



## **Psychological Aspects of Obesity and Obesity Surgery: A Simple Review**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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### **ABSTRACT**

Grade III and IV obese patients had higher levels of depression than grade II obese patients, lower self-esteem, and lower quality of life. Thus, an important but often overlooked outcome is the assessment of the impact of surgery on mental health. This is an important outcome measure

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because it can contribute to a patient's concept of overall well-being. Although British Columbia has an edge in managing obesity, psychosocial and behavioral factors can influence postoperative outcomes. According to some authors, mental illness severe enough to require treatment may be a negative predictor of surgical outcome. This review reviews the literature on the impact of liposuction surgery on the psychological functioning of patients with obesity. Most studies have shown that people with obesity, especially those requiring surgery, report significantly worse quality of life. This may be due to impaired physical and psychosocial functioning, discrimination and psychiatric consequences, or it may be due to overweight and associated morbidity. Finally, most research and clinical experience shows that people with obesity who seek surgical treatment for obesity are more likely to have psychological problems, abnormal eating behaviors, and quality of life. Life declines more than the average person, but bariatric surgery can help improve your mental state. Patients, improve the patient's quality of life.

*Keywords: Physiological aspects of obesity; obesity surgery; psychological problems; quality of life.*

## 1. INTRODUCTION

Obesity is the most common chronic disease, and its prevalence in adults, adolescents, and children is increasing dramatically. was defined as an increase in body mass index (BMI) > 30 kg/m<sup>2</sup>. The World Health Organization describes this as a global epidemic. Obesity is a growing disease around the world [1]. According to the World Health Organization, obesity has nearly tripled since 1975. There are over 650 million adults in the world. In 2016, more than 340 million adolescents and children were overweight or obese. One of the main reasons is the dramatic increase in daily calorie intake around the world; it is a largely preventable disease that results in a large number of preventable costs each year [2].

In addition, obesity is an important risk factor for premature death, and is also associated with an increase in overall mortality and a reduction in life expectancy of 10 years [3], and an increased incidence morbidity and mortality [4-6]. Obesity is considered to be an important risk factor for many co-morbidities, including heart disease, diabetes, high blood pressure, dyslipidemia, stroke, atherosclerosis and some cancers [7]. Obese people are at increased risk for psychological distress, eating disorders and health-related impaired quality of life (HRQoL). As the severity of obesity increases, so does the severity of medical complications and the risk of death [8]. This is important because extreme or pathological obesity (OM), defined as a BMI > 40 kg / m<sup>2</sup>, is one of the fastest growing obesity subtypes. Although obesity has all the consequences, OM has many negative effects on mental health. These OM patients are described as more complex cases of depression, anxiety and impulsivity, with low levels of self-perception and an impaired quality of life [9].

In general, obesity is a challenge not only for individuals but also for society, such as rising health care costs, numerous co-morbidities and shortened life expectancy [4].

Psychiatric disorders are common in obese patients, especially in obese patients before liposuction surgery. Before recommending such interventions, psychological assessments are often necessary. Main risk factors for premature death and other diseases [1]. It was associated with higher morbidity and lower quality of life related to health [2]. MO has multiple negative mental health effects. These patients were described as having depression, anxiety and impulsivity, low self-esteem and decreased quality of life [3-7].

It was found that 5-10% reduction in weight is associated with a significant reduction in associated diseases and mortality [4]. These numbers can be achieved through conventional pharmacological and lifestyle interventions for patients with mild to moderate obesity; however, these interventions are very limited in obesity. Surgical treatment of obesity should be considered in the following situations: failure of nonsurgical weight loss methods (eg, diet, behavior modification, increased physical activity, and medication). ) and the onset of obesity-related health and psychosocial problems [10].

Currently, the literature shows that bariatric surgery is an effective way to treat morbid obesity and is part of an overall weight management strategy. Therefore, bariatric surgery (BS) is an effective method for treating morbidly obese patients, who have failed in repeated attempts to lose weight [8]. Patients usually lose 50% to 60% of their weight within 2 years after BS [11]. Postoperative weight loss is

associated with a significant improvement in obesity-related associated diseases [12].

Unfortunately, approximately 20% of patients fail to significantly lose weight [13]. This type of BS failure is usually attributed to psychological factors (for example, eating disorders) rather than technical factors (for example, postoperative gastric dilatation) [14].

