AN OVERVIEW ON EATING DISORDERS

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Summary

An eating disorder is marked by extremes. It is present when a person experiences severe disturbances in eating behavior, such as extreme reduction of food intake or extreme overeating, or feelings of extreme distress or concern about body weight or shape.
A person with an eating disorder may have started out just eating smaller or larger amounts of food than usual, but at some point, the urge to eat less or more spirals out of control. Eating disorders are very complex, and despite scientific research to understand them, the biological, behavioral and social underpinnings of these illnesses remain elusive.
The two main types of eating disorders are anorexia nervosa and bulimia nervosa. A third category is "eating disorders not otherwise specified (EDNOS)," which includes several variations of eating disorders.
Eating disorders frequently appear during adolescence or young adulthood, but some reports indicate that they can develop during childhood or later in adulthood. Women and girls are much more likely than males to develop an eating disorder. Men and boys account for an estimated 5 to 15 percent of patients with anorexia or bulimia and an estimated 35 percent of those with binge-eating disorder. Eating disorders are real, treatable medical illnesses with complex underlying psychological and biological causes.
They frequently co-exit with other psychiatric disorders such as depression, substance abuse, or anxiety disorders. People with eating disorders also can suffer from numerous other physical health complications, such as heart conditions or kidney failure, which can lead to death.

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Introduction

Eating disorders are not a sign that a person has a problem with food; rather eating disorders are actually only the symptoms of underlying problems in that person's life. Eating disorders often are long-term illnesses that may require long-term treatment. In addition, eating disorders frequently occur with other mental disorders such as depression, substance abuse, and anxiety disorders (NIMH, 2002).

An eating disorder is a complex compulsion to eat, or not eat, in a way which disturbs physical and mental health. Often the symptoms can see as extreme, or as extensions of culturally acceptable behavior and preoccupations. The eating may be excessive (compulsive over-eating); too limited (restricting); may include normal eating punctuated with episodes of purging; may include cycles of binging and purging; or may encompass the ingesting of non-foods.

The earlier these disorders are diagnosed and treated, the better the chances are for full recovery. This fact sheet identifies the common signs, symptoms, and treatment for three of the most common eating disorders: anorexia nervosa, bulimia nervosa, and binge-eating.

Epidemiology

Research shows that more than 90 percent of those who have eating disorders are women between the ages of 12 and 25 (National Alliance for the Mentally Ill, 2003). However, increasing numbers of older women and men have these disorders. In addition, hundreds of thousands of boys are affected by these disorders (U.S. DHHS Office on Women's Health, 2000). According to study conducted in University of Toronto it showed risk of eating disorders is more in lower income women during pregnancy.

Types

1. Anorexia nervosa

2. Binge eating disorder

3. Bulimia nervosa

4. Diabulimia

5. Starvation diet

6. EDNOS (Orthrexia, Hyperphagia,Rumination,Pica)

Anorexia nervosa is characterized by emaciation, a relentless pursuit of thinness and unwillingness to maintain a normal or healthy weight, a distortion of body image and intense fear of gaining weight, a lack of menstruation among girls and women, and extremely disturbed eating behavior. Some people with anorexia lose weight by dieting and emixercising excessively; others lose weight by self-induced vomiting, or susing laxatives, diuretics enemas.

Many people with anorexia see themselves as overweight, even when they are starved or are clearly malnourished. Eating, food and weight control become obsessions. A person with anorexia typically weighs herself or himself repeatedly, portions food carefully, and eats only very small quantities of only certain foods. Some who have anorexia recover with treatment after only one episode. Others get well but have relapses. Still others have a more chronic form of anorexia, in which their health deteriorates over many years as they battle the illness.

According to some studies, people with anorexia are up to ten times more likely to die as a result of their illness compared to those without the disorder. The most common complications that lead to death are cardiac arrest, and electrolyte and fluid imbalances. Suicide also can result.

Many people with anorexia also have coexisting psychiatric and physical illnesses, including depression, anxiety, obsessive behavior, substance abuse, cardiovascular and neurological complications, and impaired physical development.

Clinical manifestations

Eating disorders such as Anorexia, Bulimia, and Binge Eating disorder are characterized by extreme emotions, attitudes and behaviors surrounding weight and food issues, and a disconnected understanding of one's body. Eating disorders are also a gendered health issue, affecting women at a disproportionate rate then men. of the 8 million people reported to suffer from eating disorders in the United States, 7 million are women and 1 million are men (The National Association of Anorexia Nervosa and Associated Disorders). In order to fully understand eating disorders, like any disease, the prevalence must be understood within the context of social and cultural factors, including age, race, gender, sexual orientation and socio-economic class.

