

Nutritional Rehabilitation for Patients Diagnosed with Anorexia Nervosa

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Introduction

Eating disorders are becoming more and more prevalent in our society. Whether it is the effect of the media, family or friends, the number of eating disorders has significantly increased. The majority of people diagnosed with eating disorders are women but the number of men developing eating disorders is quickly growing. No other psychological disorder has a higher mortality rate. The definition of an eating disorder is a severe disturbance in eating behavior characterized by preoccupation with weight concerns and unhealthy efforts to control weight (Weiten, 476-479). There are five classifications of eating disorders: anorexia, bulimia, binge eating disorder, eating disorders not otherwise specified (EDNOS) and body dysmorphia.

Etiology of Eating Disorders

While a person can experience an eating disorder out of the blue, genetics tends to have a strong influence. A person with relatives with a history of eating disorders tends to have a higher risk of developing an eating disorder when compared to a person with no familial occurrences (Weiten, 476-479).

Personality traits can also attribute to the formation of eating disorder. Patients treated for anorexia nervosa are said to be obsessive, rigid, emotionally restrained, and sometimes perfectionists. Bulimia nervosa diagnosed patients are sometimes impulsive, overly sensitive, and may have low self-esteem. No case is typical, but each trait is common with the disorder (Weiten, 476-479).

Family dynamics may also contribute to eating disorders in young women. Some mothers pressure children and teens to follow popular societal trends among celebrities. Young girls are

sometimes taught that skinny is beautiful (Weiten, 476-479).

Along with familial pressures, societal pressures may have some causation of eating disorders in young women. In Western societies, young women are led to believe that they are only attractive when they attain that unattainable fitness (Weiten, 476-479).

Cultural pressures, genetic vulnerability, family pathology, and other factors are pushing young women, and men for that fact, to unhealthy lengths to follow trends (Weiten, 476-479).

Types of Eating Disorders

Anorexia



<http://anorexianervosa-blog.blogspot.com/2013/07/what-is-anorexia-nervosa.html>

Anorexia nervosa is an increasingly common disease amongst people, specifically young women. The disorder involves the fear of gaining weight, having a distorted body image, a refusal to maintain normal weight, and the use of extreme measures to keep the weight off. Anorexia is typically diagnosed after a person is 25-30 percent below the normal weight for three months or more (American Dietetics, 2007). Another symptom common in females is the cessation of menstrual cycles. If anorexia is not treated promptly, individuals tend to develop gastrointestinal problems, low blood pressure, osteoporosis, metabolic disturbances, cardiac or circulatory arrest (Marzola, 2013). In an estimated 5 percent of patients, death occurs (Weiten, 476-479). There are two subtypes of anorexia that are diagnosed, restrictive anorexia and binge-purge anorexia (American Dietetics, 2007).

Restrictive

- typically involves extreme low calorie diets
- reduction of food intake forces bodies to go into starvation mode

Binge-purge

- tends to be more severe and considered chronic form of anorexia nervosa
- individuals force themselves to vomit after meals, misuse laxatives and diuretics, and excessively exercise

Four criteria for diagnosis of Anorexia Nervosa according to the DSM-V (Milos, 2013)

1. Refusal to maintain body weight at or above a minimally normal weight for age and height
2. Have an intense fear of gaining weight
3. Disturbance of one's body weight or shape
4. Amenorrhea or missing at least three menstrual cycles

Bulimia

Patients diagnosed with bulimia nervosa follow closely with patients diagnosed with binge-purge anorexia (Weiten, 476-479). Both groups will eat excessive amounts of food, or binge, in a very short amount of time; they then find an effective method in order to purge the food they just ingested. In order for a person to be diagnosed with bulimia, this binge-purge cycle needs to occur at least two times a week. This behavior, over a long period of time, can be very destructive to an individual. The act of purging can cause severe damage to the esophagus and teeth, when vomiting in the purge method. It can also cause the gag reflex to be less sensitive (Weiten, 476-479).

Binge Eating Disorder

Binge eating disorder is also similar with bulimia nervosa, although, the demographic is usually older overweight individuals (Weiten, 476-479). In some cases of binge eating disorder, individuals do not follow the binge-purge behaviors which usually lead to obesity, increased symptoms, more psychiatric issues, and lower quality of life (Marzola, 2013).

EDNOS

Eating disorders not otherwise specified is the umbrella term covering a multitude of eating disorders that are similar but not anorexia, bulimia, or binge eating disorder. These may also be called sub threshold disorders or partial syndromes such as anorexia with meses, body dysmorphia, bulimia with binge eating less than twice per week, or inappropriate compensatory behaviors after eating small amounts of food. Each disorder is treated as serious and usually requires some sort of psychological and nutritional therapy (Weiten, 476-479).

