



## PSYCHOLOGICAL EVALUATION AFTER BARIATRIC SURGERY

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*El objetivo de este artículo es realizar una reflexión sobre la evaluación, seguimiento y apoyo psicológico de los pacientes obesos mórbidos que han sido sometidos a cirugía bariátrica. Para ello hemos realizado una revisión bibliográfica de la situación actual del tema, exponemos nuestro modelo de seguimiento, definimos qué aspectos son necesarios evaluar y en qué áreas necesitan apoyo estos pacientes. El número de publicaciones sobre estos aspectos está en aumento y cada vez encontramos mayor evidencia de patología alimentaria que se desarrolla tras la cirugía bariátrica y que compromete la pérdida de peso esperada. Por último tratamos de justificar la necesidad del seguimiento de estos pacientes tras la cirugía más allá de limitarnos a la selección y preparación quirúrgica siendo también necesario adaptar los criterios diagnósticos y los instrumentos de evaluación a esta población.*

**Palabras clave:** Evaluación psicológica, Tratamiento psicológico, Postcirugía bariátrica.

*The aim of this paper is to reflect on the evaluation, follow-up, and psychological support of morbidly obese patients who have undergone bariatric surgery. We have carried out a bibliographic review of the current situation on this subject and we present our monitoring model, defining the variables that it is necessary to evaluate and the areas in which these patients need support. The number of publications on these aspects is increasing, and there is growing evidence of the emergence of an eating pathology that develops after bariatric surgery, which hinders the expected weight loss. Finally, this work attempts to justify the importance and necessity of the follow-up of these patients after surgery, beyond limiting ourselves to presurgical selection and preparation. It is also necessary to adapt the diagnostic criteria and evaluation instruments to this specific population.*

**Key words:** Psychological evaluation, Psychological treatment, Post bariatric surgery.

**B**ariatric surgery (BS) has become the treatment of choice for morbid obesity. The surgical techniques that are used have been changing in recent years, basically restrictive techniques and malabsorptive techniques are currently combined (Buchwald & Williams, 2004; Sjöström, 2013). These techniques are very effective for losing weight because they achieve on the one hand that obese patients do not ingest so much food and on the other hand that the ingested foods are not well used by the body. In 2005, we published in this same journal an article on the psychological and psychiatric evaluation of candidates for BS. At that time, few articles had dealt with the subject in detail, fortunately, since then there has been a great amount of scientific literature, to the point that the concept of “bariatric psychologists” has been coined to refer to the psychology practitioners who address problems in the field of obesity surgery. After accumulating more experience, we noted the need not only to select, prepare, and evaluate the candidates for BS, but also the necessity for the subsequent follow-up of these patients. In fact, the most common reasons for an

unsatisfactory result after BS, excluding medical and technical causes, are related to behavioral and psychological variables such as the patient’s inability to follow dietary indications or problems of adaptation to the changes that take place after intervention. This alone justifies the psychological follow-up of obese patients that have had the operation (Mitchell et al., 2016; Montt, 2012; Umaña, Escaffi, Lehmann, Burr, & Milo, 2017).

Ríos et al. (2010), in consensus with other “bariatric psychologists” at the National Congress of Obesity Surgery and Metabolic Diseases in Mexico, reached an agreement to define the stages of the post-surgical care of the obese patient. They establish a first stage of *bonding with the patient in their immediate postoperative process*, in which they consider a hospital visit to the patient during admission to be of vital importance. The second stage corresponds to the immediate post-surgical emotional stage that lasts from 15 days to a month in which the anxieties and fears that appear in the patient should be addressed. In the third stage they highlight the *changes related to food* (1 to 3 months) in which eating, which was once a pleasure or a comfort, now becomes annoying. The fourth stage is called the *change in body image or “honeymoon” phase*, which lasts up to the first six months when the weight is lost quickly and the figure is honed, although problems such as sagging soon appear. The fifth stage they define is the acquisition of new

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*management of their partner, family, and social relationships context* in which social skills must be acquired when the patient plays new roles. They end by noting that they agreed on a year as adequate time for post-surgical monitoring, promoting a new independent management of behaviors and emotions. However, patients who require more prolonged psychological support or accompaniment to overcome conflicts or due to the appearance of inappropriate eating behaviors many months after surgery are not uncommon. Therefore, we think that the time should be extended to at least two years, also taking into account that after the obesity surgery come the reparative surgeries, when the results are not always as expected.

