The Psychosocial Burden of Obesity

David B. Sarwer, PhD*, Heather M. Polonsky, BS

KEYWORDS

• Obesity • Bariatric surgery • Psychosocial functioning • Weight loss

KEY POINTS

- Numerous studies have demonstrated a positive association between obesity and various mental health issues, including depression, eating disorders, anxiety, and substance abuse.
- Obesity impacts individuals' quality of life, with many sufferers experiencing increased stigma and discrimination because of their weight.
- Patients frequently make unrealistic weight loss goals; conducting psychological evaluations before treatment allows clinicians to temper expectations and identify contraindications to success.
- Psychological implications of bariatric surgery are mixed. Although body image and depressive symptoms often improve, suicide ideation and substance abuse have been shown to increase.

Obesity is associated with several comorbidities, including cardiovascular disease, type 2 diabetes, sleep apnea, osteoarthritis, and several forms of cancer. Because of the staggering health care costs associated with these conditions, some authorities predict that these diseases pose a legitimate threat to the health of the American economy over the next several decades. Furthermore, the US Surgeon General has posited that obesity and its associated diseases could decrease the average life expectancy of Americans for the first time in history.

Obesity and its comorbidities also come with a significant psychosocial burden, impacting numerous areas of psychosocial functioning. Thus, the evaluation of psychosocial functioning is an important part of the assessment and treatment planning for the patient with obesity, particularly in the case of bariatric surgery. Although weight loss is associated with improvements in psychosocial functioning for most individuals, a small number of patients experience untoward psychological symptoms after weight reduction.

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Center for Obesity Research and Education, Temple University College of Public Health, 3223 North Broad Street, Suite 175, Philadelphia, PA 19140, USA
* Corresponding author.
E-mail address: dsarwer@temple.edu

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PSYCHOSOCIAL FUNCTIONING OF PERSONS WITH OBESITY

Several comprehensive reviews have suggested that between 20% and 60% of persons with obesity, and extreme obesity in particular, suffer from a psychiatric illness.[1–5] These percentages are typically greater than those seen in the general population.

Depression

Previous research suggests a relationship between excess body weight and depression.[6–9] Persons with extreme obesity, for example, are almost five times more likely to have experienced an episode of major depression in the past year as compared with those of average weight.[10] This relationship between obesity and depression seems to be stronger for women than men,[6] perhaps because of society's emphasis on thinness as a characteristic of female beauty.

Approximately one-third of candidates for bariatric surgery report clinically significant symptoms of depression at the time of surgery, whereas about 50% report a lifetime history of depression.[11,12] The reasons for this high prevalence are not well understood, but may include the experience of weight-related stigma and discrimination (discussed later), the presence of physical pain or other impairments in quality of life, or the occurrence of disordered eating.[13]

Eating Disorders

Disordered eating is common among persons with obesity. Many patients presenting for weight loss treatment report that they engage in eating for emotional reasons; others report having difficulty controlling the frequency of their eating, portion sizes, or eating behavior in response to the bombardment of food cues from modern society. Somewhat surprising to some, only a small minority have formally recognized eating disorders. The most common eating disorder among persons with obesity is binge-eating disorder. Binge-eating disorder is characterized by the consumption of a large amount of food in a brief period of time (less than 2 hours), during which the individual experiences a loss of control. As a result, the individual eats much faster than normal, until uncontrollably full, in the absence of hunger, and often eats alone. After eating, the individual often reports disgust.[14]

Early reports suggested that a large minority of persons with obesity who sought weight loss treatment, and up to half of patients who presented for bariatric surgery, had binge-eating disorder.[15–18] More recent studies have suggested that the disorder occurs in 5% to 15% of candidates for bariatric surgery.[19] Smaller percentages of patients with obesity have bulimia nervosa, where the binge eating is accompanied by self-induced vomiting or other compensatory behaviors, such as excessive exercise. Approximately 5% of persons with obesity suffer from the night eating syndrome, an eating, sleep, and mood disorder defined as a delay in the circadian pattern of food intake caused by awakenings in the night to eat.[20,21]

The presence of binge eating can negatively impact weight loss efforts. The presence of binge eating is associated with either suboptimal weight losses or premature weight regain following bariatric surgery. Binge eating is not considered a contraindication to bariatric surgery or other weight loss treatment.[22] It is, however, considered a potential poor prognostic indicator of weight loss treatment outcome, particularly in the absence of lifestyle modification strategies or pharmacotherapy specifically designed to address the behavior.

Anxiety

Anxiety disorders are common among patients who present for bariatric surgery; the occurrence among those presenting for nonsurgical treatment is less well established. The most common anxiety disorder in candidates for bariatric surgery is social anxiety disorder, found in 9% of patients.[2] In light of Western society's emphasis on thinness as a marker of physical beauty, it is not surprising that people with extreme obesity report increased anxiety in social situations.[23] Nevertheless, social anxiety, unless of crippling intensity, is not believed to contraindicate weight loss treatment. However, intuitive thought and clinical experience suggests that uncontrolled anxiety may negatively impact engagement in weight loss treatment in all its forms.

