

Impact of mental health and wellbeing on bariatric surgery outcomes

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Article points

1. Bariatric surgery is known to dramatically improve clinical conditions such as type 2 diabetes, but its relationship with psychological conditions is less clear-cut.
2. Identification of, and management plans for, mental health issues are key before embarking on surgical weight loss.
3. Candidates for bariatric surgery should be well informed, and their care provided by a dedicated multidisciplinary team, including a mental health clinician.

Key words

- Bariatric surgery
- Mental health
- Obesity

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Bariatric surgery is a useful tool in addressing morbidity and mortality among people who are obese. The positive outcomes are numerous, in some cases even leading to the remission of type 2 diabetes. However, the mental health and psychological status of bariatric surgery candidates – both before and after the procedure – should be carefully considered and managed as part of a multidisciplinary approach to weight-loss surgery. This article explores the psychological consequences of obesity and their origins. The psychological preparation for, and follow-up from, bariatric surgery are discussed.

Bariatric surgery is now a well established tool in the management of obesity and its comorbidities. Type 2 diabetes responds well to the procedure, with over 80% of people experiencing long-term remission following a Roux-en-Y bypass (Rubino, 2008). However, the psychological state of obese people undergoing bariatric procedures can impact success of the surgery and morbidity.

A person's life changes dramatically and permanently following bariatric surgery, and potential candidates must be carefully assessed prior to the procedure and followed-up postoperatively with the support of a full multidisciplinary team.

Psychology and the obese person

There is good evidence that obese people have a low opinion of themselves, and dislike their condition. However, across population

studies there is little evidence that obese and non-obese people differ psychologically, specifically with regard to the degree of depression, locus of control, assertiveness and self-consciousness, the incidence of psychopathology, social adjustment and personality type (Sallade, 1973; Stewart and Brooks, 1983; Klesges, 1984; Blackmeyer et al, 1990; Friedman and Brownell, 1995).

The apparent paucity of evidence supporting the existence of psychological morbidity in obese people may reflect the limitations of studies performed to date, rather than the true relationship between the factors. From the author's experience in day-to-day clinical practice, obesity and psychological disorders certainly appear to be linked. Obesity seems to negatively affect the psychosocial aspects of quality of life and psychological factors appear to improve with weight loss.

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1. Poor mental wellbeing has been reported in obese individuals.
2. Personality disorders are common in candidates for bariatric surgery, and can be expected to remain unchanged after surgery.
3. A number of eating disorders are associated with obesity, commonly binge eating disorder and night eating syndrome.
4. The prevalence of binge eating disorder among people attending dedicated obesity clinics is as high as 20–30%.

Depression

Poor mental wellbeing has been reported in obese individuals. One study found levels of depression and anxiety in obese individuals to be similar to, or greater than, those among people with metastatic malignant melanoma (Carpenter et al, 2000). This study found that obese women fared worse than obese men, with a 37% increase in the risk of major depression in obese women, but a 37% reduction in risk in men. Furthermore, the authors reported that a higher BMI in women, but not men, increased the odds of suicide ideation and attempts.

Personality disorders

Personality disorders are common in candidates for bariatric surgery (Campbell and Haslam, 2005), and can be expected to remain unchanged after surgery. It is unclear whether those who have personality disorders and undergo bariatric surgery have poorer surgical outcomes. An increase in the rate of medical complications and reduced patient satisfaction has been suggested among those with personality disorders (Valley and Grace, 1987).

Obese people may experience personality characteristics that do not meet the classic DSM-IV category, although there are common themes in this group. People may be

in denial about problems relating to obesity, and to appear in a positive light, possibly to ensure being approved for surgery.

Somatisation refers to the expression of psychological distress through physical complaints, and is commonly reported among obese individuals. Somatisation is linked to a desire for medical – rather than psychological – explanations for a condition.