In this article, first we present, as a proposal, our three-session post-surgical follow-up model in which, without trying to turn it into a strict protocol, we try to adjust to the interviews described below. This presentation will give the reader the opportunity to have a longitudinal view of the presentation of possible post-surgical difficulties over time. Second, we analyze the variables that cannot go unnoticed in the post-surgical assessment. We will conclude by listing the areas in which patients most often demand psychological help, as well as some notes on their treatment.

#### **POST-SURGICAL FOLLOW-UP PROPOSAL, A THREE-INTERVIEW MODEL**

##### ***First post-surgical interview***

In our hospital, we establish a first post-surgery interview normally at 6 months, although in the last interview, preparing for surgery, patients are invited to consult earlier if they consider it necessary. This is enough time for most of the potential immediate complications of the intervention to have passed or decreased significantly (vomiting, abdominal pain), there has been significant weight loss, food tolerance is improving, and the increase in agility is starting to be felt. The weight loss has an accelerated pace and the patients experience a "honeymoon" stage with the results of the BS (Crespo Rosales & Ruiz Cala, 2006; Kincey, Neve, Soulsby, & Taylor, 1996). As the weight loss is rapid and achieved with less effort than when they were on a diet, the overall assessment of the entire post-surgical process is usually considered to be very satisfactory.

In this first interview we assess compliance with food and exercise rules, progressive food tolerance, and difficulties in complying with dietary guidelines. We are attentive to possible dietary infractions that require psychological advice or help. It is especially important to assess the existence of experiences of loss of control of eating. In a longitudinal study over 7 years with North American subjects, which related food pathology with variables such as weight loss and improvement in post-surgical quality of life, Devlin et al. (2018) found that post-surgical losses of intake control were related to lower long-term weight loss and greater regain.

We also evaluate whether they need psychological help for some other life aspect not directly related to the surgery (grieving, anxiety problems, or adaptation difficulties). We finish the interview by assessing the level of satisfaction with the initial results of the surgery. We also request the completion of the protocol questionnaires which are, in our unit, the Bulimic Investigatory Test, Edinburgh, BITE (Henderson & Freeman, 1987) and the Spanish version of the SF-36 (Vilagut, et al., 2005), which were already completed before the surgery, in order to quantify the changes.

##### **Second interview**

If there is no difficulty that requires a closer interview, we have a second interview a year after the BS. At this point, most of the weight that the patient is going to lose has already occurred—the average reduction after the first year is equivalent to 65-75% of the excess weight (García, 2012), the rate of weight loss is decreasing, and the fantasies of continuing to lose kilograms indefinitely begin to break down and a more realistic idea of the final weight they will reach emerges. Some patients are already satisfied with the result but others do not know if it will be enough. In general, having spent more time weighing less, they no longer value as positively the changes produced in their agility and lightness, which they begin to see as normal, and the satisfaction with the results of the operation is no longer so high.

In addition, sagging and flaps are now present and patients often start to become worried. We report once more what our hospital, belonging to the public health system, offers from within the Service of Aesthetic and Reconstructive Surgery and we explore the expectations so that these are realistic and adjusted.

##### **Third interview**

Two years after the BS we have a third interview. By now, all the weight has usually been lost and the scales do not continue to give so much joy, but rather a few unpleasant surprises. In the Longitudinal Assessment of Bariatric Surgery Study (LABS) carried out in the United States, the lowest weight achieved occurred on average at 2.1 years (Devlin, 2018). While not the most frequent, after two years of follow-up there are already some individuals who have begun to gain weight significantly, and approximately 30% of patients put weight back on between 18 months and 2 years after surgery (Hsu et al., 1998). They are hungry, and certain behaviors such as eating larger amounts, losing control over intake, snacking between meals, or eating sweets have developed in some patients. We must strive in these cases to find the meaning of what happened, environmental precipitants, or stressors that cause discomfort. We will implement tools that are motivational (such as assessing the changes achieved), behavioral (the control of stimuli), cathartic (recognition, expression, emotion management), cognitive (debating the irrational thoughts), pharmacological,



or even, again, surgical (reintervention), in order not to regain the lost weight.

