

Anorexia Nervosa: Psychosocial Assessment and Health Implications

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The purpose of this paper is to provide an overview of one of the most common types of eating disorders among women in the United States (U.S.), anorexia nervosa (AN). This disorder is discussed in terms of the behavioral features, sociological and psychological characteristics, and the health risks and consequences involved. In addition, prevention, treatment, and the recovery process associated with AN is addressed.

Overview

Among all the mental illnesses, Anorexia Nervosa (AN) has the highest premature mortality rate (NEDA, 2010; Steinhausen, 2002). Furthermore, its prevalence is approximately 0.5% to 1% and is highest among adolescent girls and young women (Mehler, 2001; Sim et al., 2010). AN is an eating disorder marked by an inability to maintain a normal healthy body weight, often dropping below 85% of ideal body weight (American Psychiatric Association [APA], 2000; Chakraborty & Basu, 2010; Kinoy, Holman, & Lemberg, 1999; Pritts & Susman, 2003; Treasure, Claudino, & Zucker, 2009). Due to the fear of gaining weight and becoming fat, even when emaciated, AN patients are often characterized by performing self-starvation and excessive weight-loss behaviors (National Eating Disorder Association [NEDA], 2010). In a 2003 study, researchers Hoek and van Hoeken found that 40% of newly identified cases of AN are among girls ages 15-19. The disorder affects the social, psychological, and physical functioning of individuals (Tierney, 2008). The term anorexia is defined to mean “loss of appetite” (p.3); however, it is a misnomer interpreting that appetite is denied (Kinoy, et al., 1999). While AN is predominantly diagnosed among women, usually in the adolescent years or as late as the post menopausal years, men also are affected (Kinoy et al., 1999). Those with AN often seek treatment solely because of the concern of those close to them that their lives may be in imminent danger, even though they frequently deny that the illness exists (Polivy & Herman, 2002).

Behavioral Features

Those who suffer from AN perform behaviors that are initially consistent with that of a normal dieter, making them difficult to distinguish (Thurstin, 1999). Like many dieters, anorexics avoid certain foods and reduce their overall daily dietary consumption (Treasure et al., 2009). However, unlike the traditional dieter, the behaviors that anorexics perform consist of self-starvation and other excessive weight-loss methods to overcome the fear of gaining weight and becoming fat. The disorder is officially classified into two categories: the restricting type and binge-eating/purging type. The restrictive type of anorexia is characterized by continuing a regular pattern of low-caloric intake with the absence of binge-eating or purging behavior (Kinoy et al., 1999; Sim et al., 2010). Restrictive thoughts are very common among individuals with anorexia in regard to food and body image (Strauch & Erez, 2009). Restrictive-type AN patients are distinguished by their resolute refusal to eat, whereas the bulimic-type AN patients regularly engage in consuming small amounts of food followed by purging (Polivy & Herman, 2002). Many anorexics often believe that they gain excessive weight from their limited intake, which causes many to perform obsessive dietary behaviors as well as excessive psychological self-assessments including counting calories and fat content, measuring portion sizes, and over-examining their body size (Coelho, Carter, McFarlane, & Polivy, 2008).

In general, individuals with AN act in ways to minimize caloric consumption and maximize energy output, such as restrictive dieting, unusual eating behaviors, and excessive exercising (Thurstin, 1999). In maintaining a low caloric intake with food, restrictive-type anorexics reduce the amount of food eaten and perform ritualistic and strict eating behaviors that

are associated with the consumption of food (Treasure et al., 2009). Frequently, individuals with anorexia appear to be eating when, in fact, they are simply moving food around on the plate, cutting food into tiny servings, or taking small bites while chewing slowly. The restrictive-type anorexics also demonstrate unusual responses to eating or to eating situations that are distinct from the normal eater or typical dieter (Thurstin, 1999). Such responses and situations include isolating themselves during mealtimes and withdrawal from social gatherings (Thurstin, 1999; Treasure et al., 2009). The degree and amount of exercising to compensate for caloric intake is often related to restrictive behavior of anorexia (Thurstin, 1999). The AN patient's exercise exceeds the purpose of pleasure and fitness; it is used to burn-off calories, to diminish whatever fat remains, and to affirm one's control over the nature of one's own body (Kinoy et al., 1999).