Substance Abuse

A small minority of individuals with obesity present for weight loss treatment actively abusing substances.[2] Active use or abuse is considered a contraindication to weight loss treatment. Approximately 10% of candidates for bariatric surgery report a history of illicit drug use or alcoholism, a percentage higher than seen in the general population. Surprisingly, two studies suggest that persons with extreme obesity and a lifetime history of substance abuse experience larger weight losses than those without a history of substance abuse.[24,25] It is believed that these individuals have likely developed impulse control and self-regulation strategies that helped them overcome their struggles with drugs and alcohol and that similarly serve them well in controlling their eating habits after bariatric surgery.

Mental Health Treatment

Many patients with obesity have turned to mental health treatment to modify their eating habits or address the emotional consequences of the disease. Approximately 50% of candidates for bariatric surgery report a history of mental health treatment and up to 40% report some form of treatment (either psychotherapy or pharmacotherapy) at the time of surgery.[24,26–29] The use of psychiatric medications, particularly antipsychotics and some classes of antidepressants, can contribute to weight gain and/or negatively impact weight loss efforts. Presently, little is known about how these medications interact with the different bariatric surgical procedures.[30,31] Changes in absorption of these medications may occur after surgery and rapid changes in body weight and fat mass may also affect the efficacy and tolerability of the medications.

Self-Esteem

Obesity can impact an individual's self-esteem. For some individuals, it may be difficult to recognize and appreciate talents and abilities because of their struggles with their weight. For others, obesity has relatively little impact. These individuals may be comfortable with their work and home life, but their weight has been the one area where they have not been successful.

Quality of Life and Body Image

Obesity also negatively impacts health-related quality of life.[32] Numerous studies have shown a relationship between excess body weight and decreases in quality of life.[33–36] Individuals often report significant difficulties with physical and occupational functioning. These impairments likely motivate many individuals to seek weight loss treatment.

Body image is an important aspect of quality of life for many individuals. Body image dissatisfaction is common for individuals who are overweight, as it is for women and

girls of average weight. The degree of dissatisfaction seems to be directly related to the amount of excess weight a person has, although persons can report dissatisfaction with their entire bodies or with specific features.[33,36–38] Even in the presence of significant weight-related health problems, body image dissatisfaction is believed to play an influential role in the decision to seek weight loss treatment.[13]

Sexual Abuse, Physical Abuse, and Emotional Neglect

There seems to be a modest association between sexual abuse and obesity.[39] Studies have suggested that between 16% and 32% of bariatric surgery candidates reported a history of sexual abuse, which seems to be higher than seen in the general population.[39,40] Physical abuse is similarly common among persons with obesity. Approximately 50% of persons with extreme obesity report some form of emotional neglect during their childhood, ranging from verbal abuse, emotional neglect, or other family dysfunction associated with separation, divorce, substance abuse, or incarceration of a member of the nuclear family.

Stigma and Discrimination

Obesity, and extreme obesity in particular, can contribute to the experience of discrimination. Individuals with obesity are less likely to complete high school, are less likely to marry, and typically earn less money compared with persons of average body weight.[41,42] Persons who are obese are frequently subjected to discrimination in several settings, including educational, employment, and even health care settings. These experiences may be even more common among those suffering from severe obesity.

MOTIVATIONS FOR AND EXPECTATIONS OF WEIGHT LOSS TREATMENT

Improvement in health and longevity are likely a central motivation for weight loss treatment for many individuals with obesity. At the same time, concerns about physical appearance and body image likely influence the decision to engage in treatment.[13]

These issues may be particularly relevant with respect to bariatric surgery. Patients who present for surgery should be “internally” motivated to seek surgery for improvements in their health and well-being.[43] Patients who are “externally” motivated for surgery, such as those interested in surgery for some secondary gain, such as saving a troubled marriage, may not be psychologically appropriate for surgery. These individuals may have unrealistic beliefs about the impact of the weight loss on other areas of their lives and may become disappointed or despondent if those beliefs are not realized.

Although the weight losses associated with all of the bariatric surgical procedures are impressive when compared with those seen with lifestyle modification or pharmacotherapy, individuals who present for bariatric surgery often have unrealistic expectations regarding the amount of weight they will lose.[44] These unrealistic expectations were once thought to put individuals at risk for weight regain. However, studies have suggested that they are unrelated to postoperative weight losses.