Some profiles that we have identified (through our own experience) that often do not obtain the expected results are those who, due to their professional work, lead a sedentary life and are forced to eat out in restaurants several days a week without following dietary rules or exercise. Another profile with poor evolution is that of emotional eaters who, after surgery, when new problems arise in their lives, return to food consumption while not learning other strategies to manage their emotions. Problems with alcohol consumption deserve special mention here, the absorption of which is facilitated by gastric bypass (King et al., 2012; Olguín, Carvajal, Fuentes, 2015).

Psychological problems can also occur even in those who have lost weight. After two years of having undergone surgery, they will begin with cosmetic-restorative surgeries which have common complications (pain, infections, drainage problems), and the result of "cosmetic" surgery is not always what they expected or the part of the body that the surgeon offers to operate on them is not the part they most wanted. We try to help them, having already attempted to generate realistic expectations, becoming aware of our starting position, assessing the scars as "war wounds", trying to assess the whole process as a whole and not only the aesthetic result of this or that operation, but there are always people who are dissatisfied with the aesthetic result. Body image problems can significantly interfere in the social, relationship, sexual, and leisure spheres (Gilmartin, 2013). We would like to express our defense of more generous repair surgery programs (of course within a limit), because although the result is usually not entirely satisfactory, the body image and the psychological involvement that it entails improve. García-García et al. (2014) conducted a study on complications and satisfaction with dermolipectomies and abdominoplasties performed after BS, finding that the number of very satisfied or satisfied patients reached 83% of the total.

Fortunately, most patients improve in different areas. After the operation it is easier for them to diet, in time they tolerate almost all kinds of foods, they can exercise better, and they have been able to experience significant weight loss that many consider satisfactory. Their health improves, they no longer need to use mechanisms such as CEPAP for the treatment of sleep apnea and they take less medication for hypertension, dyslipidemia, and diabetes (Colquitt, Pickett, Loveman, & Frampton, 2014). In addition, many improvements go beyond physical health as they include changes in self-concept (Brante, Miranda, & Pérez-Luco, 2011). Burgmer, Legenbauer, Müller, de Zwaan, Fischer, and Herpertz (2014), followed 148 patients for 4 years after surgery. They found significant improvement in different psychological variables such as self-esteem, depressive symptoms, and quality of life, with maximum improvements

one year after surgery. However, these psychological improvements were reduced in the follow-up at four years.

### **What must be evaluated**

We will describe what we evaluate in the post-surgical follow-up, which are the aspects and variables that must not be overlooked in these patients during the different interviews after the BS:

#### ✓ Organic variables

We assess the weight the patient has lost since the operation or from the maximum weight reached. We evaluate the BMI that the patient now has, the percentage of excess body mass index lost, as well as the weight in relation to the nadir (minimum weight achieved) in long-term check-ups. We determine how diseases comorbid to obesity have evolved: diabetes, hypertension, dyslipidemia, or obstructive sleep apnea syndrome (OSAS), and the reduction of medication for treating them. We examine the nutritional parameters of the analysis (deficit of minerals, vitamins, proteins), whether they have needed nutritional supplements, iron administration, etc. We also consider possible postoperative complications and the need for reinterventions or prolonged hospitalizations.

#### ✓ Anxiety, depression, and previous psychiatric pathologies

Some studies on obese people report high levels of psychiatric comorbidity in these patients, with anxiety, depression, and eating disorders frequently found (Black, Goldstein, & Mason, 2003; Bustamante, Williams, Vega, & Prieto, 2006). A high prevalence of psychiatric disorders in morbid obesity has been described, in which 40 to 47% of patients suffered at least one mental disorder of varying severity in Axis I of DSM IV (Heo, Pietrobelli, Fontaine, Sirey, & Faith, 2006; Scott, McGee, Wells, & Browne, 2008). More recently, Hayden et al. (2014) evaluated 204 patients that were candidates for BS, finding that about 39.7% of these patients met the criteria for pathology of Axis I defined by the DSM-IV. The most frequently encountered pathologies were mood disorders (26.5%), anxiety disorders (15.2%), and binge eating disorder (13.2%).