An investigation by Mond and Calogero (2009) on excessive exercise behaviors among women with eating disorders, revealed two primary findings. First, excessive exercise is common among eating disorder patients, with a prevalence rate ranging from 30% - 70%. Second, their findings were consistent with previous research indicating that excessive exercising is more common among patients with AN than those with bulimia nervosa (Penas-Lledo, Vaz Leal, & Waller, 2002; Schroff et al., 2006). Additional research indicated that individuals with AN commonly exercise three to four hours/day (Thurstin, 1999). The total caloric intake will determine the amount and the intensity of the exercise the individual will endure to compensate for the presumably extra calories consumed. In order to control their weight, anorexics may exhibit behaviors associated with the other categorization of AN: binge-eating/purging type. Of those with the restrictive type, at least one-third will perform binge/purging behaviors and will eventually develop bulimia nervosa (Eddy et al., 2008). This type is characterized by calorie restriction and binge and/or purging behavior to prevent weight gain (Kinoy et al., 1999; Sim et al., 2010; Thurstin, 1999). Much like those who have bulimia nervosa, these individuals may use compensatory measures such as consuming laxatives or diuretics and/or vomiting to control their weight. The similarities between these behavior patterns causes confusion in distinguishing AN bulimia/purging subtype from bulimia nervosa (Thurstin, 1999).

Influencing Characteristics

The causes of eating disorders are not entirely clear. However, a multi-factorial contribution including sociocultural issues, familial relations, and interpersonal risks may provoke the manifestation and influencing characteristics of AN (Fairburn & Harrison, 2003). As a result from these factors, there are often significant psychological co-morbidities of AN such as: depression, anxiety, obsessive-compulsive disorder, and personality disorder (Steinhausen, 2002; Sullivan, Bulik, Fear, & Pickering, 1998). Many of the psychological symptoms are secondary to the eating disorder, while other issues are considered the primary factors resulting in AN (Thurstin, 1999). About half of anorexic patients are clinically depressed even after eating patterns are reestablished (Treasure et al., 2009). Of those with depression, many have a specific form of psychiatric disorder, labeled bipolar depression or bipolar disorder (Bock, 1999). Furthermore, problems in the home and educational environment can put children at higher risk for AN (Haudek, Rorty, & Henker, 1999; Neumark-Sztainer, Story, Hannan, Beuhring, & Resnick, 2000).

Where an individual lives and the quantity of food available may be determining factors in the development of an eating disorder. From the start of early childhood, children are influenced by parents and the norms of society in relation to standards of beauty. In the U.S., the focus of ideal beauty for females is on thinness, and obesity is portrayed as a negative quality in girls. Many children are influenced by the unrealistic "Barbie-doll" body shape and constantly

told that thin is beautiful (Davis & Katzman, 1999). Contrary to some cultures like, certain African tribes who view obesity as a sign of beauty, wealth, and fertility, and thinness as a sign of poverty and low economic status (Davis & Katzman, 1999). In this sense, cultures, like the U.S, where caloric abundance is plentiful and the obsession with slimness is idealized, may be considered a contributing factor for AN. In cultures where food is scarce, the ideal body shape is much more plump which results in lower rates of the disorder (Kinoy et al., 1999; Polivy & Herman, 2002). A culture may promote thinness, but for an individual to pursue this to a pathological level also depends on other factors. For instance, there is a difference in the degree to which people attribute to a culture's value for slimness, and the degree of this attribution to cause a poor body image, a drive for thinness, anorexic behaviors (Stormer & Thompson, 1996). Furthermore, throughout history, the standards of beauty across various cultures have changed over time. For example, during the 19th century many European cultures emphasized the "hour-glass" figure using corsets to obtain an image of thinness and to establish their role and class within society (Frances & Lacey, 1994).

