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Emergence of bariatric psychiatry as a new subspecialty

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Abstract

Bariatric surgery is the branch of surgery aimed at helping a person with obesity lose weight. The implementation of surgical treatment of obesity is growing at an impressive rate. As expected, the expanding implementation of bariatric procedures has progressively revealed critical issues that were not evident when the number of obese patients treated with surgery was relatively small. One critical issue is the importance of mental health assessment and care of bariatric patients. The aim of this review is to provide readers with an up-to-date summary of the goals, methods, and clinical strategies of bariatric psychiatry. The aims can be grouped into three distinct categories. First, to ascertain that there are no psychiatric contraindications to safe bariatric surgery. Second, to diagnose and treat pre-surgery mental conditions that could predict poor weight loss. Third, to diagnose and treat post-surgery mental conditions associated with poor quality of life. Although bariatric psychiatry has gained the status of a new subspecialty within the field of mental health and psychopathology, many clinical questions remain unsolved. We need more long-term data on outcome measures such as quality of life, adherence to behavioral guidelines, risk of suicide, and post-surgery prevalence of psychological disturbances and mental disorders.

Key Words: Bariatric surgery; Psychiatry; Weight loss; Mental health; Quality of life; Preoperative assessment; Postoperative follow-up

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Core Tip: Bariatric psychiatry has gained the status of a new subspecialty within the field of mental health and psychopathology. The aims of bariatric psychiatry can be grouped into three distinct categories. First, to ascertain that there are no psychiatric contraindications to safe bariatric surgery. Second, to diagnose and treat pre-surgery mental conditions that could predict poor weight loss. Third, to diagnose and treat post-surgery mental conditions associated with poor quality of life. Future research should

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INTRODUCTION

Bariatric surgery is the branch of surgery aimed at helping a person with obesity lose weight. Compared to traditional treatments of obesity (*e.g.*, diet, exercise, behavior modifications, and weight loss medications), bariatric surgery generally leads to more consistent outcomes in terms of significant and long-lasting weight loss, up to 30% of total body weight[1]. Another peculiarity of bariatric surgery is its favorable impact on metabolic complications associated with obesity (*e.g.*, type 2 diabetes). Thus, some reports refer to bariatric surgery as “weight and metabolic surgery”.

Bariatric surgery includes different surgical procedures (*i.e.*, sleeve gastrectomy, Roux-en-Y gastric bypass abbreviated to RYGB, biliopancreatic diversion, adjustable gastric banding and intragastric balloons) almost always done *via* laparoscopic surgery. The implementation of surgical treatment of obesity is growing at an impressive rate. The data reported by the American Society for Metabolic and Bariatric Surgery (ASMBS) show that, in the years between 2011 and 2019, the number of patients who underwent weight loss surgery in the United States rose from 158000 to 256000[2]. The latest edition of the Global Registry published by the International Federation for the Surgery of Obesity and Related Disorders (IFSO, 2019) reports that worldwide operations increased from 100092 in 2014 to 833687 in 2019[3].

As expected, the expanding implementation of bariatric procedures has progressively revealed critical issues that were not evident when the number of obese patients treated with surgery was relatively small. One critical issue is the importance of mental health assessment and care of bariatric patients. Bariatric surgery is not a hit-and-run technical operation like many other surgical procedures. Rather, it is a “voyage” affecting patients’ life for years. After surgery, patients experience major changes in their physiological functions, psychological processes, lifestyle habits, and social interactions. Therefore, they need extensive and prolonged interactions with mental health professionals that should start in the preoperative stage and continue throughout the postoperative years. In spite of their importance in the multi-disciplinary teams that take care of patients seeking weight-loss surgery, often psychologists and psychiatrists still play a marginal or poorly defined role in preoperative assessment and postoperative follow-up.

Fortunately, in the last decade, many studies focusing on a variety of aspects related to preoperative assessment and postoperative follow-up have partially reduced the gap between bariatric surgery and psychiatry. The body of evidence derived from these studies is so large and diverse to allow the conclusion that bariatric psychiatry has gained the status of a new subspecialty within the field of mental health and psychopathology[4].

The aim of this review is to provide readers with an up-to-date summary of the goals, methods, and clinical strategies of bariatric psychiatry. The review is organized as follows. The first section outlines the *raison d'être* of bariatric psychiatry. The following three sections summarize the clinical issues addressed by preoperative and postoperative psychiatric assessment. The final section focuses on the specific skills required to mental health professionals who take care of bariatric patients before and after surgery.