An important but often overlooked outcome is the assessment of the impact of surgery on mental health. This is an important outcome measure because it can contribute to the patient's overall concept of happiness. Although BS has benefits in the management of obesity, psychosocial and behavioral factors may have an impact on postoperative outcomes [15]. According to some authors, psychopathology that is severe enough to require treatment may be a negative predictor of surgical outcome [16]. However, the evidence on the influence of psychological variables on the BS outcome is still unclear [8,16]. The severity of psychological disorders is related to the degree of obesity, and it has been found that there is a positive correlation between the presence of psychopathology and body mass index (BMI) [17]. Therefore, compared with class II obese patients, class III and IV obese patients have higher levels of depression, lower self-esteem and lower quality of life.

## 2. OBJECTIVE

This review evaluated the literature on the impact of bariatric surgery on the psychological function of morbidly obese patients.

### 2.1 Obesity Surgery Indications and Contraindications

#### 2.1.1 Indications

Indications for obesity surgery are based on body mass index (BMI) and the presence of associated illnesses. Patients with a BMI of 40 kg / m<sup>2</sup> or higher, without medical problems, and without excessive risk of obesity surgery should be eligible for one of the above surgeries [18].

BMI of 35 kg / m<sup>2</sup> or more, type 2 diabetes, hypertension, hyperlipidemia, obstructive sleep apnea (OSA), non-alcoholic fatty liver disease (NAFLD), GERD, asthma, venous stagnation disease, serious Non-alcoholic urinary incontinence, debilitating arthritis or severely

damaged quality of life may also be targeted for surgery. Patients with BMI of 30-34.9 kg / m<sup>2</sup> with diabetes or metabolic syndrome can also undergo weight loss surgery, but there are insufficient data to demonstrate long-term benefits for these patients [18,19].

Taboo: There is no absolute taboo for obesity surgery, but there is a relative taboo. This includes severe heart failure, unstable coronary artery disease, end-stage lung disease, active cancer treatment, contextual hypertension, drug / alcohol dependence and intellectual impairment. For LRYGB Crohn's disease is a relative contraindication. Also, since these procedures are performed under general anesthesia, they can have contraindications for general anesthesia [18,19].

### 2.2 Psychological Aspects of Morbidly Obesity

In general, an increasing number of studies have contributed psychopathology to the concomitant morbidity of pathological obesity [20,21,22]. People who are morbidly obese experience the physical, psychological, and social consequences of obesity [23]. Abnormally high levels of preoperative psychopathology can be a combined function of factors that induce pathological obesity and responses to obesity [24]. In general, it should often be a secondary psychosis as a reaction to morbid obesity itself, as well as social stigma and isolation [25,26]. Morbid obesity is associated with serious complications leading to low self-esteem and social and employment isolation [27,28].

Some researchers believe that obesity constitutes a serious psychopathological burden that is likely to be the most serious complication of obesity [29]. However, other studies have shown that the morbidly obese population does not have high rates of psychopathology. These studies show that psychopathology is not as prevalent as obesity in the general population [30,31,32,22].

Even morbidly obese patients undergoing surgical treatment generally do not have other psychopathological markers compared to other cohorts [33]. However, these observations may reflect adaptations to chronic conditions that they cannot change [29]. Obese patients tend to exhibit significant levels of psychiatric disorders [34]. Some researchers even suggest that 40% to 50% meet the DSM criteria for mental

disorders [35,36]. Studies have shown that not only are surgical candidates suffering psychologically, but it is also likely that this will be reversed after surgery [24,37]. The most finding on the content of psychopathology is depressive disorder, with a secondary focus on anxiety disorder [38].

Some studies also report lifetime prevalence of major depression among people with morbid obesity ranging from 29% to 56% [35,39,38]. This is significantly higher than the lifetime prevalence of major depression in the general population of about 17% [40]. In the case of obesity, life is generally not satisfactory, chronic depression is common, and suicidal ideation is a companion [41]. A significant proportion of obese people commit suicide out of despair [42]. When it comes to family relationships, many obese have early parental loss, a history of parental alcoholism, and they often have marital dysfunction in their lives and are dissatisfied with sexual intercourse [43]. Often they seem to be making the wrong choice of partners. For example, some people settle in a non-ideal partner or relationship because they are not eligible for a better spouse or feel they are unable to attract a better spouse. Some do not recognize their wrong choices until they lose weight and develop new mechanics [44]. It also impairs pre-weight loss sexual attraction and ability to participate [32,45]. The prevalence of trauma history among obese patients should also be noted, and many obesities have a complete history of sexual and non-sexual abuse [35,43]. However, the rate of physical and / or domestic abuse in childhood is surprisingly long, but not higher than that found in the general population [35]. Some researchers have concluded that obese women are far more vulnerable to preoperative psychopathological development. Scores in areas such as depression, interpersonal sensitivity and delusional thinking are significantly higher in women than in male patients. Other parameters such as somatization, obsession, anxiety, hostility, and psychosis have been shown to increase slightly but still statistically significantly in women [22].

