

Anorexia Nervosa: A Dreadful Psychosocial Health Complication

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Abstract

Anorexia nervosa is a life-threatening psychiatric and persistent eating disorder that is characterized by self-starvation, severe malnutrition, excessive weight loss, and decreased quality of life, and primarily occurs among teenage girls and young women. At present it is considered as a serious psychiatric problem, which is influenced by environmental, psychological, and individual factors. It is usually treatment resistance, and it has a substantial risk of death due to various medical complications, and frequently suicide may happen. It is estimated that one-third of all deaths related to anorexia nervosa happen mainly sudden death due to cardiac causes. The purpose of this study is to provide an overview of anorexia nervosa and its health risks factors and consequences.

Keywords: anorexia nervosa, eating disorders, dieting

1. Introduction

Anorexia nervosa (AN) is a severe life-threatening chronic eating disorder, and a potentially fatal disease of complex etiology that is characterized by self-starvation and excessive weight loss for overestimation of the body weight and image, which results extensive morbidity and mortality (Khairani et al., 2011; Andrade, 2017). It is a complex psychiatric disorder that includes physiological, behavioral, cognitive, and emotional components. It is related to genetic predisposition, and a combination of environmental, social, and cultural factors. Normal weight management is essential for a healthy life, but if it becomes extremely below the minimum level, it will be a life-threatening (Okumuş, 2020). Almost every organ system in the body of an anorexia patient, such as cardiovascular, skeletal, gastrointestinal, nervous, endocrinological, and reproductive is affected (Brown & Mehler, 2015).

Food is necessary for survive and maintaining healthy life. Eating is an automatic response to mitigate hunger (Mohajan, 2013a, b, 2022). Eating disorders (EDs) are anorexia nervosa, bulimia nervosa, and binge eating; and mostly seen in teenagers. These are not a choice but are serious mental illnesses. Actually, anorexia patients do not suffer a loss of appetite and their mind is extremely preoccupied with food. They suffer from psychological problems of weight phobia and self-control. They have an extreme fear of being overweight, even they are in underweight (DSM-5, 2013; Vo et al., 2017; Mohajan & Mohajan, 2023a, b). The word “*anorexia*” (Greek *an-* indicates “*negation*” and *orexis* points to “*appetite*”) means “*a loss of appetite*”, and the adjective “*nervosa*” indicates the functional and non-organic nature of the disorder (Treasure et al., 2015).

Anorexia nervosa (AN) individuals always have a fear that they will be overweight and want to form an extreme thin body structure (Attia, 2010; Mohajan, 2014, 2018). They are self-restricted caloric intake, intense fear for obesity, pre-occupied with body appearance and amenorrhea. Sometimes anorexia may create psychological complications, such as cardiac problems, malnutrition, osteoporosis, infertility, depression, and even death

(Pieters et al., 2007).

2. Literature Review

In any research, the literature review is a section where research works of previous researchers are introduced briefly to make familiar with the new researchers in the research arena (Polit & Hungler, 2013). It helps the researchers to understand the subject, and it serves as an indicator of the subject that has been carried out previously (Creswell, 2007). In the late 19th century Hilde Bruch has investigated the clinical symptoms and psychodynamic data of the classic anorexia nervosa disorders through the expressions of disturbances in the perceptual and conceptual fields (Bruch, 2001). Fatima Elif Ergüney Okumuş has given a brief history and basic diagnostic criteria of anorexia nervosa. She has focused on the etiology with various theories and treatment options in terms of a biopsychosocial approach (Okumuş, 2020). Jayaraman Umarani and Anand Amirthraj have stated that anorexia nervosa is a complex psychological problem among adolescence girls. They believe that it is the responsibility of the teachers to create awareness among students by educating about the ill effects of AN that help to prevent the incidence of AN and lead to healthy adolescents to the society (Umarani & Amirthraj, 2016).

Rodrigo Andrade and his coauthors have observed that anorexia nervosa patients with disease longevity may have worse prognosis and poorer outcome. They support that illness duration has an important role on the outcome and prognostic features of the nervosa patients (Andrade et al., 2017). Patricia Westmoreland and her coworkers have provided the predictors of mortality due to life-threatening anorexia nervosa that include chronicity of the illness, critically low body weight, and bingeing and purging behavior. They believe that civil commitment is warranted on occasion and clinically prudent for patients whose lives are threatened by severe eating disorders (Westmoreland et al., 2017). Bronwyn C Raykos and her coworkers examine whether anorexia nervosa illness severity and duration are associated with retention or treatment response in outpatient, enhanced cognitive behavioral therapy (Raykos et al., 2018). Debra K. Katzman summarizes the evidence-based medical complications and treatments that are both common and unique to adolescents with anorexia nervosa (Katzman, 2005).