Researchers who study eating-disordered thoughts and behaviors suggest that the media, advertising, women's magazines in particular and the rise of the diet industry that commodities the body, may play a role in triggering these practices (1, 4). Interestingly, as women's empowerment has increased, so has the prevalence of eating disorders, since thinness has become a necessity for the modern woman, representing beauty, self-control, achievement and success. (5). Thinness for the new women, combines qualities of self control, competition and success with qualities required from the conflicting traditional woman, i.e. attractiveness, weakness and helplessness. (7)

Anorexia Nervosa

The American Psychiatric Association defines anorexia nervosa as the presence of an abnormally low body weight (15% below normal body weight for age and height), the intense fear of gaining weight or becoming fat, disturbance and preoccupation with body weight and shape, and amenorrhea (the absence of three consecutive menstrual cycles). Anorexia can be life-threatening as victims commonly refuse to eat and drastically lose weight in which causes the lack of nutrients within their body. Low self-esteem and constant self-criticism cause anorexics to constantly fear losing control, and even consuming a small amount of food could be considered a loss of control (6, 32). One thousand women die of anorexia nervosa each year, and millions more suffer from the destructive physical complications (8, 39).

Other symptoms may develop over time, including:

- Thinning of the bones (osteopenia or osteoporosis)
- Brittle hair and nails
- Dry and yellowish skin
- Growth of fine hair over body (e.g., lanugo)
- Mild anemia, and muscle weakness and loss
- Severe constipation
- Low blood pressure, slowed breathing and pulse
- Drop in internal body temperature, causing a person to feel cold all the time
- Lethargy

Bulimia Nervosa

Bulimia nervosa is characterized by the recurrent episodes of bingeing (eating large quantities of food over short periods of time) followed by attempts to compensate for the excessive caloric intake by such purging behaviors as self-induced vomiting, laxative abuse, severe restrictive dieting or fasting, or excessive exercise (3). Bulimics often have "binge food," which is the food they typically consume during binges

People who have bulimia eat an excessive amount of food in a single episode and almost immediately make themselves vomit or use laxatives or diuretics (water pills) to get rid of the food in their bodies. This behavior often is referred to as the "binge/purge" cycle. Like people with anorexia, people with bulimia have an intense fear of gaining weight.

Bulimics have extreme eating and exercising habits, instead of demonstrating moderation. This compulsive behavior is often echoed in similar destructive behavior such as sexual promiscuity, pathological lying, and shoplifting. Some bulimics not only struggle with the eating disorder, but these other harmful behaviors as well.

Other symptoms are chronically inflammed and sore throat, swollen glands in neck and below the jaw, Worn tooth enamel and increasingly sensitive and decaying teeth as a result of exposure to stomach acids and gastrophageal reflux disorder.

Binge-Eating Disorder

It is characterized by recurrent binge-eating episodes during which a person feels a loss of control over his or her eating. As a result, people with binge-eating disorder often are overweight or obese.

This is often referred to as Compulsive Overeating. Binge-eating disorder is similar to bulimia in the recurrent episodes of bingeing; however, binge-eaters do not engage in any purging behavior or attempt to rid themselves of the food in any way (4).

Patients with eating disorders may also have a co morbid diagnosis of, mood disorder, severe mental depression, (5). Obsessive compulsive disorders, Body dysmorphic disorder, Bipolar disorder, self-harm (6). personality disorders and substance abuse disorders. Sexual abuse is also frequently reported among those with eating disorders. Women with eating disorders show poorer eating self-efficacy, psychological distress, disinhibition, low self-esteem, less helpful coping strategies, more frequent sensations of hunger, and less cognitive restraint when compared to control groups. (7).

EDNOS

Some psychologists also classify a syndrome called orthorexia as an eating disorder, or, more properly, "disordered eating" - the person is overly obsessed with the consumption of what they see as the 'right' foods for them, to the point that their nutrition and quality of life suffers (although due to cultural and political factors which influence food choices, this idea is considered controversial by some). In addition, some individuals have food phobias about what they can and cannot eat, which can be characterized as an eating disorder.

Somewhat qualitatively different from those conditions previously mentioned is pica, or the habitual ingestion of inedible, such as dirt, wood, hair, etc.