### 2.3 Quality of Life of Obese Patient

Quality of life (QoL) refers to a patient's satisfaction with their personal life and the general impact of their health status on functioning and physical, psychological and social well-being. It is reported in subjectively assessed patients [37]. Quality of life in obese patients has been widely recognized as an

important postoperative health outcome, weight loss and co-morbidities [46]. In addition to being an important goal of interventions, improving quality of life is expected to motivate patients to maintain surgically determined weight loss and adhere to healthy behaviors that reduce the likelihood of co-morbidities [47]. Some researchers found that as a group, patients had "slightly" lowered QoL. This shows that morbidly obese individuals can handle it well [48]. However, most studies report that morbidly obese people, especially those who want to have surgery, have a fairly poor quality of life (QoL) [49,46]. Also, the health-related quality of life of severely obese patients is worse than that of patients with other chronic illnesses. [50] Some patients are not afraid of surgery because they feel they have nothing to lose because their quality of life is significantly reduced. [50] As BMI increases, health-related quality of life declines increase, and the number of complications, especially pain and depression, appears to be associated with quality of life. [38] They also found that treatment status, body mass index, gender, and the presence or absence of depression were the main causes of changes in quality of life. [38]

### 2.4 Bariatric Surgery is Effective for Weight Loss

Weight loss surgery showed significant durable weight loss and improvement of obesity-related co-morbidities. From an economic point of view, a systematic review of 26 randomized controlled trials and cohort studies concluded that weight loss surgery is considered to be a clinically effective and cost-effective intervention in patients with moderate to severe obesity [51]. However, the results of weight depend on the type of surgery. A meta-analysis of weight loss outcomes from weight loss surgery in 7383 patients reported in a study of 28 patients who underwent laparoscopic gastric (LGB) surgery showed a significantly higher rate of excess compared to laparoscopically controlled gastric combined (LAGB; combined). Weight loss (% EWL) was noted. Estimates of % EWL 62 vs. 49% P & It; 0.001) [52]. A meta-analysis confirmed the superiority of LGB over LAGB in the % EWL found in previous studies. The average % EWL achieved in an average 3.3-year follow-up of 70 American veterans was 56 ° from laparoscopic Rouxen Y-position bypass surgery (RYGB). [53] Forty-eight patients followed for 4 years maintained an average % EWL of 55%. The same study showed significant improvement

or completeness in all complications after RYGB. The most prominent of these improvements emerged from patients with type 2 diabetes, which has been demonstrated in 97% of patients with improved or complete diabetes [53]. A study of 4047 obesity subjects in Sweden (Swedish Obese Subjects, SOS) showed maximum weight loss between 1 and 2 years after obesity surgery. [54]. Maximum weight loss was 32% for bypass surgery, 25% for vertical band surgery, and 20% for the band. Weight loss from baseline after 10 years was stabilized at 25%, 16% and 14%, respectively. The overall mortality rate of obesity surgery patients was significantly reduced compared to the conventional obesity treatment group (hazard ratio 0.76, P = 0.04). In another study assessing RYGB, the mean% EWL difference between patients who underwent RYGB and those who had a band 2 years after surgery was 17.9% [55]. A more significant improvement in metabolic parameters was observed in patients after RYGB compared to gastric banding. However, these findings consist of 15 morbidly obese women, are based on a small cohort, and should be confirmed in a prospective randomized trial. According to a systematic study for 18 studies comparing RYGB with restricted surgery from 654 patients, RYGB patients lost 22-38% overall weight and weighed 13-30 with restricted surgery. It was higher than it was reduced by%. [56].

#### **2.4.1 Psychological health in bariatric surgery candidates**

The development and maintenance of morbid obesity is clearly psychologically complex. However, not all people with morbid obesity are able to choose obesity surgery as a weight loss method. This chose obesity surgery and inspired further studies of people's psychological complications. Specific literature on obesity surgery has shown that candidates for obesity surgery have a high prevalence of psychological complications such as mood disorders, eating disorders and psychological distress [57, 58]. Obese patients who do not want to be treated [59,60].

Obesity Preoperative Psychological Tests are commonly used to identify surgical potential taboos and identify additional preoperative training and psychological needs to optimize results [61]. However, the active exclusion of candidates for weight loss surgery due to psychiatric disorders is controversial, and researchers have pointed out that if adequate support is provided after weight loss surgery,

these individuals may still experience improvements in health and well-being [62].