THE AIMS OF BARIATRIC PSYCHIATRY

It is unusual for patients undergoing surgical operations to be interviewed by a psychiatrist before surgery and to be re-evaluated over time after surgery. So, why should bariatric patients follow a different route from that usual for other surgical

patients? Most bariatric candidates ask such a question and need an explanation that clarifies the aims of mental health assessment. The aims can be grouped into three distinct categories. First, to ascertain that there are no psychiatric contraindications to safe bariatric surgery. Second, to diagnose and treat pre-surgery mental conditions that could predict poor weight loss. Third, to diagnose and treat post-surgery mental conditions associated with poor quality of life.

The definition of the three categories listed above has been a gradual acquisition since the rise of bariatric surgery. Initially, for many years, the only reason for mental health assessment was the exclusion of patients with psychiatric disorders that could increase the risk of medical complications. Later on, it became clear that the primary goal of bariatric surgery (*i.e.*, weight loss) was influenced by a variety of psychological and behavioral variables. As a result, the identification of these variables in the individual patient became an additional task for the examining psychiatrist. Still today, weight loss is the only measure of success in many follow-up studies focusing on the psychological predictors of bariatric outcome. Yet, in the last few years, researchers and clinicians have begun to pay greater attention to the post-surgery quality of life of patients. Successful bariatric surgery should not only be safe and cause significant weight loss but it should also improve patients' quality of life. Below, I will briefly discuss each of the three aims of contemporary bariatric psychiatry (Table 1).

DEFINING PSYCHIATRIC CONTRAINDICATIONS

Although, at the dawn of bariatric surgery, the definition of psychiatric contraindications was the only task of mental health assessment, still today there is no clear consensus among official guidelines regarding which psychiatric conditions merit recommending delay or denial of surgery. For example, the *Interdisciplinary European Guidelines on Metabolic and Bariatric Surgery*[5] list non-stabilized psychotic disorders, severe depression, personality and eating disorders, alcohol abuse or drug dependencies as definite contraindications to bariatric surgery. Likewise, the *Resource Document on Bariatric Surgery and Psychiatric Care* of the American Psychiatric Association[6] states: "The most common reasons for deferring bariatric surgery are significant psychopathology such as active psychosis (including thought disorder symptoms), current substance dependence, untreated eating disorders (specifically anorexia nervosa or bulimia nervosa), untreated depression and/or active suicidal ideation." (p. 2). Yet, a diligent reading of these documents reveals that the sole presence of any particular psychiatric symptom or syndrome is not a sufficient element for contraindicating surgery because clinicians should make their determinations based on a more comprehensive assessment. The European document specifies that the conditions listed above are contraindications "unless specifically advised by a psychiatrist experienced in obesity" (p. 453) and the American document states that "a psychiatric disorder per se should not be viewed as an exclusion criterion for bariatric surgery." (p. 2).

Regardless of the ambiguity of the recommendations reported by different guidelines, a fact that emerges clearly from the most recent reports addressing the issue of psychiatric contraindications is a progressive expansion of eligibility criteria [4]. Conditions that in the past were considered contraindications are now judged as compatible with bariatric surgery. Two reasons may explain such a progressive expansion of eligibility criteria. First, the decline in the medical complications associated with bariatric surgery[7]. Second, the emphasis on weight loss as the primary measure of successful outcome. Yet, the view that a psychiatric condition is a contraindication only if it increases medical risks and/or impairs weight loss is questionable. Such a permissive approach ignores the recent finding that, over a 10-year study period, there was an increase in mental health service presentations after surgery, particularly among those who had prior psychiatric illnesses[8].

We need standardized guidelines for psychiatric eligibility based on longitudinal data that focus not only on medical complications and weight loss but also on post-surgery mental health and quality of life. Standardized guidelines are needed to protect both patients and health professionals. The lack of unambiguous and agreed-upon recommendations specifying which individual factors turn a potential psychiatric contraindication into a manageable pre-surgery condition exposes evaluating clinicians to the risk of facing a medical malpractice lawsuit and charge them with the burden of deciding case-by-case.

Table 1 The aims of bariatric psychiatry

Aims of bariatric psychiatry
To ascertain that there are no psychiatric contraindications to safe bariatric surgery
To diagnose and treat pre-surgery mental conditions that predict poor weight loss
To diagnose and treat post-surgery mental conditions associated with poor quality of life

PREDICTING WEIGHT LOSS

Weight loss is the primary goal of bariatric psychiatry and the key measure of successful outcome. A recent study[9] defined a favorable weight loss response as $\geq 50\%$ excess weight loss or $\geq 20\%$ total weight loss. Among the wide range of individual variables that can impact weight loss, personality traits and psychiatric conditions play a relevant role.