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Etiology

1. Environmental factors

The media may be a significant influence on eating disorders through its impact on values, norms, and image standards accepted by modern society. The dieting industry makes billions of dollars each year by consumers continually buying products in an effort to be the ideal weight. Hollywood displays an unrealistic standard of beauty that makes the public feel incredibly inadequate and dissatisfied and forces people to strive for an unattainable appearance.

2. Family Relationships

Many studies have found that women create rules for themselves pertaining to food restriction as a coping response to reassert personal control over their bodies (9). Especially in conditions of criticism and coercive parental control during childhood, women use food refusal to gain autonomy and control over their environment. Many studies have showed that many women who experienced physical or sexual abuse as a child end up with eating disorders as a method of punishing oneself due to the feeling of being worthless, or to strive to be “good enough” so they can finally receive the love and acceptance they lacked during childhood.

3. Biological/Genetic factors

Research has shown that many people who suffer from an eating disorder are highly correlated with having depression and obsessive compulsive disorder. Depressed, obsessive compulsive and bulimic patients were found to have lower than normal serotonin levels (10). Neurotransmitters, such as serotonin, dopamine, and norepinephrine, are released as you eat (11).

Researchers have also found low cholecystokinin levels in bulimics. Cholecystokinin is a hormone that causes one to feel full and decreases eating (12,13).People who are lacking this hormone are more likely to lack feeling satisfaction while eating which can lead to binge eating. Another explanation researchers found for over eating is abnormalities in the neuromodulator peptides, neuropeptide Y and peptide YY (14,15and 16).Both of these peptides increase eating and work with another peptide called leptin. Leptin is released by fat cells and is known to decrease eating. Research found the majority of people who overate produced normal amounts of leptin but they might have complications with the blood-brain barrier preventing an optimal amount to reach the

brain (17). Cortisol is a hormone released by the adrenal cortex which promotes blood sugar and increases metabolism (18).High levels of cortisol were found in people with eating disorders. This imbalance may be caused by a problem in or around the hypothalamus (19).A study in London at Maudsley Hospital found that anorexics were found to have a large variation of serotonin receptors and a high level of serotonin (22). Many of these chemicals and hormones are associated with the hypothalamus in the brain (20).Damage to the hypothalamus can result in abnormalities in temperature regulation, eating, drinking, sexual behavior, fighting, and activity level (24).People with brain lesions in the hypothalamus had abnormal eating behaviors; unprovoked and self induced vomiting, over concern with becoming fat, cheating with eating, frequent sleepiness, depression, obsessive compulsive behavior and diabetes insipidus (27).

4. Addiction

The same personality factors that place individuals at risk for substance abuse are often found in individuals with eating disorders. Often in those with eating disorders and substance abuse problems drugs or alcohol is used in attempts to avoid binge eating. Similar to genetic components of addiction, there is a large genetic component to body type (7).

5. Developmental etiology

Research from a family systems perspective indicates that eating disorders stem from both the adolescent's difficulty in separating from over-controlling parents, and disturbed patterns of communication. When parents are critical and unaffectionate, their children are more prone to becoming self-destructive and self-critical, and have difficulty developing the skills to engage in self-care giving behaviors. Such developmental failures in early relationships with others, particularly maternal empathy, impairs the development of an internal sense of self and leads to over-dependence on the environment. When coping strategies have not been developed in the family system, food and drugs serve as a substitute. (9, 26).

6. A Response to Trauma

Eating Disorders should also be understood in the context of experienced trauma, with many eating problems beginning as survival strategies rather than vanity or obsession with appearance. According to sociologist Becky Thompson, eating disorders stemming from trauma are actually, "sensible acts of self-preservation in response to myriad injustices including racism, sexism, homophobia, classism, the stress of acculturation and emotion, physical and sexual abuse. (24).In her book A Hunger So Wide and So Deep, Thompson interviews eighteen women of varying socio-economic status, sexual orientation and race, and finds that eating disorders and a disconnected relationship with ones body is commonly a response to environmental stresses, including sexual, physical, and emotional abuse, racism, and poverty. This reality is further detrimental for women of color and other minority women, since they are forced to live in a culture that embraces a narrowly defined conception of beauty: "people furthest from the dominant ideal of beauty, specifically women of color, may suffer the psychological effects of low self-esteem, poor body image, and eating disorders." (28,33 and 35).

