Zhu, J. (2022). Body Weight, Weight Self-Perception, Weight Teasing and Their Association with Health Behaviors among Chinese Adolescents – The Shanghai Youth Health Behavior Survey. *Nutrients*, 14(14), 1-14. https://doi.org/ 10.3390/nu14142931.

Ward, Anne & Gowers, S. (2003). Attachment and Childhood Development. In J. Treasure, U. Schmidt & E. Van Furth, E. (eds.), *The Handbook of Eating Disorders* (103-120). Chichester: John Wiley & Sons Ltd.

Ward, Anne, Troop, N., Cachia, M., Watkins, P. & Treasure, Janet. (1995). Doubly Disabled: Diabetes in Combination with an Eating Disorder. *Postgraduate Medical Journal*, 71, 546-550.

Winchester, Elizabeth & Collier, D. (2003). Genetic Aetiology of Eating Disorders and Obesity. In J. Treasure, U. Schmidt & E. Van Furth, E. (eds.), *The Handbook of Eating Disorders* (35-62). Chichester: John Wiley & Sons Ltd.

Wooldridge, T. & Lytle, Pauline "Polly". (2012). An Overview of Anorexia Nervosa in Males. *Eating Disorders: The Journal of Treatment & Prevention*, 20(5), 368-378. http://dx.doi.org/10.1080/10640266.2012.715515.

Young-Hyman, Deborah L. & Davis, Catherine L. (2010). Disordered Eating Behavior in Individuals with Diabetes: Importance of Context, Evaluation, and Classification. *Diabetes Care*, 33(3), 683-689. DOI: 10.2337/dc08-1077.

Zam, W., Saijari, R. & Sijari, Z. (2018). Overview on Eating Disorders. *Progress in Nutrition*, 20(2), 29-35. DOI: 10.23751/pn.v20i2-S.6970.

Zeeck, A., Stelzer, N., Linster, H. W., Joos, A. & Hartmann, A. (2011). Emotion and Eating in Binge Eating Disorder and Obesity. ***European Eating Disorders Review*, 19(5), 426-437.** DOI: 10.1002/erv.1066.

Zonnevylle-Bender, M. J. S., van Goozen, S. H. M., Cohen-Kettenis, Peggy T., van Elburg, Annemarie & van Engeland, H. (2004). Emotional Functioning in Adolescent Anorexia Nervosa Patients: A Controlled Study. *European Child & Adolescent Psychiatry*, 13, 28-34. DOI: 10.1007/s00787-004-0351-9.