Additional cultural factors have been linked to increased prevalence of AN. A possible relationship between anorexic eating behaviors and attitudes and one's exposure to the mass media's idealization is widely acknowledged as a co-factor in AN (Becker, Burwell, Gilman, Herzog, & Hamburg, 2002; Polivy & Herman, 2002; Thomsen, McCoy, & Williams, 2001). The media are often blamed for the increasing influence and incidence of idealizing beauty by promoting and marketing various products such as cosmetics, fashion wear, surgeries and dietary supplements in order to establish beauty and style in an attempt to motivate or impose on individuals to achieve ideal beauty of slimness (Polivy & Herman, 2002). Hidden messages and advertisements through movies, television, and magazines influence women and men's ideal standards of beauty and how we should look and behave (Davis & Katzman, 1999). The media are accused of distorting reality, in that the models and celebrities portrayed are either naturally or unnaturally thin (Polivy & Herman, 2002). This, however, is a false portrayal, as significant editing may be involved in advertisements to remove the physical flaws celebrities possess, such as acne, and cellulitis to make them look thinner than they appear in order to influence others that this is standard (YWCA, 2008).

As a result of culture's ideal beauty of thinness, families and peers are encouraging eating disorders and giving negative messages to children and other peers (Bloom, Gitter, Cutwill, Kogel, & Zaphiropoulos, 1999). According to some researchers, an individual's eating disorder is originated in the family's style of interacting, which is related to the process of individuation (Fishman, 2006). Case reports and studies of family interaction show eating-disordered families to be enmeshed, intrusive, hostile, and negating of the patient's emotional needs or overly concerned with parenting in general (Shoebridge & Gowers, 2000). High family expectations, particularly when it comes to their appearance, mothers and/or fathers are sometimes overly involved with their children, primarily their daughters (Davis & Katzman, 1999). According to Davis and Katzman (1999), these relationship difficulties between parent and child, often manifest themselves through food. In some cases when the parent or child asserts power or to show love they can use food inappropriately to gain control, to reward, or to punish. Such behavior distorts the basic purpose of feeding and eating (Bloom et al., 1999). Furthermore, parents who constantly criticize about their own body image and shape will influence their children that having a negative view on one's self is the norm (NEDA, 2010). Not only do parents have a negative influence on their children, but peers can also play a role in contributing to AN. Adolescent girls develop thoughts and feelings about the importance of being thin and

learn to perform behaviors, such as dieting and purging, from their peers (Levine, Smolak, Moodey, Shuman, & Hessen, 1994). These behaviors are learned through example, encouragement, as well as ridicule, for not adhering to peer norms (Polivy & Herman, 2002). A critical remark about weight or appearance from a significant person, relative, or peer may trigger the acute onset of AN (Kinoy et al., 1999).

Personal experiences, low self-esteem and body dissatisfaction, obsessive and perfectionist characteristics are all issues specific in identifying individual risk factors for AN. Verbal and physical abuse and trauma are linked to AN (Polivy & Herman, 2002). Teasing about one's appearance or body shape, leads to lower self-esteem, a negative body image, and increase anorexia symptoms (Lunner et al., 2000). To avoid these experiences, these individuals would change their lifestyle drastically to gain control over the way they look and feel about their bodies. Anorexics believe that after losing their unwanted weight, they would not experience the abuse that they once received; however, this is falsely portrayed because the abuse is not coming from other people, but from themselves.

Many people who suffer from AN commonly exhibit lower levels of self-esteem and negative body image, which can result from many variables. The diagnostic criteria for anorexia are the fear of gaining weight and perceiving themselves as fat. The broad overview of negative body image consists of both body dissatisfaction and body misperception—where the individual's perception of their own body is distorted than their actual body size (APA, 2000; Chatoor, 1999; Kinoy et al., 1999; National Association of Anorexia Nervosa and Associated Disorders [ANAD], 2010; NEDA, 2010; Polivy & Herman, 2002). Hilde Bruch (1973) was the first to describe body image disturbances, the critical characteristic of anorexia, as “the relentless pursuit of thinness, through self-starvation” (p. 4). Research has found further support for Bruch's (1973) view; central to the psychopathology of anorexia is the failure of the adolescent girl to develop independence and separation from parental figures (Latzer, Hochdorf, Bachar, & Canetti, 2002). This is in relation to John Bowlby's (1969, 1973, 1980) attachment theory that focuses on how early interactions between infant and caregiver are crucial in shaping adjustment strategies that become relatively stable throughout life. The attachment theory has been broken down into two dimensions: anxiety and avoidance (Brennan, Clark, & Shaver, 1998). Individuals with high attachment anxiety tend to depend on others for acceptance of their physical appearance (Park & Beaudet, 2007). It has been suggested that for such persons, body dissatisfaction is related to their diminished self-esteem and heightened fear of rejection (Troisi et al., 2006). However, this assertion is not sufficient because one can be dissatisfied with their body, but not do anything about it (Polivy & Herman, 2002). The underlying factor that determines whether an individual makes an effort to achieve a satisfactory body is whether the individual identifies weight and shape as the answer to the problems of identity and control (Polivy & Herman, 2002). For the increase in satisfaction and pride of self-esteem and body image to be established, anorexics gain control over their eating habits and their bodies. Ultimately, this leads to destructive activities which result in re-evaluation of themselves causing an increase in self-esteem; however, they never reach a suitable level of confidence because they are always seeing flaws, even when they are emaciated (Brytek-Matera, 2007).