Kamryn T. Eddy and her coworkers investigate early and long-term recovery in the Massachusetts General Hospital longitudinal study of anorexia nervosa and bulimia nervosa. They observe that at 22 years, about two-thirds of females with anorexia nervosa and bulimia nervosa were recovered. Recovery from bulimia nervosa happened earlier, but recovery from anorexia nervosa continued over the long-term (Eddy et al., 2017). Élide Dezoti Valdanha-Ornelas and Manoel Antônio dos Santos show that family relationships can act as mediating agents in triggering and maintaining the symptoms of anorexia nervosa that contain unconscious elements transmitted inter-generationally (Valdanha-Ornelas & dos Santos, 2016).

3. Research Methodology of the Study

To lead in the academic domain an academician takes the research as an essential and influential work of his/her way of life (Pandey & Pandey, 2015). Methodology is a proper guideline of any valuable research that is considered as an organized procedure and follows scientific methods appropriately (Kothari, 2008). It is a system of explicit rules and procedures in which research is based that tries to describe the types of research and the types of data (Ojo, 2003; Somekh & Lewin, 2005). Therefore, research methodology is a strategy for planning, arranging, designing, and conducting a meaningful and valuable research that tries to develop logic to generate theory within which the research is conducted (Remenyi et al., 1998; Legesse, 2014). It attempts to create new knowledge through the basis on the existing knowledge (Goddard & Melville, 2001).

This study is an exploratory and descriptive procedure that deals with a qualitative research approach. At the starting we have briefly discussed the historical background of anorexia nervosa. Basic concept and symptoms of AN, and various complications and severe morbidity are developed for the welfare of AN patients. Treatment of AN patients is essential, and we have stressed on proper AN treatment as early as possible. We have studied research papers, books and handbooks of renowned authors, and have collected materials from internet, websites, etc. to enrich this paper (Mohajan, 2017, 2018a, b; Mohajan & Mohajan, 2023c).

4. Objective of the Study

The leading objective of this article is to discuss the aspects of anorexia nervosa and its various effects. Anorexia nervosa is a life-threatening eating disorder, and it is characterized by self-starvation, weight loss, etc., and mainly seen among females. Some other non-leading objectives are as follows:

- to highlight historical background of AN,
- to show some symptoms of AN, and
- to provide treatment procedures of AN.

5. Historical Background

Julius Caesar in 700 BC sent the rich ancient Romans at lavish banquets before return to the feast. In ancient Greece, it is believed that body is closely linked to mind, that is, “*sound body, sound mind*”, and there are few reports of anorexia-like symptoms (Hepworth, 1999). In Hellenistic era (323-31BC), anorexia nervosa (AN) was a practice of self-starvation by young women to become saints through the “*Holy anorexics abuse of their bodies, rejection of marriage and try to find religious asylum*”. This dedication happened for religious fasting in the name of religious piety and purity through the spirit by mortifying the body. The women believed that their desire for food is sinful (Hepworth, 1999; Pearce, 2004). The ancient Christianity (5th-15th century AD) believes that the mind from its dependency on bodily needs for food, drink, warmth, rest, freedom from pain, and freedom from longing for sensual pleasures and fasting is the only one among other ascetic practices that serve to liberate from these (Bemporad, 1997). For this reason, fasting was a common practice in ancient Christianity, and it was linked to ideas of spirituality and faithfulness. For example, Saint Catherine de Siena (1347-1380) was born in Italy and had died at 33 due to “*holy anorexia*” (Bell, 1985; Brumberg, 2000).

In 1689, English physician Richard Morton (1637-1698) describes AN elaborately. In 1686, he labeled a 20-year aged patient as “*a skeleton clad with skin*” (Morton, 1694). In 1873, Sir William Gull, a personal physician of Queen Victoria (British Empire), coined the term “*anorexia nervosa*” through the publication of a seminal paper with a detail description of the nature of anorexia patients (Gull, 1997). In the 1980s there is a concern of AN, and most of the research articles based on the eating disorders are published (Habermas, 2015). In the late 19th century medical professionals consider the AN as a fever. In 1978, German-American psychoanalyst, Hilde Bruch (1904-1984) has published the book *The Golden Cage: the Enigma of Anorexia Nervosa* that deals with eating disorders to create a wider awareness of anorexia nervosa. In this book she has inspected the clinical symptoms and psychodynamic data of the classic AN disorders (Bruch, 2001; Habermas, 2015). American popular singer and drummer Karen Anne Carpenter (1950-1983) had died of heart failure due to anorexia nervosa complications (Arnold, 2012).