Eating disorders

A number of eating disorders are associated with obesity. Commonly, binge eating disorder (BED) and night eating syndrome (NES) are identified in candidates for bariatric surgery.

Binge eating disorder

BED is the foremost eating disorder associated with obesity. Approximately 2.5% of women and 1.1% of men suffer from BED, most of whom are obese (Spitzer et al, 1993). The prevalence of BED among people attending dedicated obesity clinics is as high as 20–30% (Gormally et al, 1982). *Table 1* describes the features of this disorder.

Depression and personality disorders are linked to BED, but the relationship is not fully understood (Mussell et al, 1995). People with BED experience higher levels of psychological distress than those without the condition, and they have a higher lifetime risk of psychiatric illness, particularly affective disorders (Marcus et al, 1990).

People with BED experience an inability to control their eating, which can be problematic following bariatric surgery. Some report attempting to consume large amounts of food, even in the face of severe pain and repeated vomiting, as little as 6 months after surgery. This behaviour causes stretching of the gastric pouch and increases medical complications (Sarwer et al, 2005).

Night eating syndrome

NES is being increasingly recognised as an eating disorder related to obesity. NES is associated with abnormal reactions to stress and changes in the circadian rhythm, with

Table 1. Characteristics of binge eating disorder (Brody et al, 1994).

Binge eating disorder is characterised by recurrent episodes of eating objectively large amounts of food within discrete periods of time. This activity is accompanied by a subjective sense of lack of control during each episode of binge eating. Binge eating disorder is characterised by:

- Three or more of the following:
 - Eating much more rapidly than normal.
 - Eating until feeling uncomfortably full.
 - Eating large amounts when not feeling physically hungry.
 - Eating alone due to embarrassment at how much one is eating.
 - Feeling self-disgust, depression or guilty after overeating.
- Marked distress over an episode of binge eating.
- Experiencing an eating binge at least 2 days per week for 6 months.
- Binge eating disorder is not associated with the regular use of inappropriate compensatory behaviours. Regular purging, fasting and excessive exercise are more typical of bulimia nervosa.

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1. The prevalence of night eating syndrome in the general population is 1–2%, rising to 10% in people who are obese, and as high as 25% in those who are super-obese.
2. A working diagnosis of any psychopathologies must be made preoperatively, not because surgery is always contraindicated in light of such diagnoses, but because the appropriate preparation must be undertaken to manage the associated risks.
3. Among those considering bariatric surgery, greater depressive symptoms have been found in younger candidates, especially women.
4. Most studies show dramatic improvements in body image, sexual function, marital satisfaction and quality of life following bariatric surgery.

disruption of the hypothalamo–pituitary axis. The prevalence of NES in the general population is 1–2%, rising to 10% in people who are obese, and as high as 25% in those who are super-obese (Stunkard et al, 2009). *Table 2* describes the features of NES.

Bariatric surgery

Preoperative psychological assessment

Preoperative psychological assessment is intended to identify psychological risk factors so that appropriate management can be initiated either by treatment prior to surgery, or so non-surgical treatment can be recommended. In general terms, the assessment should include the investigation of:

- Eating, dietary, snacking and grazing habits to identify any maladaptive eating patterns.
- Any history of suicidal ideation, or hospitalisation for suicide attempts.
- Any history of major mental health problems and the individual’s response to treatment.
- Addictive behaviours unrelated to food, including alcohol and drug use. The possibility of cross-addiction should be considered among those who use food for comfort in the absence of hunger.
- The level of motivation and the person’s reasons for opting for surgically-induced weight loss.

- Expectations for postoperative weight loss.
- Expectations for postoperative changes to the person’s emotions and social life.

A working diagnosis of any psychopathologies must be made preoperatively, not because surgery is always contraindicated in light of such diagnoses, but because the appropriate preparation must be undertaken to manage the associated risks. Bariatric surgery candidates should be emotionally stable and have a mental health action plan in place for the future. Eating for reasons other than hunger (e.g. anger, melancholy, stress, boredom, celebration) will still be encountered postoperatively, and coping strategies need to be developed.