Treatment and Rehabilitation

Treatment Team

There are three components to the treatment team to combat eating disorders; psychological, behavioral and physiologic (American Dietetics, 2007). The treatment team will consist of a physician, a nutritionist, and a psychiatrist. All parts of the treatment team are important. A psychological trigger causes anorexia so the psychological treatment is the very crucial part of this team. The psychologist will try to figure out the cause or trigger for their disorder. They then work with the patient on different ways to cope with this trigger. The physician will focus on the physical status of the patient; weight, metabolic status and cardiac issues (American Dietetics, 2007). The nutritionist deals specifically with the diet and nutritional needs of the patient. The nutritionist will create a food plan that will help the patient get back to a healthy weight. Most importantly the nutritionist must know what foods the patient will not eat and make a diet without those foods with appropriate nutritional content. By working together this team will work for years to help get a patient healthy again.



http://www.sanctuarywellness.com.au/information/anorexia_nervosa.html

Types of Treatment

Inpatient

Inpatient treatment is when the patient is required to stay in the hospital for their care. This type of treatment is what you think of for most rehabilitation. Inpatient treatment is usually for very seriously ill patients. These patients are usually the ones with cardiac or severe psychological issues that might need special medical attention throughout their treatment. If the patient is undergoing nutritional rehab through nasogastric feeding they will need to be in inpatient treatment.

Nasogastric feeding is when the patient is fed continuously through a tube that goes from their nose and down into their stomach. There are many benefits and consequences to this way of feeding. Nasogastric feeding reduces the risk of refeeding syndrome because it is a continuous supply of liquid nutrients. By not being fed through solid food the patient won't have insulin spikes that can cause serious problems (Agostino et al., 2013). Patients have also shown that they have less abdominal distention, nausea, and bloating (Agostino et al., 2013). By being fed this way the doctors are able to add in more necessary fat to the diet without the patient objecting leading to a decreased hospital stay. Although these benefits are substantial, it is questionable if it is ethical. The patients are continuously hooked up to the machine that feeds them for weeks or months. This causes doctors to worry about the psychological condition of the patients since they cannot partake in normal activities (Agostino et al., 2013). Nasogastric feeding is used as a last resort because the doctors do not want to inflict anymore psychological damage on the patients.

Outpatient

The other option for treatment is outpatient. Outpatient treatment means the patient lives at their normal house and can go about their normal daily lives but they must go to treatment and doctors appointments as well. Outpatient is the discrete form of treatment if the patient doesn't their condition to be made public. Most patients will go to treatment or appointments at night when they are done with work. These patients are usually the low risk. Low risk patients would be the ones that are not going to skip treatment or have any serious medical needs, for example, teenagers with parents who are bringing them to treatment. This form of treatment is not easier, it is just as time consuming as inpatient. Most patients will have doctor's appointments or therapy at least three times a week. They meet with the physician, nutritionist and psychiatrist just like a patient in inpatient treatment. The standard nutritional treatment for outpatient is progressive bolus oral feeding (Agostino et al., 2013).

Progressive bolus oral refeeding is just normal eating. This is when the patient has a nutritionist set up a plan for what they need to eat to meet their goal caloric intake as well as nutritional needs. The benefit to this form of refeeding is it the normal form of meeting energy requirements. But some patients have had digestive issues such as nausea, bloating and pain from returning to normal eating too quickly (Agostino et al., 2013). The biggest consequence of this form of treatment is that it can lead to refeeding syndrome and refusal to eat altogether. Many patients will struggle with the idea of eating solid food again especially enough to meet the caloric intake goal needed to make them healthy.

Calorie and Nutritional Needs

Anorexic patients will be very resistant to eating but they will need to as part of their rehab. A basic nutritional rehabilitation would consist of a starting diet of 1000 to 1200 kilocalories a day. This may be normal calorie content for someone who is losing weight. But for a patient recovering from an eating disorder they will need to increase the calories by 200 kilocalories a day (Garber et al., 2013). This small increase in calories each day is to prevent refeeding syndrome which can potentially kill the patient. The diet for a patient who is going through an oral treatment should consist of 60% of carbohydrate, 21% protein and 20% of fat (Garber et al., 2013). If the person is being fed through a nasogastric tube the diet would be completely liquid and be similar to the diet of someone eating actual food but it has higher fat content (Garber et al., 2013). When the person is receiving nutrition through a nasogastric tube they don't see it which means you can feed them more fat, that they need, without them refusing. Even with upping the calories each day the hospital stay and the rehabilitation process will be long. There will be a point when all patients will relapse or refuse treatment.

Complications/ Relapse

No rehabilitation works 100% every time. There is always a chance that the patient will relapse. With eating disorders there are many issues that the patients will encounter during their rehab. Anorexic could be diagnosed with re-feeding syndrome, hypophosphatemia and some long term consequences. All these conditions can set back the patients rehab and possibly lead them to refuse treatment altogether.