Two recent systematic reviews have analyzed the relationship between personality traits and bariatric surgery outcomes[10,11]. Better weight loss response is predicted by a combination of different personality traits including high cooperativeness, high persistence, low novelty seeking, low impulsivity, an internal locus of control, a low tendency toward externalizing behaviors, a secure attachment style, and low levels of alexithymia. Each of these personality traits is associated with a variety of individual and social behaviors that promote successful postoperative treatment plans including the capacity and willingness to modify dietary habits, to increase levels of routine physical activity, to restrain alcohol consumption, and to attend monitoring appointments. Thus, during preoperative clinical interviews, personality assessment should integrate diagnostic procedures aimed at detecting the presence of those psychiatric syndromes that impact negatively on weight loss. Eating, depressive, and anxiety disorders are the psychiatric syndromes most analyzed by follow-up studies.

Obese patients seeking bariatric surgery have a high prevalence of eating disordered behavior. In particular, binge eating disorder (BED) is frequently diagnosed in bariatric candidates but there is no definitive evidence on the association between preoperative BED and weight loss outcomes after surgery. There are studies showing that patients with and without BED show similar outcomes in terms of after-surgery weight loss and weight regain[12]. However, other studies identified a diagnosis of BED as a negative predictor of outcome. Ivezaj *et al*[13] have described the "Bariatric Binge-Eating Disorder" (Bar-BED) defined as an eating pathology meeting all criteria for BED, except for the requirement of an unusually large amount of food. In their study, the outcome of patients who underwent sleeve gastrectomy surgery and developed Bar-BED was worse than the outcome of patients without such a diagnosis. Thus, it is likely that a pejorative impact of BED on bariatric outcome is exclusive to, or more frequent in, those patients who retain their pre-surgery eating pathology[14].

Whereas the relationship between eating disorders and the outcome of bariatric surgery has been largely investigated, fewer studies have analyzed the impact of preoperative depression and anxiety. Some studies based on small samples reported a negative association between baseline depression and postoperative weight loss. For example, de Zwaan *et al*[15] found that the presence of a depressive disorder was significantly associated with a lower degree of weight loss at 24-36 mo, but not at 6-12 mo ($n = 107$). By contrast, Gill *et al*[16] concluded that preoperative depression scores did not predict outcomes of postoperative body mass index (BMI). A possible confounding variable is the chronological course of affective and mood symptoms. de Zwaan *et al*[15] reported a differential effect of lifetime and current anxiety disorders on weight loss. Whereas current anxiety disorders had no impact, lifetime anxiety disorders were of negative prognostic value for postoperative weight loss. However, when successful outcome is measured in terms of weight loss, the majority of prospective studies shows that the impact of preoperative anxiety is negligible[16].

MONITORING POST-SURGERY MENTAL HEALTH AND QUALITY OF LIFE

Bariatric surgery is a turning point in patients' lives. Patients are typically faced with initial dietary restrictions, permanent changes in eating and dietary habits, altered body sensations and experiences, shifting body image and self-care behaviors, new

cognitions and feelings, and an emerging and different lifestyle. In addition, they may sometimes realize unexpected and significant changes in relationships that may result in marked stress[17]. All these changes inevitably impact patients' mental health and quality of life, for better or worse. After an initial improvement in psychiatric symptoms and psychosocial functioning (the honeymoon phase lasting about 2 years), some patients show a progressive decline in their mental wellbeing. One of the major tasks of contemporary bariatric psychiatry is to improve our understanding of which individual variables can predict and explain such a biphasic post-surgery course.

Doubtless, pre-existing psychiatric disorders are a risk factor for post-surgery mental disturbance. The increase in mental health service presentations reported by Morgan *et al*[8] over a 10-year study period after surgery involved especially those patients who had prior psychiatric illnesses. Psychiatric disorders are common among patients seeking surgical treatment of obesity, as shown by Dawes *et al*[18] in their meta-analysis of 59 studies reporting the preoperative prevalence of mental health conditions in 65363 bariatric candidates. The three most common individual diagnoses, based on random-effects estimates of prevalence, were depression (19%), BED (17%) and anxiety disorders (12%). Whereas anxiety symptoms do not improve after surgery, eating pathology and depression tend to remit during the first 2 years and to recur thereafter[4].