The AN was accepted as a psychological disorder in the late 1800s. In 1952, the first edition of DSM-1 is completed that deals with emotional factors, and includes gastrointestinal disorders, such as peptic ulcers, chronic gastritis, and ulcerative colitis (DSM-1, 1952). The second edition of DSM-2 is published in 1968 that reflects the growth of the concept that the people of all nations live in one world (DSM-2, 1968). The third edition of DSM-3 is published in 1980 that reflects the disorders of infancy, childhood, or adolescence (DSM-3, 1980). The fourth edition of DSM-4 is published in 1994 that reflects bulimia nervosa appeared in its current form, with the required feature of shape and weight concerns (DSM-4, 1995). The fifth edition of *DSM-5* is published in 2013 that attempts to relax some of the criteria for various eating disorders (DSM-5, 2013; Estour et al., 2017; Zayas et al., 2018).

6. Basic Concept of Anorexia

In the adolescent period some girls have tendency of keeping their physical appearance attractive than boys. These girls especially in the pubertal age group are very careful about their weight, and they are afraid of being “fat”. Anorexia nervosa is more common in girls and women usually in upper- and middle-class families, who are in higher socioeconomic class (Umarani & Amirthraj, 2016). But recently it is growing worldwide among boys and men extensively at a 10:1 female to male ratio. About 90% of people with anorexia nervosa disease are women and the death is about 0.7% of all women in the USA. It is an eating disorder that is characterized by an abnormally low body weight (body mass index (BMI)<17.5), and an intense fear of gaining weight (WHO, 1993; Hoek & van Hoeken, 2003). Sometimes anorexia peoples control calorie intake by excessive dieting, starving, self-induced vomiting, excessive exercise, appetite suppressants, enemas, diuretics, and misusing laxatives (Fairburn, 2008).

7. Symptoms of Anorexia

Anorexia nervosa is an extremely unhealthy and life-threatening condition that creates some emotional problems and can be very difficult to overcome (Mitchell & Crow, 2006). Symptoms of AN can be biological, physical, psychological, behavioral, and environmental; and some cases one patient shows a combination of all of these factors (Attia, 2010). An individual is considered as anorexia nervosa if s/he is 15% below the recommended body weight for height and age. At present higher premature mortality rate is seen among AN patients. Anorexia nervosa can be fatal, and death may occur suddenly due to abnormal heart rhythms or an imbalance of electrolytes (Umarani & Amirthraj, 2016; Mitchell & Peterson, 2020).

The anorexic patients look like skeletons to others, because their bones become thin and brittle, but they view themselves as overweight or obese (Andrade et al., 2017). They often feel anxiety about gaining weight or being fat, and denial of hunger. They may withdraw themselves from usual friends and essential daily activities (Hoek & van Hoeken, 2003). After losing weight their health deteriorates, and skin looks pale and yellowish. Sometimes amenorrhea is seen in women or endocrine disturbance in men, which lead a loss of libido (Hodes et al., 1991). They remain anxious and irritable during meal times, and they show low self-esteem and

perfectionism in their movement (Bemporad, 1997). They weigh themselves repeatedly, look in the mirror obsessively and pinch waist or wrists. They want to avoid of taking meals with other people and family members. They want to avoid fats and carbohydrates, although their bodies have a heavy demand of these (Brown & Mehler, 2015).

Proper physical development interferes with growth, sometimes breast development is delayed among anorexia girls in puberty (Brown & Mehler, 2015). Someone with long-term anorexia may suffer from the neurological effects of mood disorders, such as depression, anxiety, lethargy, sleep apnea, and also may suffer from physiological effects, such as excessive weight loss, hormonal changes, brittle nails, hair loss, etc. (Brumberg, 2000). Cardiovascular problems are irregular heartbeats, heart attacks, and collapse of heart valves; cardiac arrest due to arrhythmias may cause death (Katzman, 2005).