In general, post-surgical weight loss improves the people's quality of life and their general health, with mental health being expected to improve as well. However, when patients fail to lose weight, they can develop long-term depressive disorders. In a four-year prospective study, Burgmer, Legenbauer, Müller, de Zwaan, Fischer, and Herpertz (2014), found that 44.7% of those who achieved weight loss greater than 25% of the preoperative value presented remission of depression. In turn, 18.5% of patients who had a weight loss of less than 25% developed depressive symptoms at 4 years of follow-up. But the scientific literature is not uniform, while some researchers find improvements in anxiety and depressive disorders after surgery others found no significant differences (Rivenes, Harvey, & Mykletun, 2009). In an attempt to add light to the research Rojas,



Brante, Miranda, and Pérez-Luco (2011) conducted a study measuring anxiety, depression and self-concept in 20 patients before BS and six months later. They found improvement in self-concept and mood. Regarding anxiety, the decrease was not significant. Longer-term studies such as the one conducted by Waters et al. (1991) with nine years of follow-up, find that the significant improvements in mental health rates that were observed 6 and 12 months after surgery decreased at the end of 2 years. This return of mental health indices to the preoperative state, plus the late appearance of 3 suicides and 2 deaths from alcohol abuse among the total of 462 patients, suggests that long-term follow-up and emotional support are essential for successful bariatric surgery (Roizblatt, Roizblatt, & Soto-Aguilar, 2016).

#### ✓ Suicidal Ideation

It is therefore necessary to take into account the risk of suicide in patients operated on BS. Adams et al. (2007) followed 7 years of a group of 7,985 obese patients who underwent BS, finding a 40% decrease in mortality from any cause, however the frequency of deaths from non-medical causes such as accidents and suicide was 58% higher in bariatric patients than in a control group. In the operated group there were 15 deaths by suicide compared to 5 that were in the control group. The causes that have been pointed out of this phenomenon were multiple: persistence or recurrence of medical comorbidities, disinhibition, and impulsivity due to changes in alcohol metabolism or changes in the pharmacokinetics of antidepressants. Psychosocial problems may also be involved such as lack of improvement in quality of life after surgery or mobility restrictions after unsuccessful interventions, relationship problems, low self-esteem, a history of child abuse, and weight recovery (Mitchell et al., 2013). Finally, we know of various disorders associated with higher suicide rates (depression, borderline personality disorder, posttraumatic stress disorder) that are common in the obese population (Roizblatt, Roizblatt, & Soto-Aguilar, 2016).

#### ✓ Personality

There have been many attempts to try to find a personality disorder or a constellation of features that would characterize most obese people. It has not been possible to describe a typical personality of obese patients, however characteristics found in the obese population such as difficulties in recognizing and expressing emotions, passivity, dependence, difficulties in exposing themselves to social situations, impulsivity, etc. have been described. Regarding the personality disorders of DSM IV, we highlight the conclusions of two studies (Kalarchian, et al, 2007; Mauri, et al, 2008), in which the global prevalence of Axis II (personality disorders) was investigated, the prevalence in the first study being 28.5% and that of the second sample 19.5%. The most common personality disorders in both

studies were cluster C (especially avoidance and obsessive-compulsive) and B (especially borderline disorder).

Kinzl, Schrattecker, Traweger, Mattesich, Fiala, and Biebl (2006), showed that weight loss in obese individuals with two or more mental disorders, in most cases one of Axis I (adaptive disorder or depression) and another of Axis II (personality disorder), is less than in the obese with only one mental disorder or none. Claes and Müller (2015), in a review on temperament and personality in patients undergoing bariatric surgery, highlight persistence and self-direction as predictive factors of greater post-surgical weight loss, while high impulsivity and neuroticism show the opposite profile.