Other individual risks leading to anorexia consist of cognitive factors. AN features a couple of cognitive irregularities, such as obsessive thoughts and perfectionist characteristics. About 40% of those with AN will have obsessive-compulsive disorder (OCD), which is characterized by various unwanted, intrusive, and repetitive thoughts or behaviors that are senseless or unhelpful (Bock, 1999). Although pathologically underweight, anorexics see

themselves as just average or even fat, so as a result, they have an obsession for thinness and strive to have the perfect ideal body image (ANAD, 2010; APA, 2000; Kinoy et al., 1999; NEDA, 2010; Sim et al., 2010). In striving for an increase in self-esteem and body satisfaction, anorexics tend to spend an unreasonable amount of time obsessing over physical appearance related to food/eating, weight/shape, and other related matters that are extremely compulsive (Gleaves, Lowe, Snow, Greene, & Murphy-Eberenz, 2000; Kinoy et al., 1999). About 20% of the patients—especially restricting anorexics—found the obsessive thoughts comforting and did not wish to be rid of them, with more than half the patients considering the obsessions to be ego-syntonic (Polivy & Herman, 2002). In other words, the anorexic believes that they do not have a problem.

Both as a potential risk factor and in relation to OCD, perfectionism and compulsivity have been identified as other contributors for the development of AN (Bardone-Cone et al., 2007; Fairburn, Cooper, Doll, & Welch, 1999; Halmi et al., 2000; Holliday, Uher, Landau, Collier, & Treasure, 2006). Perfectionism is characterized by the tendency to set and pursue unrealistically high standards despite the occurrence of adverse consequences (Cassin & van Ranson, 2005). In a recent study, mothers of individuals with AN have shown evidence of elevated levels of perfectionism and drive for thinness relative to gender- and age matched controls (Woodside, et al., 2002). In psychoanalytic work, there are descriptions of individuals with obsessive-compulsive symptoms as being harsh in self-criticism and striving for perfection (PDM Task Force, 2006). Another cause of perfectionism is the need to please others and/or to be liked. Anorexics go to extreme lengths to perfect their bodies so they would be accepted by a group or by their families and peers. For anorexics, many are embarrassed and ashamed of their own bodies, so many put their lives on hold for other people and make it the ultimate quest to change their lives to obtain the “perfect” body figure (Polivy & Herman, 2002).

Health Risks & Consequences

Resulting from complications related to eating disorders, including suicide and heart problems, 20% of people suffering from anorexia will die prematurely (Renfrew Center Foundation for Eating Disorders, 2003). Furthermore, according to NEDA (2010), AN has one of the highest death rates of any mental health condition. Given the emphasis that individuals with anorexia place on physical appearance, it is ironic that many of the effects of anorexia tend to diminish physical attractiveness (Thurstin, 1999). Due to self-starvation behaviors, the body is denied the essential nutrients for normal and proper functioning, forcing it to slow down all of its processes to conserve energy (NEDA, 2010). As a result of the lack of nutrients present in anorexia individuals, impairment of nearly all major bodily functions are the root causes for prolonged starvation, which triggers the body to begin burning muscle and organs for fuel.