The anorexic patients miss meals, eat very little or avoid eating any foods, take medicine, such as slimming pills to reduce hunger, take physical exercising excessively (Hoek & van Hoeken, 2003). Fatigue, fainting, vomiting, low concentration and thinking, constipation, anemia, bruising, lanugo, pitting oedema, cold intolerance, damage to the teeth, and lack of interest are ongoing symptoms. They often feel cold, even in warm weather, because they do not have enough fat on their body to keep warm (Deter & Herzog, 1994). Severe metabolic disturbances, such as hypokalaemia, bradycardia, and hypotension are eventually inevitable if weight loss is not reversed (Hodes et al., 1991).

8. Complications and Severe Morbidity

Cardiovascular and pulmonary complications, dehydration and electrolyte disturbances, circulation problems, low blood pressure, low body temperature, abnormal slow heart rate, gastrointestinal dysfunctions, hormonal deficits, muscle weakness, amenorrhea, anemia, renal dysfunction, osteoporosis, dry hair and skin, hair loss, hypometabolism, and lanugo hair are common complicates of anorexia patients (Mitchell & Crow, 2006; Brown & Mehler, 2015).

Menstrual dis-functioning causes poor reproductive health, with infertility problems; reduction in pituitary size results deficits in attention, learning, memory, and visuospatial analyses are common problems of anorexia patients (Westmoreland et al., 2016). Anorexic pregnant women give small babies with multiple complications that results stunted growth and osteoporosis in the long-term. AN women often face increase rates of miscarriage, premature delivery, infertility, etc. (Linna et al., 2013). Self-induced vomiting may create tooth erosion and calluses on hands. Each organ system of AN patient is affected by potentially irreversible medical complications that are particularly damaged (Katzman, 2005).

9. Treatment of Anorexia

Treatment of AN patients works best if started as early as possible. Long-term follow-up is necessary to ensure the achievement of average body weight for height and age. Treatment effectiveness indicates: only 50% of patients reporting full recovery, 30% achieving partial recovery, and 20% remaining severely ill. Suicide and medical complications directly related to the AN illness and most cases death may happen, and the average age at death is 34 years (Westmoreland et al., 2017).

During treatment of a AN patient age, sex, BMI, prevailing symptoms must be taken in consideration. An extreme focus has to be given on body weight and shape, food serving and eating (Treasure & Cardi, 2017). During treatment physicians must be sincere about the evaluate for various complications, such as hypotension, kidney dysfunction, arrhythmia, elevated liver enzymes, electrolyte imbalance, constipation, haematological abnormalities, seizures, and peripheral neuropathies (Williams et al., 2008).

Full recovery from anorexia is very difficult and long process that may take several years, and needs a patient labor to maintain a normal weight within the age range, and also when all the symptoms are gone to develop with a positive body image (Bruch, 1962, Mohajan & Mohajan, 2023a, b, c). Less than 63% of patients reportedly may recover from the anorexia illness in the long-term (Eddy et al., 2017). Rapid decrease in weight, risk of suicide, social isolation, failure of outpatient treatment, and medical risk factors of cardiac problems, such as irregular heartbeats, heart attacks, collapse of heart valves, and lowered blood sugars must be handled with care. Suicide is the most common cause of death due to depression that should be prevent with combined attempts of physicians, family members and social workers (Brown & Mehler, 2015).

Osteoporosis is a major problem of AN patients and improvement of bone density is the primary strategy for management. Weight restoration partially covers bone density, and calcium intake, and supplementary necessary vitamins should run routinely (Andrade et al., 2017). Generally, a BMI of 15 or less indicates that hospitalization of AN patients is needed. In this situation life-threatening signs, such as profound hypotension and dehydration, severe electrolyte abnormalities, arrhythmias or severe bradycardia, and suicide tendency may happen among the AN patients. Medical nutritional therapy for weight gain is necessary who has reached in a low BMI 13.5 or less (Westmoreland et al., 2017).

10. Conclusions

From this study, we have observed that anorexia nervosa (AN) has the highest mortality rate of any psychiatric complications and also a remarkable other morbidities related to AN. At present anorexia nervosa becomes a healthcare problem among young people in the society. It is accompanied with a high morbidity and mortality risk factor. Strong phobia of gaining weight, self-starvation, and a distorted view of body image are common symptoms of anorexia. Suicide and medical complications directly related to the illness are the most common causes of death. Treatment of anorexia is a challenging and long-term procedure for patients, families, and physicians. Family members and physicians identify this disorder and provide prompt treatment. Prevention is a best policy, but treatment is necessary for those who are already infected. Every conscious people of the society should develop positive attitudes towards food, weight, and body image among anorexia individuals. Even though anorexia nervosa has the highest mortality rate of any psychiatric illness, most patients survive due to proper treatment and social consciousness.

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