#### ✓ Alcohol consumption

People who have had alcohol abuse behaviors prior to surgery are more likely to develop this problem after the intervention. This is due to the pharmacokinetic alterations resulting from surgery that produce an increase in alcohol absorption, producing the sensations of drunkenness more intensely and quickly (Suzuki, Haimovici, & Chang, 2012). In a prospective study conducted in 10 hospitals in the USA, King et al. (2012) found that the prevalence of alcohol use disorder was higher in the second postoperative year than in the year before surgery and in the first postoperative year. It was associated with the male sex, younger age, smoking, regular alcohol consumption, prior alcohol use disorder, recreational drug use, less interpersonal support, and having undergone a gastric bypass.

#### ✓ Body dissatisfaction

Body image has been described as the mental representation that each person builds of their own body in terms of feelings, behaviors, and attitudes. It is related to the preponderant sociocultural aesthetic standards at a given time, which influence the degree of satisfaction that each individual has about their physical appearance (Raich, 2004). Patients after bariatric surgery experience a rapid drop in weight during the first months, and as a result they have an excess of skin in the body regions that have lost the most volume, producing abnormalities in the body shape. Kinzl, Traweger, Trefalt, and Biebl (2003) found that, after 21 months of follow-up, weight loss was related to negative consequences for body image, such as sagging skin (53%), abdominal skin flaps (47%), and sagging breasts (42%). When the skin flaps affect parts of the body that are very identified with femininity, some patients have difficulty accepting their new appearance and feel less attractive or feminine. The truth is that although in general body image improves during the post BS period, dissatisfaction begins with certain parts of the body (Leal, Mellado, Díaz-Castrillón, & Cruzat-Mandich, 2017; Cruzat-Mandich, Díaz-Castrillón, García-Troncoso, Díaz-Paredes, 2019), which leads many patients to undergo plastic surgery (Magdaleno, Chaim, Pareja, & Turato, 2011). Furthermore, it is not uncommon that as patients approach the weight



they wanted to reach initially, they begin to want a lower weight (Heinberg, Mitchell, Sarwer, & Ratcliff, 2013; Ivezaj & Grilo, 2018).

Women who have had surgery generally feel satisfied with the results, however, they face great difficulties in adapting their identity to their new body. This could be due to their unrealistic goals in relation to the results of the BS (Heinberg, Keating, & Simonelli, 2010). This discrepancy between expectations and results will surely also occur with cosmetic/restorative surgeries, so from the beginning patients should be informed about the final appearance of people's bodies after significant weight loss.

#### ✓ Fear of weight gain

Once the weight is lost, some patients develop an intense fear of weight gain and obsession with their appearance that remind us of that found in anorexia and bulimia nervosa. The fear of weight gain is reflected in a study by Rand and Macgregor (1990) in which operated patients who had successfully maintained a weight loss for at least 3 years were asked to choose between morbid obesity and other pathologies; no patient chose morbid obesity over deafness, dyslexia, diabetes, severe acne, or serious heart problems and only 10% chose morbid obesity over blindness. This study allows us to become aware of the extent to which initial obesity is to be avoided at all costs, which is probably due not only to the physical limitations of previous obesity but also to social problems.

The negative attitude towards obese people in the western world causes disadvantages in different areas such as finding a job, partner, or friends. The degree of stigmatization and discrimination against obese people is enormous. There is evidence that obese people are denied educational, vocational, and growth opportunities as a result of their weight (Gortmaker, Mus, Perrin, Sobol, & Dietz, 1993). The younger our patients are, the more dissatisfied they are with their figure in relation to older patients, regardless of the weight lost. The sociocultural pressures on the body figure are greater in the very young. Therefore, weight loss does not guarantee a decrease in body dissatisfaction or the discomfort that this entails (Ruiz, Berrocal, & Valero, 2002; Cruzat-Mandich, Díaz-Castrillón, García-Troncoso, & Díaz-Paredes, 2019).