The scope of preoperative assessment is not limited to psychiatric diagnosis and should be expanded to include patients' motivations and expectations. Poor satisfaction with surgery outcomes often derives from unrealistic expectations and may cause postoperative frustration, depression and opposition to implement behavioral changes[19]. In the preoperative phase, it is important to discuss and correct naïve hopes that surgery would simply "fix" things including bad eating habits without personal effort. Common beliefs among bariatric candidates are that they have lost control over their own diet and the ability to lose weight, and this control cannot be regained through personal effort. Choosing to undergo bariatric surgery is seen as a way to end the never-ending, unwinnable struggle with food and weight, and hand control over to a surgeon who will release them from obesity by changing how their body works[20]. If not modified, such a passive attitude may undermine patients' collaboration with postoperative treatment strategies.

Post-surgery decline in mental wellbeing is not necessarily related to unmet expectations about weight loss and eating behavior. Mental health professionals taking care of bariatric patients should be aware that weight loss is not the only variable making the difference in terms of psychological well-being. Personal characteristics can offset the psychological reward of weight loss. A good example is child maltreatment. Bariatric patients with a history of child maltreatment experience weight loss similar to those without histories of abuse. However, they often report greater levels of depression as well as mood and anxiety disorders both prior to and following surgery. Additionally, victims of childhood adverse experiences are more vulnerable to psychiatric hospitalizations and suicidal behavior following surgery, especially those who are suffering from mood or substance use disorders[21].

Another psychological variable largely independent from weight loss is body dissatisfaction. In most cases, body image improves after bariatric surgery. However, some aspects of body image do not improve with weight loss or do not reach norms (*e.g.*, average scores of people with BMIs in the normal range and no eating disorder). The way patients feel and think about their physical appearance may lag behind the rapid changes in weight and body shape following surgery. Thus, the process of rebuilding a positive body image may be lengthy and complicated, although a decrease of body dissatisfaction is generally expected after surgery[22].

Although symptoms reflecting anxiety, depression, disordered eating and body dissatisfaction require prompt diagnosis and treatment, the two most alarming psychiatric complications of bariatric surgery are suicide and addiction. There is a growing concern that post-bariatric surgery patients may have an increased risk for completed suicide, attempted suicide and self-harm compared to age-, sex-, and BMI-matched controls[23,24]. A variety of pre- and post-surgical psychosocial, pharmacokinetic, physiologic, and medical factors may be involved in increasing self-harm and suicide risk[25]. A meta-analysis published in 2019 and based on 32 studies with 148643 subjects reports the most recent data on completed suicide, attempted suicide and self-harm in post-bariatric surgery patients[26]. Mortality from suicide after bariatric surgery was 2.7 per 1000 patients and the suicide attempt/self-harm event rate was 17 per 1000 patients. The calculated event rate in post-bariatric surgery patients was eight times higher than average suicide rates in the general populations from countries with the highest suicide rates in the world. The strongest predictor of post-surgery risk was a lifetime history of suicide ideation and/or self-injurious

behavior. Therefore, preoperative assessment conducted by an expert mental health professional is crucial for effective prevention of self-harm and suicide in bariatric patients. The 2016 edition of the guidelines of the Italian Society of Bariatric Surgery [27] includes a lifetime history of attempted suicide among the absolute contraindications to bariatric surgery.

Post-surgery substance use disorders are emerging as one of the most critical psychiatric complications of bariatric surgery[28,29]. Long-term studies indicate that these problems tend to develop after a relatively long latency following surgery, typically about 1 year to 2 years after surgery, and some evidence suggests that the risk for onset of such problems continues to increase, rather than decrease, over many years following surgery[30]. Risk factors for post-surgery substance use disorders have been consistently described and include type of surgery, a personal history of substance use disorder, a family history of substance use disorder, a history of early trauma, pre-existing psychiatric disorders, low social support, younger age, male sex and alcohol sensitization after surgery. By contrast, the mechanisms linking bariatric surgery and substance use disorders are not fully understood. Several hypotheses have been advanced to explain post-surgery increased risk. Prevalent explanations focus on altered pharmacokinetics induced by the anatomical and physiological changes that result from surgical procedures. Addiction transfer is an alternative (or complementary) explanation. The hypothesis assumes that, being physically prevented from comfort eating after bariatric surgery, some patients employ substances or compulsive behaviors as a way to manage the problem of their unmet emotional and psychological needs.

WHY A SUBSPECIALTY?

