Dying to be thin: Recognizing and treating anorexia in adolescents

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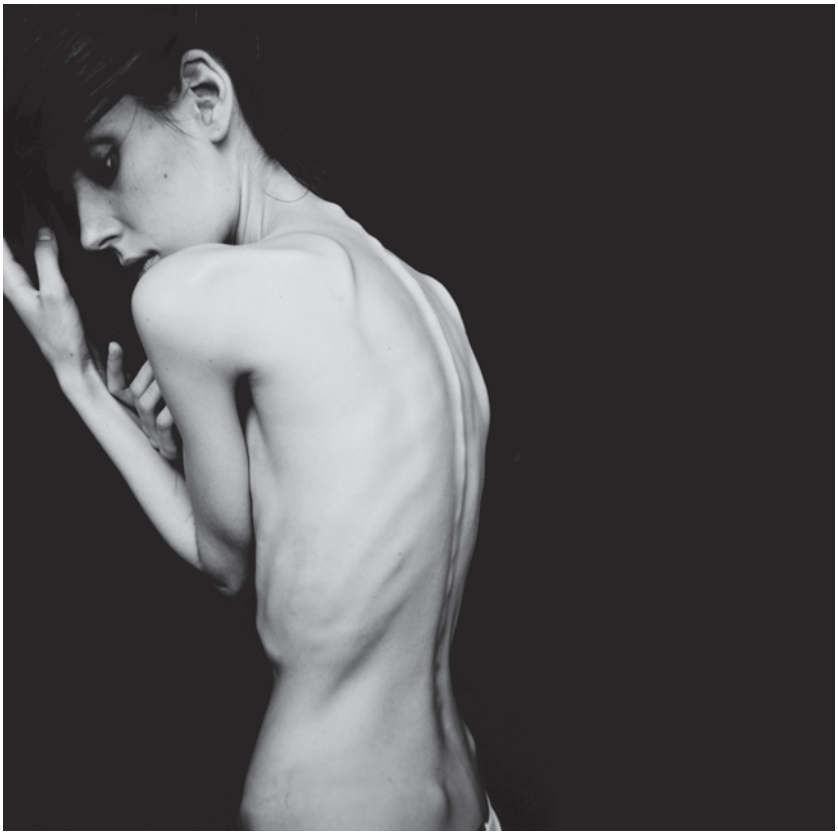
Ubiquitous images of waiflike models and other females in the media prompt many adolescent girls in the United States to curb their caloric intake and lose weight, even to a perilously low level. The authors provide up-to-date information regarding identification, assessment, and management of anorexia in adolescent girls so that nurse practitioners can intervene before this illness threatens these patients' lives.

KEY WORDS: anorexia, adolescents, eating disorder, cognitive behavioral therapy



For most girls and women in the United States, images of extremely thin models and other females in the media do not greatly influence their own body image or their eating or exercise habits. For other girls and women, however, the focus on thinness becomes distorted, obsessive, and extreme, and contributes to the development of an eating disorder that can have catastrophic consequences.[1] The reasons for this body image disturbance are likely related to a combination of psychological, environmental, and biologic factors; adolescent females seem to be among the most vulnerable. When adolescent girls, as opposed to women, develop an eating disorder, they present with greater emotional distress, functional impairment, and suicide risk; a dangerously lower body mass index (BMI); and an increased need for mental health assessment and treatment.[2] Females with eating disorders, versus those with other psychiatric disorders, are more likely to attempt suicide and to undergo inpatient treatment.[2,3]

According to a recent cross-sectional survey, about 3% of girls aged 13-18 years have some form of eating disorder: 0.3% have anorexia, 0.9% have bulimia, and 1.6% have a binge eating disorder.[4] In this study, although most teens with an eating disorder reported seeking some form of treatment, only a minority received treatment

specifically for their eating or weight problems. To increase the likelihood that adolescent girls with anorexia, the most common eating disorder, receive the help they need from nurse practitioners (NPs) who see them for primary care, the authors provide background information about anorexia and then discuss its signs and symptoms (S/S), screening, diagnosis, and treatment.