It is important to understand the relationship between obesity and mental health. Despite the greater effectiveness of weight loss surgery compared to other obesity interventions with respect to improved medical outcomes [63], studies on the psychological problems that persist after surgery are lacking. In contrast to the amount of psychiatric disorders and risk screening before this stage, the general lack of psychological monitoring after surgery is likely to be the cause. Assessing postoperative psychological outcomes in this group of patients is important to effectively assess whether this surgical treatment approach can facilitate resolution of pre-existing psychological conditions that may support recovery. In this paper, we describe the three psychosocial outcomes of weight loss surgery: sociopsychological health, lactation behavior, and body image. These results were selected for the prevalence of weight loss surgery candidates and their potential impact on the success and maintenance of weight loss.

Effects of Weight Loss Surgery on Sociopsychological Health: The study reports improvements in psychosocial status [64] and quality of life [65] after weight loss surgery, including social relationships and employment opportunities. However, although evidence from a recent systematic review in this area shows that surgery can lead to dramatic weight loss and maintenance [63], most of these data are limited to the first 2-3 years of follow-up after surgery [66]. With particular attention to depression, De Zwaan and colleagues [67] investigated the course of anxiety and depression in 107 top obese weight loss surgery patients using open face-to-face interviews preoperatively and at 6-12 months and 24-36 months postoperatively. . The prevalence of depression was significantly reduced post-surgery in the cohort, but participants with both baseline depression and anxiety disorders had much less post-surgery weight loss.

Depressive disorder after surgery was also associated with weight loss and sound at 24-36 months follow-up. Overall, they infer that the presence of post-surgery depression significantly predicts a weakening of post-surgery improvement, which requires clinical attention if post-surgery depression is present. To do. More recent studies investigating the effects of obesity surgery on depression have found a slight

reduction in the first few years after surgery, or about two years [68, 69]. However, long-term follow-up resulted in a subsequent increase in depressive symptoms [68,70]. In studies longer than, post-surgery quality of life and post-surgery quality of life and general treatment were compared to behavioral interventions and general treatment, despite overall significant improvement in physical quality of life, weight loss, and associated illness. A mental component of psychological and social well-being, with minimal improvement suggesting this, [66,71]. Despite weight loss compared to patients undergoing behavioral intervention in the treatment of obesity, the discovery of ongoing mental health problems is generally despite positive medical and physiological consequences. It suggests a subset within the non-psychologically obese surgery patient community [66,72]. In a review of "Obesity Psychology", van Hout and van Heck [73] were first or first or two years after obesity surgery [73]. This has been confirmed in a recent study. Thonney et al. [74] evaluated 43 women before, 1, and 2 years after gastrointestinal surgery [74]. Depression, anxiety neurosis, and eating disorder scores improved 1 year after weight loss surgery, and these results were maintained at 2 years follow-up. In another study by SanchezZaldivar et al. [75] Including 108 patients who underwent surgery, depression, anxiety, urge to lean, and body complaints improved after weight loss surgery. Some recent studies have investigated the effect of weight loss surgery on health-related quality of life (HRQoL). Kolotkin et al. [76] Two-year changes in HRQoL in 308 patients with upper bypass surgery were prospectively evaluated compared to the severely obese group of two groups who did not undergo obesity surgery. obesity. Two years after surgery, weight-related and physical HRQoL in patients with gastric bypass improved dramatically compared to two groups of severe obesity who had not undergone surgery. Van Hout et al. [77] made the same observations in 107 obese patients evaluated 6, 12, and 24 months after baseline and vertical band gastroplasia. HRQoL has shown significant improvement over time, especially in the physical domain. Chang et al. [78] Changes in HRQoL were observed in 102 patients after RYGB during the first year of follow-up. The mixed-effects model showed improvements in physical, psychological, and social areas, as well as weight loss and improvement in obesity-related illnesses after obesity surgery. Scores dropped significantly in the physical and psychological

areas 3-6 months after surgery, which is significantly associated with complications. All patients gradually improved and reached the same level as healthy people 6 to 12 months after surgery. Klingemann et al. [79] HRQoL was assessed before and 1 year after gastrointestinal surgery in a group of 62 women using the Nottingham Health Profile (NHP) questionnaire. Very significant improvements in energy, pain, mobility of the body and emotional response have been reported. This improvement was not affected.

### 3. CONCLUSION

People with obesity who seek surgical treatment for obesity are more likely to have psychological problems, abnormal eating behaviors, and quality of life. Life declines more than the average person, but bariatric surgery can help improve your mental state. Patients, improve the patient's quality of life.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

### CONSENT

Not applicable.

### ETHICAL APPROVAL

Not applicable.

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