Management of eating disorders

The most effective and long-lasting treatment for an eating disorder is some form of psychotherapy or psychological counseling, coupled with careful attention to medical and nutritional needs. Ideally, this treatment should be tailored to the individual and will vary according to both the severity of the disorder and the patient's particular problems, needs, and strengths(1,2)

Psychological counseling must address both the eating disordered symptoms and the underlying psychological, interpersonal, and cultural forces that contributed to the eating disorder. Typically care is provided by a licensed health professional, including but not limited to a psychologist, psychiatrist, social worker, nutritionist, and/or medical doctor. Care should be coordinated and provided by a health professional with expertise and experience in dealing with eating disorders.

Many people with eating disorders respond to outpatient therapy, including individual, group, or family therapy and medical management by their primary care provider. Support groups, nutritional counseling, and psychiatric medications under careful medical supervision have also proven helpful for some individuals.

Hospital Based Care (including inpatient, partial hospitalization, intensive outpatient and/or residential care in an eating disorders specialty unit or facility) is necessary when an eating disorder has led to physical problems that may be life-threatening, or when it is associated with severe psychological or behavioral problems.

The exact treatment needs of each individual will vary. It is important for individuals struggling with an eating disorder to find a health professional they trust to help coordinate and oversee their care.

Anorexia Nervosa

The first goal for the treatment of anorexia is to ensure the person's physical health, which involves restoring a healthy weight (20, 21, and 24). Reaching this goal may require hospitalization. Once a person's physical condition is stable, treatment usually involves individual psychotherapy and family therapy during which parents help their child learn to eat again and maintain healthy eating habits on his or her own. Behavioral therapy also has been effective for helping a person return to healthy eating habits. Supportive group therapy may follow, and self-help groups within communities may provide ongoing support.

- Restoring the person to a healthy weight;
- Treating the psychological issues related to the eating disorder
- Reducing or eliminating behaviors or thoughts that lead to disordered eating, and preventing relapse.

Some research suggests that the use of medications, such as antidepressants, antipsychotics or mood stabilizers, may be modestly effective in treating patients with anorexia by helping to resolve mood and anxiety symptoms that often co-exist with anorexia. Recent studies, however, have suggested that antidepressants may not be effective in preventing some patients with anorexia from relapsing.

Different forms of psychotherapy, including individual, group and family-based, can help address the psychological reasons for the illness. Some studies suggest that family-based therapies in which parents assume responsibility for feeding their afflicted adolescent are the most effective in helping a person with anorexia gain weight and improve eating habits and moods(31,41 and50).

Others have noted that a combined approach of medical attention and supportive psychotherapy designed specifically for anorexia patients is more effective than just psychotherapy. However, research into novel treatment and prevention approaches is showing some promise. One study suggests that an online intervention program may prevent some at-risk women from developing an eating disorder.

Bulimia Nervosa

Unless malnutrition is severe, any substance abuse problems that may be present at the time the eating disorder is diagnosed are usually treated first. The next goal of treatment is to reduce or eliminate the person's binge eating and purging behavior (NIMH, 2002). Behavioral therapy has proven effective in achieving this goal. Psychotherapy has proven effective in helping to prevent the eating disorder from recurring and in addressing issues that led to the disorder. Studies have also found that Prozac, an antidepressant, may help people who do not respond to psychotherapy (APA, 2002). As with anorexia, family therapy is also recommended.

As with anorexia, for Bulimia often involves a combination of options and depends on the needs of the individual.(13, 34 and 38)

To reduce or eliminate binge and purge behavior, a patient may undergo nutritional counseling and psychotherapy, especially cognitive behavioral therapy (CBT), or be prescribed medication. Some antidepressants, such as fluoxetine (Prozac), which is the only medication approved by the U.S. Food and Drug Administration for treating bulimia, may help patients who also have depression and/or anxiety. It also appears to help reduce binge-eating and purging behavior, reduces the chance of relapse, and improves eating attitudes.

CBT that has been tailored to treat bulimia also has shown to be effective in changing binging and purging behavior, and eating attitudes. Therapy may be individually oriented or group-based.

Binge eating disorders

At least two binge-eating episodes a week, on average, for 6 months; and lacks control over his or her eating behavior (NIMH, 2002).

Treatments are similar to those used to treat bulimia. Fluoxetine and other antidepressants may reduce binge-eating episodes and help alleviate depression in some patients (2, 38).

Patients with binge-eating disorder also may be prescribed appetite suppressants. Psychotherapy, especially CBT, is also used to treat the underlying psychological issues associated with binge-eating, in an individual or group environment.(2,34,42.46).