Background information

Anorexia nervosa, an eating disorder characterized by immoderate food restriction, inappropriate eating habits or rituals, obsession with having a thin figure, and an irrational fear of weight gain, as well as a distorted body-image, tends to develop during adolescence, with peaks in onset at ages 14 and 18.[5] Fear of gaining weight is the driving force behind anorexia; afflicted individuals refuse to sustain a minimally normal weight.[6] To achieve their goal of losing weight, these individuals restrict their food intake and may exercise excessively. Some of them may use laxatives, diuretics, and enemas to accelerate weight loss.

Individuals with anorexia view themselves as fat despite being thin or even emaciated. They judge their self-worth by their weight, and they tend to have a greatly distorted body-image and cognitive thought process.[6] Driven by perfectionism, even after receiving therapy, these girls find that they can never quite achieve their "ideal" weight.[5]

Signs and symptoms

The most obvious sign of anorexia is extreme thinness or emaciation.[7] Other S/S related to body weight and body-image include a relentless pursuit of thinness, an unwillingness to maintain a normal or healthy weight, an intense fear of gaining weight, a distorted body-image, low self-esteem, and a denial of the danger of low body weight. Over time, anorexia takes a toll on the body; common physical manifestations of anorexia include dry skin, brittle hair and nails, lanugo (fine downy hair) all over the body, decreased blood pressure and heart rate, cold extremities, severe constipation, and mild anemia.[5-8]

Anorexia can have severe adverse effects on many body systems as well. It is associated with a reduction in bone density,[1] which may lead to an increased risk for fractures. Some young patients with anorexia fail to reach their full adult growth potential. Anorexia can cause muscle weakness and wasting, and damage to the structure and function of the heart.[7] In addition, anorexia can lead to cerebral atrophy and delayed neurocognitive development. When anorexia is untreated or inadequately treated, patients can die, usually of medical complications (e.g., arrhythmia, multiorgan failure) or from suicide.[9]

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VIEW: Eating disorders[A]

Screening

One commonly used tool is the SCOFF screen,[10] which asks patients with suspected eating disorders these questions:

- Do you make yourself **S**ick because you feel uncomfortably full?
- Do you worry you have lost **C**ontrol over how much you eat?
- Have you recently lost **O**ver 15 pounds in a three-month period?
- Do you believe yourself to be **F**at when others say you are too thin?
- Would you say that **F**ood dominates your life?

A "yes" answer to two or more of these questions indicates that an eating disorder may be present. The Eating Disorder Examination, an interview of the patient by the healthcare provider (HCP),[11] and the self-reported Eating Disorders Examination-Questionnaire[12] are both considered valid screens for eating disorders and for determining specific features of a person's condition (e.g., vomiting, laxative use).

Diagnosis

New diagnostic criteria

The American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Health Disorders, Fifth Edition (DSM-5)* states that anorexia, which primarily affects adolescent girls and young women, is characterized by distorted body image and excessive dieting that leads to severe weight loss, with a pathologic fear of becoming fat.[9] The *DSM-5* lists three

diagnostic criteria for anorexia:

A. Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. *Significantly low weight* is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.
B. Intense fear of gaining weight or of becoming fat, or persistent behavior that interferes with weight gain, even though at a significantly low weight.
C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.

The new diagnostic criteria have several minor but important changes from previous editions. Criterion A focuses on behaviors such as restricting caloric intake, and no longer includes the word *refusal* in terms of weight maintenance because that implies intention on the part of the patient and can be difficult to assess.[13] In the *DSM-5*, Criterion B is expanded to include not only overtly expressed fear of weight gain but also persistent behavior that interferes with weight gain.[14] The *DSM-IV-TR* Criterion D[15] requiring amenorrhea, or the absence of at least three menstrual cycles, has been deleted from the *DSM-5*. This criterion cannot be applied to males, pre-menarchal females, females taking oral contraceptives, or postmenopausal females. In some cases, individuals exhibit all other S/S of anorexia but still report some menstrual activity.