#### ✓ Eating Disorders (ED)

Eating disorders are common in the obese population, Kalarchian et al. (2007) studied a sample of obese BS candidates and found a lifetime prevalence of 29.5% for an eating disorder; of these patients none had anorexia, seven had bulimia, and 75 had binge eating disorder. Another pattern of frequent abnormal intake in obese individuals is known as the Night Eating Syndrome (NES), classified as another specific feeding or eating disorder in DSM 5. It consists of the occurrence of recurring episodes of food intake at night, whereby the subject wakes up and goes to eat or excessive food consumption occurs after dinner. It

usually involves morning anorexia and may be associated with a sleep disorder. In patients that are candidates for BS, prevalence rates have been found to be around 10% of these candidates (Adami, Meneghelli, & Scopinaro, 1999; Crespo Rosales & Ruiz Cala, 2006).

After obesity surgery, the behavior of eating large quantities compulsively may be reduced when patients are forced to decrease food quantities due to the drastic reduction in their gastric capacity (Kalarchian et al., 1999). However, there is a group of patients who, after losing weight, develop subjective binge eating (SBE), a feeling of loss of control of intake, and even vomiting in order to avoid regaining weight. The sense of loss of control of eating - LOC- has been associated with lower post-surgery weight loss, greater weight gain, and greater mood distress (Devlin et al., 2018; de Zwaan et al., 2010). According to different studies, from 16.9% to 39% of postoperative patients experience these feelings of loss of control (Conceição, Utzinger, Pisetsky, 2019). The presence of post-surgical binge eating has been associated with greater complications such as gastric or esophageal dilation (Busetto et al., 2005) in interventions with adjustable laparoscopic gastric bands. There is disagreement as to whether the presence of binge eating or nocturnal eating before surgery influences the end result of BS in the long term. Although logic and clinical practice seem to opt for a worse prognosis of weight loss, the results are contradictory (Powers, Perez, Boyd, & Rosemurgy, 1999).

The majority of eating disorders prior to surgery decrease at least temporarily or are transformed (into behaviors such as grazing or subjective binge eating for example). When the weight loss stops, some patients develop restrictive or compensatory behaviors in order to continue losing weight or to avoid gaining weight, with clinical conditions developing with symptoms both in the area of anorexia and bulimia nervosa (Conceição et al., 2012). Eating disorders and operated obese patients can share common characteristics in addition to fear of weight gain, such as being subjected to a strict diet, having suffered rejection in childhood due to their physical appearance, or using food as a means to solve problems. In fact, more and more cases of patients with symptoms of eating disorders are reported in obese patients that have been operated on with BS (Guisado, Vaz, López Ibor, López Ibor, del Río, & Rubio, 2002).

Most of them will be diagnosed as unspecified eating disorders because they do not meet all the criteria required to receive a specific diagnosis. It may be necessary to adapt the diagnostic criteria for this population (for example, the weight loss that is required for the diagnosis of anorexia nervosa, or to modify the definition of binge eating in the case of bulimia). Some authors have even proposed a specific diagnosis of eating disorder for operated patients called post-surgical eating avoidance disorder, PSEAD



(Segal, Kussunoki, & Larino, 2004) which is characterized by faster than usual weight loss after BS, use of purgative strategies or excessive restriction of intake, and anxiety reactions or opposition to the introduction of measures for nutritional correction, in addition to dissatisfaction or distortion of body image. Another difficulty is that there are few instruments available that have been adapted to decipher the complex nuances of this population (Parker, Mitchell, O'Brien, & Brennan, 2016) and to distinguish food psychopathology from behaviors that are expected in patients due to having undergone a surgical intervention. For example, the presence of vomiting in these patients should be carefully evaluated and it should be determined whether it is caused with the intention of controlling weight or it is a logical consequence of the reduction carried out on the stomach. In the same way, eating slowly in small pieces can remind us of anorexic behavior or may be due to dietary indications with the aim of improving food tolerance.