There are a wide range of symptoms that accompany individuals who suffer from AN. As a result to severe weight loss, individuals with anorexia often reveal complications in maintaining appropriate fluid and electrolyte balances (Kinoy et al., 1999; Thurstin, 1999). In severe cases, symptoms of fluid depletion include dehydration in a critical stage that can lead to kidney failure; however, those with a milder form of fluid depletion from the illness may complain of muscle cramping, fatigue, and dizziness, and an overall weakness due to low blood pressure (Mehler, 2001; NEDA, 2010; Polivy et al., 2010; Thurstin, 1999). These symptoms worsen through the use of laxatives and/or diuretics (Thurstin, 1999). Other symptoms that may be reported include sore throat, gastroesophageal reflux disease, abdominal pain, cold intolerance, constipation, polyuria, polydipsia, and palpitations (Pritts & Susman, 2003). With the serious decline in body weight and nutritional status, a common consequence in the

reproductive system of AN in women and is currently required for diagnosis is the cessation of at least three menstrual periods, which is known as amenorrhea (Kinoy et al., 1999; Mickley, 1999; NEDA, 2010; Sim et al., 2010; Treasure et al., 2009; Thurstin, 1999).

These physical findings of AN can produce complications that affect nearly every body system. The most noticeable physical characteristic is a very rapid weight loss, where the body Mass Index (BMI) is less than 18.5 and individuals commonly lose up to 20 pounds in one month and as much as 20 to 25% of total body weight over a period of several months (Sim et al., 2010; Thurstin, 1999). In performing vital signs, abnormal findings consist of bradycardia, orthostatic hypotension, and hypothermia (Pritts & Susman; Sim et al., 2010). In relation to cardiac findings with malnutrition, the heart muscle diminishes becoming smaller and weaker causing an abnormally slow heart rate which results in a lowered blood pressure, which can increase the risk for heart failure. In order to prevent this, the heart cuts back on circulation to the extremities to protect vital central organs causing acrocyanosis (Kinoy et al., 1999; Mickley, 1999; NEDA, 2010; Pritts & Susman, 2003). In the skeletal system, the reduction of bone density as a result of a decreased or halted estrogen production may lead to osteoporosis and a lifelong risk of fractures, even after as little as six months' time (Mickley, 1999; NEDA, 2010). Protein deficiency and inadequate nutrition in the integumentary system often results in physical findings of dull and brittle hair and nails that are damaged and easily broken. Furthermore, due to the lack of nutrients, the skin loses subcutaneous fat and becomes dry and scaly (NEDA, 2010; Pritts & Susman, 2003; Thurstin, 1999). Common among anorexics is hair loss over the body (NEDA, 2010). The body is unable to warm itself without the fuel or needed layers of fat which results in individuals with anorexia having difficulty in regulating body temperature and are often overly sensitive to cold (Kinoy et al., 1999; NEDA, 2010; Polivy et al., 2010; Thurstin 1999). As the condition progresses, some people grow fine hair called lanugo, over much of the body to maintain warmth (Kinoy et al., 1999; NEDA, 2010; Pritts & Susman, 2003; Thurstin, 1999).

Secondary to the lack of calcium and nutrient intake, or as a consequence of vomiting in some individuals, is the declining condition of teeth and gums that result in cavities, gum disease, and loss of dental enamel (Kinoy et al., 1999; Pritts & Susman, 2003; Thurstin, 1999). The gastrointestinal system also can be adversely affected through the decreased bowel motility, which leads to abdominal distension and constipation (Pritts & Susman, 2003). In relation to the central nervous system, the lack of nutrition has a general affect on the brain and brain functioning. The brain is particularly vulnerable to the consequences of poor nutrition since it uses around 20% of the caloric intake and is especially dependent on glucose (Treasure et al., 2009). Malnutrition during adolescence is a vulnerable period of brain reorganization since it can cause a decrease in brain mass and cause symptoms to worsen (Mickley, 1999; Treasure et al., 2009). The long-term consequences of anorexia do affect the quality and quantity of life. The best way to enhance the quality and quantity of life in anorexics is by using preventive measures in the early stages.

Prevention, Treatment, & Recovery

The recovery process of AN is very complex. For many individuals, they believe they will not be happy until they lose weight and that their attraction is measured by their appearance. Recovery is more than changing unhealthy dietary behaviors, it involves complex lifestyle alteration. Both mindset and behavior must be adapted because one without the other is not sufficient (Maine, 1999). With the support of family and friends, in conjunction with treatment, one can overcome an eating disorder and be able to reach recovery.