Individuals interested in bariatric surgery may have expectations about the impact of surgery on other areas of their lives. Many people who present for surgery do so with the hope that it will improve not only their health, but also their physical appearance. Individuals who lose weight, regardless of the treatment approach, typically report improvements in their body image.[33,35,36,45,46] However, the massive weight loss typically seen with bariatric surgery may result in the development of loose and/or sagging skin of the abdomen, thighs, legs, and arms that may lead to body

image dissatisfaction. This may lead some patients to present to a plastic surgeon for body contouring surgery (discussed later). Others may have expectations about the impact of weight loss on their interpersonal relationships. Many people may intuitively think that as they lose weight, and feel better about themselves, their social and/or romantic relationships will improve. This does occur for many individuals. However, for some, the experience of a major weight loss becomes an unsettling experience. Some individuals may experience unwanted attention related to their weight loss and physical appearance that may make them uncomfortable. Others may be upset or angry that people who treated them as if they were "invisible" before, now are friendly and sociable. Individuals seeking weight loss treatment should consider the potential impact of their weight loss on their marital and sexual relationships. Intuitively, most people would think that these relationships would improve with weight loss. However, body weight can play a much more complex role in some relationships.

EVALUATION OF PSYCHOSOCIAL FUNCTIONING BEFORE WEIGHT LOSS TREATMENT

Given the psychosocial burden of obesity, psychological status and functioning of the patient presenting for weight loss treatment should be evaluated before the onset of treatment.[43] Basic screening can be conducted by several professionals who may be part of a multidisciplinary treatment team. Many of these teams include mental health professional who often conduct more thorough evaluations before the onset of treatment. These professionals also are frequently involved in the delivery of treatment, either lifestyle modification counseling or supportive psychotherapy.

Most bariatric surgery programs in the United States request that candidates undergo a mental health evaluation before surgery.[47–51] These evaluations are often required by insurance companies, who do not provide reimbursement for surgery without mental health clearance. Most of these evaluations are performed by psychologists and social workers. Ideally, these professionals have an appropriate working knowledge of the psychosocial issues involved in obesity and bariatric surgery.

In general, the psychosocial evaluation serves two purposes.[51,52] First, it can identify potential contraindications to surgery, such as substance abuse, poorly controlled depression, or other major psychiatric illness. The evaluation can also help identify potential postoperative challenges and facilitate behavioral changes that can enhance long-term weight management.

In this regard, the evaluation takes on more of a psychoeducational component. Although there are published recommendations regarding the structure and content of these evaluations, consensus guidelines have yet to be established. Almost all evaluations rely on clinical interviews with patients; approximately two-thirds also include instrument or questionnaire measures of psychiatric symptoms and/or objective tests of personality or psychopathology.[28,51,53,54] More comprehensive evaluations assess the patient's knowledge of bariatric surgery, weight and dieting history, eating and activity habits, and potential obstacles and resources that may influence postoperative outcomes.

CHANGES IN PSYCHOSOCIAL FUNCTIONING FOLLOWING WEIGHT LOSS

Weight loss is associated with improvements in morbidity and mortality. Weight losses of 3% to 5% are considered to be clinically significant if associated with improvements in weight-related comorbidities.[49] Larger weight losses, particularly those seen with bariatric surgery, are often associated with dramatic improvements in many weight-related health conditions.[55]

Weight loss also is associated with significant improvements in psychosocial status. Most psychosocial characteristics (including symptoms of depression and anxiety, health- and weight-related quality of life, self-esteem, body image, and sexual functioning) improve with weight loss. These improvements are particularly profound in persons who undergo bariatric surgery. The substantial weight losses seen in the first 6 to 12 months after surgery are associated with dramatic changes in psychosocial status and often endure several years postoperatively.[56]

The impact of weight loss on formal psychopathology is less clear. Psychosocial distress that is secondary to obesity, such as significant body image dissatisfaction or distress about weight-related limitations on functioning, may facilitate weight loss following surgery.[57] In contrast, the presence of significant psychopathology that is independent from the degree of obesity, such as major depression, may inhibit patients' ability to make the necessary dietary and behavioral changes to have the most successful postoperative outcome possible.[2,58,59]

Nevertheless, significant psychopathology is believed to contraindicate weight loss treatment[56]; this issue is most salient when bariatric surgery is considered. In general, active substance abuse, active psychosis, bulimia nervosa, and severe uncontrolled depression are widely considered contraindications to bariatric surgery.[22] However, the presence of severe psychopathology must be balanced with the severity of the obesity and related health problems. Although individuals with severe psychopathology and/or other neurocognitive issues may have less-than-optimal outcomes compared with those persons without those conditions, they still may experience weight losses and improvements in physical and mental health more dramatic than those seen with lifestyle modification or pharmacotherapy.