Diagnostic tests

Early detection of anorexia is important. As patients approach the 5-year mark of living with the illness, recovery becomes increasingly less likely.[16] NPs should ask all female patients about their self-perception, self-image, and overall satisfaction with their body appearance. Height, weight, and BMI should be monitored at every visit. Additional testing is considered on a case-by-case basis. Laboratory tests such as complete blood count, electrolytes, liver function tests, serum albumin, urinalysis, and thyroid-stimulating hormone level are considered as part of the initial workup.[17]

Poor nutrition and extremely low caloric intake take a toll on the body not only in terms of appearance but also in terms of overall function. The hypovolemia that occurs in relation to anorexia can result in an atrophic heart and decreased cardiac output. An electrocardiogram and perhaps an echocardiogram should be included as part of the standard workup because of the high likelihood that arrhythmias will occur; arrhythmia is the most common cause of death in patients with anorexia. Prolonged QTc interval, bradycardia, heart block, and hypovolemia are just a few of the likely end points related to the atrophic heart and the electrolyte imbalances.[18]

Differential diagnosis

Many other diagnoses can contribute to, coexist with, or be solely responsible for extreme weight loss. When working up a patient with a suspected eating disorder, NPs must consider other diagnoses such as HIV/AIDS, major depression, anxiety disorder, posttraumatic stress disorder, sexual abuse, substance abuse, brain tumor, inflammatory bowel disease, malabsorption syndrome, lupus, cancer, and esophageal motility disorders.

Because isolated cases of anorexia—without other co-morbid conditions—are rare, NPs should screen patients with anorexia for depression, anxiety, and other mental health disorders. Monitoring for suicidal ideation and ascertaining a patient's risk for suicide are vitally important.

Treatment

Nurse practitioners are key members of the healthcare team that formulates a comprehensive treatment plan for patients with anorexia. Despite treatment offered, relapse risk remains high. Thirty percent to 50% of treated individuals relapse after an inpa-

tient stay, especially during the first 2 years post-discharge.[8]

Pharmacotherapy

No drugs have been approved by the FDA for treatment of anorexia nervosa, and no research supports the use of medications to cure the disorder.[6] However, once patients reach their maintenance weight, selective serotonin reuptake inhibitors may help reduce obsessive-compulsive behaviors.[6] Several randomized controlled trials are currently assessing the possible benefit of olanzapine, aripiprazole, and quetiapine.[19] The results of these studies are not yet available. Many patients in whom atypical antipsychotics are indicated will not take these medications because of their association with weight gain.[6]

Non-pharmacologic approaches

Cognitive behavioral therapy (CBT) is the gold standard for treating patients with anorexia.[20] CBT assists patients, who view their body with unrealistic scrutiny and resist gaining any weight, in changing their unhealthy body-image. A recent Cochrane review evaluated the efficacy of family-based therapy (FBT), also known as the Maudsley Approach, in treating anorexia.[21] In this intensive outpatient treatment approach, parents play a major role in (1) helping restore their adolescent child's weight to a normal level for her age and height, (2) returning control over eating to the child, and (3) encouraging normal adolescent development through an in-depth discussion of these crucial developmental issues as they pertain to their child.[21] The review showed that FBT was slightly superior to usual care (i.e. patient-based care)

in treating adolescents with anorexia. In a more recent comparative trial, FBT, with its focus on facilitation of weight gain, was as effective as systemic family therapy, which addresses general family processes, and could be delivered at lower cost.[22]