Anorexia nervosa can be prevented in various ways. The most preventable measure is early intervention. Many individuals who are suspected of having AN will often become defensive and will have trouble admitting they have a problem (Polivy & Herman, 2002). For parents to prevent their child from having AN, they need to first be aware of their own attitudes, beliefs, and behaviors about food, weight, and body image (NEDA, 2010) since many children tend to follow the examples of their parents. Second, parents need to become knowledgeable and familiar with the disease through reading books, searching reliable websites and informational sources. This will enhance the opportunity of noticing the warning signs of anorexics. Thirdly, they need to create a healthy home environment through encouraging a balanced eating habit, communication, and building an enhanced self-esteem to produce positive reinforcement and prevent an eating disorder from occurring (NEDA, 2010). Encouragement of eating a balanced meal involves eating as a response to body hunger and to eat foods in moderation (NEDA, 2010). Promotion of communication encourages children to talk honestly and openly about potential problems and questions that could be a link to predisposing factors that contribute to their anorexic behaviors and habits (NEDA, 2010). Since many anorexics are focused on calories and food to achieve an ideal body image, a parent should focus on internal characteristics to express character and self-esteem, such as accomplishments, loyalty, and a sense of humor (NEDA, 2010).

The road to recovery and treatment for an anorexic begins with the individual identifying their problem and seeking medical care to stabilize any serious health issues. After one has identified their disorder as a problem, the next step is to find a multi-disciplinary team of professionals that may consist of a family doctor, a psychologist, a nutritionist, a social worker, and a psychiatrist. These individuals will provide care in different areas of the treatment program of the disorder which will involve medical management, nutritional interventions, and psychotherapy (APA, 2000; Pritts & Susman, 2003). The treatment goals that are established by patient and treatment team include restoring and maintaining a healthy weight, management of physical complications, treating the psychological issues related to the eating disorder, and eliminating behaviors or thoughts that lead to the disordered eating, to prevent relapse (National Institute of Mental Health [NIMH], 2010; Pritts & Susman, 2003).

Regarding medical treatment, the intensity and setting depends on the severity of the illness (Pritts & Susman, 2003). Patients with a milder form may seek treatment on an outpatient basis; however, those who are medically or psychologically unstable require inpatient treatment (Pritts & Susman, 2003). Generally, 50% of patients with AN have good outcomes, 30% have intermediate outcomes, and 20% have poor outcomes (Pritts & Susman, 2003). However, patients with AN have an increased mortality rate six times that of peers without anorexia (Herzog, Nussbaum, & Marmor, 1996; Treasure et al., 2009). Before the treatment process can begin, the individual must undergo a series of assessments by the healthcare provider that consists of screenings, physical examinations, and laboratory tests. Screenings consist of taking a medical and dietary history as well as comprehensive psychiatric interviews, such as SCOFF, to be used in the diagnosis of an eating disorder. The SCOFF questionnaire consists of five questions designed to clarify if an eating disorder may exist rather than to make a diagnosis (National Collaborating Centre for Mental Health [NCCMH], 2010). The five SCOFF questions include (1) “Do you make yourself Sick because you feel uncomfortably full?” (2) “Do you worry that you have lost Control over how much you eat?” (3) “Have you recently lost more than One stone (14 lb) in a 3-month period?” (4) “Do you believe yourself to be Fat when others say you are too thin?” and (5) “Would you say that Food dominates your life?” (NCCMH, 2010).

Before conducting a medical history, it is important to take into account their developmental stage because some questions may be inappropriate for younger patients (Pritts & Susman, 2003). It is also important that there is an established trust and rapport between patient and provider.

The physical examination and laboratory testing are useful in identifying physical complications of the individual that may or may not be apparent. As mentioned above, there are various health risks and consequences that are seen in physical examinations. There are some pathophysiological complications that are reversible through the improvement of nutritional status or remittance of abnormal eating and purging behaviors (Treasure et al., 2009). However, there are some physical complications that require urgent medical attention and close monitoring because they are life threatening (Sim et al., 2010). Found in the laboratory evaluation are these complications that include electrolyte imbalances, such as hypokalemia, hypoglycemia, or hypomagnesemia, which is caused by excessive vomiting or laxative and diuretic misuse, which can also lead to dehydration; nutritional deficiencies that can increase the risk of cardiac arrhythmias as well as other physiological complications, such as renal problems and refeeding syndrome (Sim et al., 2010; Treasure et al., 2010). During medical treatment, AN patients experience nutritional rehabilitation to restore a healthy body weight, normalize eating patterns, achieve normal perceptions of hunger and satiety, and correct biological and psychological conditions resulting from malnutrition (Golden & Meyer, 2004). Aimed at having the individual gain a healthy body weight, anorexics orally consume food supplements with multivitamin and multimineral preparations (Treasure et al., 2009). Refeeding programs vary according to the severity of the individual; however, in most anorexic patients, the aim is to produce a weight gain of 0.5kg per week in outpatients, and between 0.5 and 1 kg for those who are hospitalized, which requires about 3500 to 7000 extra calories per week (NCCMH, 2010; Yager et al., 2006).