PSYCHOLOGICAL COMPLICATIONS FOLLOWING WEIGHT LOSS

Although most studies suggest that the psychosocial impact of weight loss is largely positive, these experiences are not universal. Just as some patients experience medical complications, some experience poor behavioral or psychological outcomes. These issues have received the most attention among individuals who have undergone bariatric surgery.

Suboptimal Weight Loss

Approximately 25% of persons who undergo bariatric surgery fail to reach the typical postoperative weight loss or begin to regain large amounts of weight within the first few postoperative years.[13] Suboptimal results are typically attributed to psychosocial and/or behavioral issues, such as poor adherence to the postoperative diet or a return of maladaptive eating behaviors, rather than to surgical factors. Several studies have found that adherence to the postoperative diet is poor and caloric intake often increases significantly during the postoperative period.[13,60,61] Encouragingly, there are a growing number of studies that suggest that behavioral and psychosocial interventions can reverse weight gain after bariatric surgery.[43,62]

Depression and Suicide

Several studies have identified a relationship between depression, suicidality, and obesity.[6,10,63–65] For example, women with obesity are significantly more likely to experience suicidal ideation and to make suicide attempts than their normal-weight counterparts.[6] Persons with extreme obesity have been found to be more likely to attempt suicide than persons in the general population.[7,64]

In general, weight loss is associated with improvements in depressive symptoms. However, several studies have found a higher than expected rate of suicide among persons who have undergone bariatric surgery.[66–69] Given the typically positive relationship between weight loss and psychosocial functioning, these reports are counterintuitive and concerning. Unfortunately, little is known about the psychosocial factors and/or life events that may have contributed to these suicides. In the absence of this information, these findings underscore the importance of ensuring that patients who have psychiatric disorders receive appropriate mental health care before and after bariatric surgery.

Body Image Dissatisfaction

Weight loss is typically associated with improvements in body image.[32] Unfortunately some patients who lose large amounts of weight report, most typically after bariatric surgery, residual body image dissatisfaction associated with loose, sagging skin of the breasts, abdomen, thighs, and arms. Most postbariatric surgery patients consider the development of excess skin to be a negative consequence of surgery. This dissatisfaction likely motivates individuals to present to a plastic surgeon for body contouring procedures, something done by more than 50,000 individuals in 2014.[70]

Substance Abuse

There is concern that some individuals develop substance abuse problems after bariatric surgery. Several years ago, the mass media coined the term "addiction transfer." This term refers to the idea that patients who undergo bariatric surgery may develop addictions to substances, gambling, sex, and so forth to replace their preoperative "addiction" to food. "Addiction transfer" is not an accepted clinical or scientific term. The term and construct have several shortcomings, as detailed by Sogg.[71] Chief among these is that the view of food as an addictive substance, or eating as an addictive behavior, is by no means supported by scientific consensus. Additionally, there is little support for the notion that a treated symptom (eg, compulsive eating) will resurface in a different form (eg, compulsive drinking or shopping) unless the psychological basis for the original problem is resolved.

However, there is some evidence to suggest that individuals who undergo bariatric surgery are at increased risk of problematic substance use. In a seminal study on this issue, using data from approximately 2000 patients across 10 bariatric surgery programs in the United States, King and colleagues[72] found that although the prevalence of alcohol use disorder remained the same 1 year before and after surgery, prevalence increased during the second postoperative year. This increased odds of alcohol use disorder was particularly pronounced in Roux-en-Y gastric bypass procedure patients (as compared with laparoscopic adjustable banding patients); male patients; younger patients; patients who were smokers, regular alcohol consumers, or recreational drug users preoperatively; and patients with a low sense of belonging preoperatively. Furthermore, studies that have found an increased risk of death by suicide following bariatric surgery also have found an elevated risk of accidental death.[66] It is not known how many of those accidental deaths were substance related. Clearly, the effect of bariatric surgery on the risk of substance use disorders is an area in need of further research.

SUMMARY

This article provides an overview of the psychological aspects of obesity. The disease of obesity is associated with a significant psychosocial burden. Many individuals

who have obesity also struggle with issues related to their mood, self-esteem, quality of life, and body image. This emotional distress likely plays a role in treatment seeking but also can impact successful treatment. For these reasons, most multidisciplinary obesity treatment teams include mental health professionals who can assess and treat these issues in patients as needed.

Encouragingly, weight loss is typically associated with improvements in psychosocial status and functioning. These positive changes are often most profound among those who have lost large percentages of their weight, as is often seen with bariatric surgery. Unfortunately, some individuals who lose weight experience a return of pre-existing psychopathology or the development of new psychosocial issues. Those who experience weight regain, regardless of the approach to weight loss, also remain at risk for the return of unwanted psychological symptoms. The unfortunate, ubiquitous nature of weight regain reminds all treatment providers of the need to assess psychosocial functioning at the onset of treatment, monitor changes during weight loss, and remain alert for worsening of symptoms with weight regain.

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