The title of the present review elevates bariatric psychiatry to the rank of subspecialty. The emergence of a new medical subspecialty is justified if knowledge in the field expands so rapidly to impose the further specialization of clinicians. Subspecialization allows clinicians to focus their abilities and learn more about the best strategies to diagnose and treat patients with specific medical problems. Psychological assessment and care of bariatric patients have reached such a level of complexity to require dedicated programs conducted by mental health professionals with a high degree of expertise. This was clearly stated as early as 2004 by the American Society for Bariatric Surgery[31]: *“ASBS believes that the application and interpretation of objective tests, the ability to identify discrete risk factors not amenable to testing, as well as the capacity to conduct pertinent clinical interviews and to organize this information in a way that directly speaks to the adjustment of the individual after surgery requires a particular level and kind of experience that is specific to bariatric surgery.”* (p. 15).

I refer the reader to my recent book[5] for a detailed discussion of the clinical skills required to psychiatrists who take care of bariatric patients. Here, I will summarize the basic aspects that differentiate the clinical care of bariatric patients from standard psychiatric practice (Table 2).

The evaluating psychiatrist should be aware of the complexity of informed consent in bariatric psychiatry[32]. Patients should be able to articulate their rationale for surgery and why it is right at this time in their life. The psychiatrist should ascertain if the patient has a good understanding: (1) Of the nature and mechanics of surgery as well as the possible risks and complications of the procedure; and (2) Of what is expected postoperatively, including diet, exercise, follow-up, support group attendance, etc. If patients are unable to demonstrate a basic and clear understanding of these factors, they are referred back to the surgeon and/or nutritionist for additional counseling. It is clear that, in order to conduct an accurate investigation of patients' motivations and expectations, the evaluating psychiatrist should have a solid knowledge of the physiological and psychological changes caused by bariatric surgery.

Another critical aspect that makes preoperative evaluation different from standard psychiatric interview is the dependability of the information reported by patients. Bariatric surgery candidates tend to present themselves in an overly favorable light during the psychological evaluation. This response style is associated with less reporting of psychological problems and might interfere with the accurate assessment of patient mental condition[33]. Mental health professionals interviewing bariatric candidates should be trained to circumvent patients' reticence in sharing information that could make them not eligible for bariatric surgery. This can be made by explaining the importance of psychological assessment for postoperative long-term well-being and by assessing personality traits (e.g., impulsivity or attachment style)

Table 2 Specific skills required to bariatric psychiatrists

Specific skills
Understanding the complexity of informed consent by bariatric candidates
Capacity to circumvent patients' reticence in sharing information that could make them not eligible for bariatric surgery
Ability to detect and diagnose problematic eating behaviors other than bulimia nervosa, anorexia nervosa and binge eating disorder
In-depth understanding of psychiatric medication absorption and altered pharmacokinetics after surgery, as well as the impact of psychiatric medication on weight loss

that, compared to symptoms, are less subjected to conscious alteration.

As explained previously, bariatric surgery candidates often report problematic and/or eating disordered behaviors. For most patients, these eating behaviors improve after surgery. A subset, however, experience a recurrence or new onset of problematic eating behaviors as early as 2 mo to 18 mo after surgery, which can result in compromised weight loss/excessive weight regain[34]. During standard diagnostic interviews, clinical psychiatrists generally limit their assessment to symptoms reflecting bulimia nervosa, anorexia nervosa or BED. When interviewing bariatric patients, the diagnostic scope should be widened to include other problematic eating behaviors that are not yet included in official classifications such as grazing, night eating, emotional eating, and food addiction.

Finally, psychiatric care of bariatric patients requires a solid background in psychopharmacology. Studies have estimated that approximately 35%-38% of bariatric surgery candidates were taking psychiatric medications before surgery[35]. Many of these patients continue to take psychotropic medications after surgery. The complex management of drug therapy after surgery require an in-depth understanding of psychiatric medication absorption and altered pharmacokinetics, as well as the impact of psychiatric medications on weight loss and psychiatric symptoms after surgery[36].

CONCLUSION

Bariatric psychiatry is on the move. The role of mental health professionals is currently more important than in the recent past and it is likely to gain even greater responsibility in the future. Yet, many clinical questions remain unsolved. We need more long-term data on outcome measures such as quality of life, adherence to behavioral guidelines, risk of suicide, and post-surgery prevalence of psychological disturbances and mental disorders. These data will be instrumental in deciding "how much psychiatry is too much" for bariatric patients. In fact, whereas some authors have argued for more intensive preoperative and postoperative psychosocial interventions [37], others have even criticized the requirement of preoperative psychological evaluation for all patients seeking bariatric surgery[38].

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