Occupational therapy

Occupational therapy is treatment to help people live as independently as possible. Occupational therapists work with people of all ages who, because of illness, injury, developmental delays, or psychological problems, need assistance in learning skills to help them lead independent, productive, and satisfying lives. Occupational therapists use work, self-care, and recreational activities to increase independent function.

Occupational therapy can include:

- Assistance and training in performing daily activities. Depending on your needs, these could be:
  - Personal care activities, such as dressing and eating.
  - Home skills, such as housekeeping, gardening, or cooking.
  - Personal management skills, such as balancing a checkbook or keeping a schedule.
  - Skills important in driving a car or other motor vehicle. Occupational therapy may be involved in the vision, thinking, and judgment skills needed for driving, as well as in determining whether special adaptations such as hand brakes are necessary.
- Mental health or behavioral issues such as Alzheimer's disease, post-traumatic stress, substance abuse, and *eating disorders*.

Complications of eating disorders

Anorexia nervosa - Anorexia can slow the heart rate and lower blood pressure, increasing the chance of heart failure. Those who use drugs to stimulate vomiting, bowel movements, or urination are also at high risk for heart failure. Starvation can also lead to heart failure, as well as damage the brain. Anorexia may also cause hair and nails to grow brittle. Skin may dry out, become yellow, and develop a covering of soft hair called lanugo. Mild anemia, swollen joints, reduced muscle mass, and light-headedness also commonly occur as a consequence of this eating disorder. Severe cases of anorexia can lead to brittle bones that break easily as a result of calcium loss.

Bulimia nervosa - The acid in vomit can wear down the outer layer of the teeth, inflame and damage the esophagus (a tube in the throat through which food passes to the stomach), and enlarge the glands near the cheeks (giving the appearance of swollen cheeks). Damage to the stomach can also occur from frequent vomiting. Irregular heartbeats, heart failure, and death can occur from chemical imbalances and the loss of important minerals such as potassium (38-41). Peptic ulcers, pancreatitis (inflammation of the pancreas, which is a large gland that aids digestion), and long-term constipation are also consequences of bulimia.

Binge-eating disorder - Binge-eating disorder can cause high blood pressure and high cholesterol levels. Other effects of binge-eating disorder include fatigue, joint pain, Type II diabetes, gallbladder disease, and heart disease.

Conclusion

Researchers are unsure of the underlying causes and nature of eating disorders. Unlike a neurological disorder, which generally can be pinpointed to a specific lesion on the brain, an eating disorder likely involves abnormal activity distributed across brain systems. With increased recognition that mental disorders are brain disorders, more researchers are using tools from both modern neuroscience and modern psychology to better understand eating disorders.

One approach involves the study of the human genes. With the publication of the human genome sequence in 2003, mental health researchers are studying the various combinations of genes to determine if any DNA variations are associated with the risk of developing a mental disorder. Neuroimaging, such as the use of magnetic resonance imaging (MRI), may also lead to a better understanding of eating disorders.

Neuroimaging already is used to identify abnormal brain activity in patients with schizophrenia, obsessive-compulsive disorder and depression. It may also help researchers better understand how people with eating disorders process information, regardless of whether they have recovered or are still in the throes of their illness.

Conducting behavioral or psychological research on eating disorders is even more complex and challenging. As a result, few studies of treatments for eating disorders have been conducted in the past. New studies currently underway, however, are aiming to remedy the lack of information available about treatment.

Researchers also are working to define the basic processes of the disorders, which should help identify better treatments. For example, is anorexia the result of skewed body image, self esteem problems, obsessive thoughts, compulsive behavior, or a combination of these? Can it be predicted or identified as a risk factor before drastic weight loss occurs, and therefore avoided?

These and other questions may be answered in the future as scientists and doctors think of eating disorders as medical illnesses with certain biological causes. Researchers are studying behavioral questions, along with genetic and brain systems information, to understand risk factors, identify biological markers and develop medications that can target specific pathways that control eating behavior. Finally, neuroimaging and genetic studies may also provide clues for how each person may respond to specific treatments.

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Abbreviations

APA	American Psychiatric Association
CBT	Cognitive Behavioral Therapy
EDNOS	Eating Disorder not otherwise specified
MRI	Magnetic Resonance Imagining
NICE	National Institute for clinical Excellence
NIMH	National Institute of Mental Health