The other treatment method that is recommended for anorexics is psychotherapy which includes psychosocial interventions. Psychological treatments aim to reduce risk, to encourage weight gain and healthy eating to reduce other symptoms related to an eating disorder and to facilitate psychological and physical recovery (NCCMH, 2010). Many psychotherapeutic methods are currently used to try to help patients and their families cope with AN (Duvvuri & Kaye, 2009) and to help address the psychological reasons for the illness (NIMH, 2010). Many of these methods integrate cognitive, behavioral, psychoeducational, psychoanalytical and psychodynamic interventions, but many are associated with the evidence-based treatment of bulimia nervosa. However, family therapy is the most approved and evidenced-based treatment, with encouraging results for AN (Wilson, Grilo, & Vitousek, 2007). Family therapy helps individuals within a family understand each other and resolve conflicts. A specific form of family therapy is the Maudsley model created by Christopher Dare and Ivan Eisler at the Maudsley Hospital in London which tested 80 patients suffering from anorexia, comparing family therapy with individual therapy (ANAD, 2010; Dare & Eisler, 1997; Lock & le Grange, 2005; Russell, Szmukler, Dare & Eisler, 1987). Clinical trials conducted by Russell and colleagues (1987) indicated that family therapy was far superior with patients under 18 whose illness was less than three years in duration. However, individual therapy was superior for patients over the age of 18. Maudsley's method consisted of 15-20 treatment sessions over a period of about 12 months and aimed at the entire family of the anorexics to take on the responsibility of having the patient eat, instead of being criticized as dysfunctional and blaming each other (ANAD, 2010). This family-oriented treatment progresses in three phases where the

control shifts from the family back to the patient after she/he reaches an ideal weight (ANAD, 2010).

The first phase focuses on empowerment and eating. Parents are directed to take complete control over their anorexic child's eating and weight and learn strategies to find effective means of doing so (Wilson et al., 2007). According to the NIMH (2010), recent studies have shown that in family-based therapies where parents are responsible and in control of their child's eating habits were the most effective in helping a person with anorexia gain weight and improve eating habits and moods. Once the child begins to abide by parental authority, complies with the food guidelines enforced by their parents, and has made a steady weight, external control gradually fades which leads to the second phase of treatment (ANAD, 2010; Wilson et al., 2007). In the second phase, the parents help their child assume increased responsibility for eating (ANAD, 2010; Wilson et al., 2007). The final phase occurs when the patient maintains a stable weight of near 95% of his or her ideal weight without parental supervision (ANAD, 2010). At this point in the recovery process, the patient should begin individual therapy focusing on issues and anxieties surrounding adolescence, where they can discover their identity and seek coping mechanisms to avoid relapse (ANAD, 2010).

Conclusion

Anorexia nervosa is an eating disorder that occurs primarily among women. It is characterized by a fear of gaining weight, self-starvation, and a distorted view of body image. There are two types of anorexia: one is characterized by strict dieting and exercising; the other type involves bingeing and purging. The cause of anorexia is unknown, but a multitude of factors are believed to be contributors to the disorder. Treatment is often difficult because it depends on the attitude of the individual and many anorexics deny they have a problem. However, AN can be prevented and a key factor in the prevention effort is to seek help at the early stages. Furthermore, discussions at home can help individuals develop positive attitudes towards food, weight, and body image. Future research is needed to understand the psychosocial aspects of AN as well as the many health implications associated with the disease. While many aspects of AN are only recently being understood, additional knowledge is needed to prevent the onset of the disorder, reduce the likelihood of individuals progressing to the disease, and to enhance the efficacy of treatment protocols.

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