#### ✓ Problematic eating behaviors

After BS it is necessary to evaluate certain problematic behaviors that can threaten the desired weight loss or promote the dreaded weight gain. Efforts are being made to define them in an operative and consensual way with the purpose of being able to subsequently compare the results of different investigations, which are often contradictory, and to facilitate conclusions (Conceição, Utzinger, & Pisetsky, 2019). We are referring to behaviors such as grazing, which consists of the repetitive intake of small amounts of food in an unplanned manner with different degrees of feeling of a lack of control. This behavior is present in up to about half of the patients who have undergone surgery and is related to a reduction in weight loss and greater weight regain. Another problematic behavior that also makes weight loss difficult is emotional eating (Chesler, 2012), defined as a tendency to eat in response to anxiety and during stressful life situations. Cravings, which consist of intense impulses to eat a specific food, are experienced by approximately 10% of operated patients, however no evidence has been found to relate this behavior to worse postoperative results (Guthrie, Tetley, & Hill, 2014). In addition, it is also advisable to evaluate the intake of sweets not only due to its relationship with weight loss (where there are controversial results) but also due to its relationship with dumping syndrome.

#### ✓ Quality of life

Quality of life is one of the most important parameters to assess since with weight loss an improvement in health-related quality of life (HRQOL) is pursued, this being one of the most important indicators when assessing the success or failure of the intervention (Weiner, et al., 2005). Generally, an improvement is achieved with most bariatric surgery techniques (Melero, Ferrer, Sanahuja, Amador, & Hernando, 2014). In a recent study, van der Hofstadt et al.

(2017), compared the improvement in HRQOL of operated obese patients finding an improvement in HRQOL at 12 and 24 months. While this improvement is not homogeneous in all dimensions, it seems to be maintained even in longer-term studies (Karlsson, Taft, Ryden, Sjöström, & Sullivan, 2007).

Some of the best known and most used instruments in obesity surgery are SF-36 and BAROS (Wolf, Falcone, Kortner, & Kuhlmann, 2000). SF 36 is a self-report of 36 questions in which the subject must choose between several answers based on the one that best suits his or her case; it has also been adapted to the Spanish population (Alonso, Prieto, & Anto, 1995). It has eight scales that can be divided into one group of physical health and another of mental health. It also has another interesting indicator about the subjective perception of the patient regarding the evolution, i.e. the worsening or improvement, of his or her health. The BAROS questionnaire (Bariatric Analysis and Reporting Outcome System) is an evaluation and analysis system of aspects related to BS. It consists of two areas, one that evaluates the postoperative improvement (weight loss and decrease in comorbidities) and another that evaluates the quality of life. Regarding the latter, through the help of pictograms, it aims to assess the areas of self-esteem, physical, social, occupational, and sexual health.

#### HOW TO HELP THEM

As we have already mentioned, there are many physical, psychological, and social changes that occur after BS. The patient has to follow a number of rules regarding eating, and there may be problems of adaptation to the new situation, discomfort with body image, and reappearance of previous psychopathological problems that can compromise weight loss. It is therefore appropriate to offer psychological support and help that facilitates weight loss and provides support for the difficulties (Montt, Koppmann, & Rodríguez, 2005; Montt, Olgún, Marín, & Cortés, 2012). We understand, together with the cited authors, that the main tasks of the psychologist with the postbariatric patient are the following:

- ✓ Helping them to follow the rules of food and physical activity.
- ✓ Encouraging adherence to the multidisciplinary team, reinforcing the assistance to check-ups, compliance with pharmacological, dietary guidelines, etc.
- ✓ Supporting the resolution of psychiatric pathology if it appears.
- ✓ Treating of possible pre-existing or newly appeared food pathology.
- ✓ Acceptance of the new body image and problems with skin flaps.
- ✓ Preparation for reparative surgeries (realistic expectations of results, information on possible complications).
- ✓ Evaluation and development of coping strategies associated with the change of lifestyle, eating behavior, and food function.



- ✓ Emotional support functions. Facilitate the learning of how to manage negative emotions.
- ✓ Acceptance of new social roles.
- ✓ Facilitating the incorporation of the necessary changes in the family.
- ✓ Support in difficult life situations such as marriage separations or bereavement.
- ✓ Help or advice in making certain decisions (problem solving techniques).