Studies of bariatric surgery patients have shown that between 20% and 60% suffer from a psychiatric disorder (e.g. depression, anxiety disorders, bipolar affective disorder, autism, phobias, schizophrenia) and, based on DSM-IV criteria, up to 72% have diagnoses of personality disorders (Sarwer et al, 2005). Among those considering bariatric surgery, greater depressive symptoms have been found in younger candidates, especially women, and those with a history of severe BED (Dixon et al, 2003; Sarwer et al, 2004). Data are variable as to whether preoperative psychopathology is a predictor of poor weightloss outcomes, although it has been linked to poor postoperative dietary adherence (Powers et al, 1988).

Postoperative psychological follow-up

Most studies show dramatic improvements in body image, sexual function, marital satisfaction and quality of life, especially in the early years, following bariatric surgery. One study showed a reduction in prevalence of psychiatric disorders, including depression, anxiety disorders and bipolar affective disorder, from 41% to 22% at 3 years (Larsen, 1990). In the Swedish Obese Subjects study, at 16 years follow-up, the most impressive reductions in mortality were in myocardial infarction and cancer, and no increased risk of suicide was reported (Sjöström et al, 2007).

Table 2. Characteristic of night eating syndrome (Stunkard et al, 2009).
<p>Night eating syndrome is characterised by continuous eating during the evening, unlike binge eating disorder in which eating is in short episodes. People with night eating syndrome typically experience:</p> <ul style="list-style-type: none"> ● Morning anorexia (i.e. no appetite for breakfast). The first food of the day is typically delayed by several hours. ● Evening hyperphagia (i.e. excess food consumption in the evening). Some 50% of food consumption for the day will be eaten after the end of the evening meal and after 7pm. ● Eating is associated with feelings of tension, guilt and anxiety, but not enjoyment. ● Frequent waking during the night. Food is usually consumed during the waking intervals. ● Consumption of mainly carbohydrates and sugars. ● These behavioural patterns have persisted for at least 2 months.

While most data indicate an improvement in psychological status following bariatric surgery, there appears to be a sub-group of individuals who experience increased psychological symptoms despite achieving weight loss, even to the extent of suicide postoperatively.

One study matched 7925 people who had undergone gastric bypass with the same number of controls from the general population and assessed mortality rates (Adams et al, 2007). Adjusted long-term all-cause mortality in the surgery group decreased by 40% compared with controls. Cause-specific mortality in the surgery group decreased by 56% for coronary artery disease, 92% for diabetes, and 60% for cancer. However, rates of death not caused by disease, such as accidents and suicide, were 58% higher in the surgery group than among controls. The impact of the study is lessened by the fact that preoperative mental health status is unrecorded. This flaw in the study design highlights the importance of taking mental health histories for bariatric surgery candidates, and of following-up psychological, as well as medical, outcomes postoperatively.

Conclusion

Bariatric surgery is known to dramatically improve clinical conditions such as type 2 diabetes, but its relationship to psychological conditions is less clear-cut. It is key to identify and manage mental health issues before embarking on a surgical programme, or to divert people to alternative channels of therapy.

Long-term postoperative complications can often result from pre-existing depressive disorders not being identified, or failing to resolve as anticipated. The best results are achieved with bariatric surgery when it is undertaken with well-informed individuals whose care is provided by a dedicated multidisciplinary team that includes a mental health clinician to formulate psychosocial and behavioural recommendations. This planned care will enhance the chances of postoperative success both for medical and psychological measures. ■

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2. Long-term postoperative complications can often result from pre-existing depressive disorders not being identified.
3. Care of people who have undergone bariatric surgery should be provided by a dedicated multidisciplinary team that includes a mental health clinician to formulate psychosocial and behavioural recommendations.