Re-feeding Syndrome:

Refeeding syndrome is when the body cannot cope with the extreme change in metabolic function, the body actually

receiving food, or unbalanced diet. The signs of re-feeding syndrome (Gentile et al., 2013):

- Hypophosphatemia, hypokalemia and hypomagnesaemia
- Heart failure
- Salt and water retention
- Depletion of vitamins such as B1, B6

These symptoms are caused by the change in metabolism in the body from fat to carbohydrates. When an anorexic patient starves themselves they are using stored fat as the primary source of energy. But when they start eating again their bodies can switch from using stored fat as energy to using carbohydrates from food again. This change will lead to insulin being released from the pancreas to aid in the uptake of glucose. When the insulin is released cells will start to increase the amount of glucose, phosphate, potassium, magnesium and water that they take in (Crook et al., 2001). Since re-feeding is caused by too rapid introduction of food to the body the only way to prevent it is too slowly introduce feeding to the body (Gentile et al., 2013). In a few case studies it has been found that by having the patient be fed through nasogastric feeding refeeding syndrome was avoided (Gentile et al., 2013).

Hypophosphatemia and Other

Electrolyte Deficiencies

Through starving themselves the patients unintentionally became deficient in the electrolytes phosphate, potassium and magnesium inside their cells. When the patient starts eating again they can be diagnosed with hypophosphatemia, hypokalemia and hypomagnesaemia. These conditions are

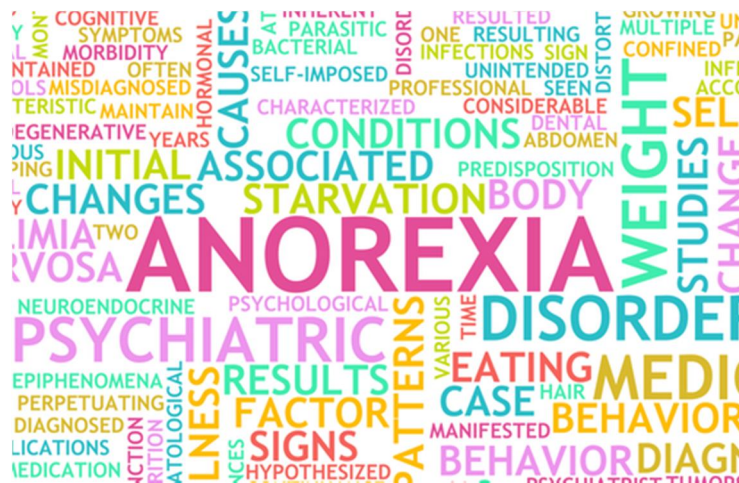
extreme changes in fluids and electrolytes in the body (Birmingham, 1996). The most common one for patients undergoing nutritional treatment for anorexia is hypophosphatemia. The best way to prevent these conditions is to take supplements and closely monitor electrolytes in the beginning of treatment (Birmingham, 1996) These can result in serious consequences for the patient when combined with malnutrition such as cardiac failure (Birmingham, 1996).

Long term Consequences

With every eating disorder there are going to long term consequences. Even once the patient is said to be "healthy" they will have lasting effects of their eating disorder. Many anorexic patients that beat their eating disorder will have to deal with lasting effects of it such as: decreased bone density, thin breaking hair, cardiac issues, nutrient deficiencies and psychological issues (See figure 1)(American Dietetic, 2007). The psychological factors are the reason many patients relapse or refuse treatment.

Conclusion

Eating disorders affect not only the diagnosed patients, but the families surrounding them. Eating disorders can be triggered by societal trends, genetics, family



dynamics, and personality traits. There is a wide spectrum of eating disorders ranging from anorexia nervosa to body dysmorphia. Treatment must consist of three components; medical, psychological and nutritional to get the best outcome from the treatment. There are many complications

that can arise with treatment such as refeeding syndrome and hypophosphatemia, which can lead to patient distress or fatality. Eating disorders are a lifelong battle even after treatment is completed.

Figure 1 from American Dietetics

Clinical signs	Anorexia nervosa	Bulimia nervosa
Electrolyte abnormalities	Hypokalemia with refeeding syndrome; hypomagnesemia; hypophosphatemia	Hypokalemia accompanied by hypochloremic alkalosis; hypomagnesemia
Cardiovascular effects	Hypotension; irregular, slow pulse; orthostasis; sinus bradycardia	Cardiac arrhythmias; palpitations; weakness
Gastrointestinal effects	Abdominal pain; bloating; constipation; delayed gastric emptying; feeling of fullness; vomiting	Constipation; delayed gastric emptying; dysmotility; early satiety; esophagitis; flatulence; gastroesophageal reflux disease; gastrointestinal bleeding
Endocrine imbalances—reproductive, metabolic	Cold sensitivity; diuresis; fatigue; hypercholesterolemia; hypoglycemia; menstrual irregularities	Menstrual irregularities; rebound fluid retention with edema
Nutrient deficiencies	Protein–energy malnutrition; various micronutrient deficiencies	Variable
Skeletal and dental effects	Bone pain with exercise; osteopenia; osteoporosis;	Dental caries; erosion of the surface of the teeth
Muscular effects	Wasting; weakness	Weakness
Weight status	Underweight state	Variable
Cognitive status	Poor concentration	Poor concentration
Growth status	Arrested growth and maturation	Typically not affected

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