Regarding the treatment of postbariatric problems, only recently have there been studies that propose treatments and investigate their effectiveness. For this reason, a group of bariatric psychologists at the XI International Congress of Bariatric and Metabolic Surgery held in the city of Mendoza in May 2017, developed a proposal that would serve as a guide for the diagnosis and treatment of weight regain after BS (Lasagni et al., 2018). They reviewed the existing bibliography and added contributions found in their clinical practice. They noted that the following contributed to regain: eating impulsively, not attending periodic check-ups, psychological distress, the number of psychiatric illnesses diagnosed after surgery, consuming food and caloric beverages, consuming alcohol, grazing, emotional and nocturnal eating, absence of physical activity, having difficulty adapting to the new body image, and an inadequate pre-surgical assessment. Subsequently, they outline the actions that the psychologist should perform such as follow-up, encouraging adherence to treatment, evaluating psychological complications, involving the family or support network, making use of new technologies to maintain contact with the patient, psychoeducation on the associated factors for maintaining weight, promoting self-reports of healthy habits, developing a positive body image, reinforcing physical activity, working on patient expectations, and carrying out a relapse prevention plan that includes identifying and coping with risk situations such as vacations, eating out, or emotional eating.

## CONCLUSIONS

In the beginning, BS generated an oversized enthusiasm that was then adjusted to the clinical reality. It is common that when new treatments appear, an initial overexpectation is generated followed by a disappointment when it is verified that the treatment helps but does not solve the problem completely. Today we are possibly on the BS effectiveness plateau, since despite it proving to be the most effective treatment in achieving substantial weight loss, there is great variability in the weight loss and non-negligible figures of post-surgical regain where psychosocial variables intervene (Umaña, Escaffi, Lehmann, Burr, & Milo, 2017). We hope, with all that has been said in this article, to have justified the need for psychological follow-up of patients who have undergone BS surgery. The growing scientific literature is giving us knowledge about the aspects we must take special

care of, such as the appearance of uncontrolled eating, the presence of depressive moods, suicidal ideation, or inappropriate behaviors such as grazing or alcohol consumption that complicate patients' evolution. In addition, some of these behaviors appear late, sometimes years after BS, so the postbariatric follow-up must necessarily be long (King et al., 2012; Legenbauer, Petrak, de Zwaan, & Herpertz, 2011).

It is also worth noting that the food pathologies that develop after BS are not in their symptomatic presentation the same as those described in the usual diagnostic manuals, but rather they present specific peculiarities and it is necessary to adapt the diagnostic criteria to the post-surgical situation in disorders such as anorexia nervosa, bulimia, and binge eating disorder. Even in future research, it will be necessary to assess the existence of some specific eating disorders pertaining to the postbariatric situation. There is also a handicap in that we barely have adequate instruments such as self-reports or validated structured interviews that have been adapted to people who have undergone surgery for the treatment of obesity. It is common to use instruments that have been made to evaluate patients with eating disorders when it would be necessary to have an instrument designed and developed for this specific population with their own characteristics or at least adapt existing ones. The latter was what Zwan et al., 2010 did with their semi-structured interview, the EDE-BSV, a modified version of the EDE (Eating Disorder Examination) of Fairburn and Cooper (1993), adapted to bariatric patients by adding very relevant additional factors for this population such as plugging, dumping, craving, night eating, objective binge eating episodes (OBE), subjective binge eating episodes (SBE), or loss of control eating (LOC).

Efforts are being made to develop and evaluate specific programs to improve dysfunctional eating behaviors, affective symptoms, and body weight after BS. Gade, Friberg, Rosenvinge, Småstuen, and Hjelmesæth, (2015) carried out a 10-week cognitive behavioral treatment program to be applied before surgery and they assessed whether there were differences with respect to a nutritional education program. The results were very heterogeneous depending on the variable measured. The important thing is that efforts are already being made (such as that mentioned in the consensus guide produced in Mexico); they are still pioneers, and undoubtedly improvable, but they will encourage the development of future research. The psychological support and counseling work must be done in close multidisciplinary collaboration with the entire team of professionals involved in the treatment of morbid obesity: endocrinologists, nutritionists, dietitians, surgeons, psychiatrists, etc. This work exemplifies the new professional roles that health psychologists are called upon to develop in different fields and in cooperation with numerous medical specialties, involving new challenges and professional opportunities for psychologists.



## CONFLICT OF INTERESTS

There is no conflict of interest.

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