Hospitalization

Because of the life-threatening effect of starvation on the body, many patients with anorexia require hospitalization.[3] If a patient is experiencing an extreme electrolyte imbalance or weighs below 75% of ideal body weight, the treatment is immediate inpatient unit treatment with medical stabilization. Because of the urgent need to reintroduce food in patients with anorexia, a rare but potentially fatal condition called refeeding syndrome may occur. This syndrome, attributed to a metabolic alteration in serum electrolytes, sodium retention, and vitamin deficiencies, taxes the patient's system by overburdening the body with fluids too quickly.[6]

Treatment at a psychiatric facility

Many patients with anorexia are admitted to an inpatient psychiatric facility in a crisis state. A comprehensive assessment is necessary, and symptoms such as suicidal ideation must be managed immediately. Some inpatient psychiatric facilities such as the Remuda Ranch at the Meadows, in Wickenburg, Arizona,[23] specialize in the treatment of eating disorders in females. At this facility, treatment duration is flexible; some patients stay 1-2 weeks, whereas others with more severe illness may remain in treatment for 30 days or longer. Each patient has an individualized treatment plan implemented by a team of HCPs that includes a psychiatric and primary care provider, a registered dietician, a licensed master's or doctoral-level therapist, a psychologist, and registered nurses. Along with treating the patient's eating disorder, the team treats coexisting problems such as depression, anxiety, substance abuse, and trauma.

Nurse practitioner role

Because NPs may be the first HCPs to come into contact with an adolescent with anorexia, they must be able to recognize the S/S of an eating disorder, screen for and diagnose the disorder, and treat or refer the patient to prevent further harm. Treatment may entail prescribing medications, which, although not curative, can lessen S/S. Pharmacotherapy for patients with eating disorders targets three domains: (1) remission of present-

ing S/S during acute treatment, (2) prevention of relapse in the post-acute phase, and (3) diversion of recurrences over the lifetime course.[24] The treatment plan will also likely include CBT to enhance the patient's self-image. If the NP is not well versed in providing CBT, a referral to a mental health specialist is advisable. FBT is also a reasonable therapeutic approach. In all cases, education of family members regarding anorexia and its treatment is vital. The *Box* lists useful resources for NPs and their patients.

Those NPs who are treating patients with anorexia should initially see these patients weekly to monitor their weight and to check their laboratory values. Frequency of weight monitoring and lab testing will decrease over time as patients demonstrate the ability to maintain a maximum tolerable weight. Reactions of patients with anorexia to requests to step on a scale range from reluctance to resistance to outright refusal. Refusal to be weighed is a patient's right, and should be viewed as a protective mechanism in which the patient is avoiding a perceived negative stimulus, as opposed to a demonstration of defiance. In some instances, obtaining an accurate weight and completing certain tests are essential to rule out complications such as heart failure. Although most life-threatening sequelae that occur in the acute phase of anorexia subside in the post-acute phase, ongoing monitoring can help ensure that liver and kidney function have stabilized, that electrolyte and vitamin deficiencies have corrected, and that BMI remains at an acceptable level.

Nurse practitioners caring for patients with anorexia are members of a team of HCPs, which usually includes a dietician, a counseling psychologist, and a psychiatrist. Some patients engage in only limited treatment with their NP, and periodically engage in more intensive treatment with a mental health specialist when their illness becomes more severe. Understanding that the treatment phase is often characterized by remissions and exacerbations helps NPs know what to expect. At the very least, NPs will play an integral part in keeping patients engaged in the treatment process. Supporting patients from their entry into treatment and through recovery can help them endure the extensive rehabilitative process and ultimately save their lives.

Useful Resources

- National Eating Disorders Association: www.nationaleatingdisorders.org
- Eating Disorder Hope: www.eatingdisorderhope.com/recovery/support-groups
- Eating Disorders Anonymous: www.eatingdisordersanonymous.org/
- National Alliance on Mental Illness: www.nami.org
- Rosewood Centers for Eating Disorders: www.rosewoodranch.com

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Web resource

A. https://www.youtube.com/watch?v=Fxe6WLNSxcw