

# Psychological variables: determinants of the body image adjustment of obese subject to gastric bypass

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## Summary

Morbid obesity as an entity that is associated to numerous clinical complications, an increased mortality and a deterioration of the quality of life, the World Health Organization (WHO) recommends surgical treatments as an alternative. In this sense, the physical and psychological benefits associated with bariatric surgery are well documented. However, the surgery can generate negative effects. The structural changes in the digestive system, coupled with the disruption of the body image especially patients who undergo bypass gastric, reinforce the idea that everything is not positive. Given this reality, this theoretical review is to emphasize the importance of studying the role that psychological variables in adapting to the new body image in these patients.

**keyword:** Obesity, Gastric bypass, body image, psychological variables.

## VARIABLES PSICOLÓGICAS: DETERMINANTES DE LA ADAPTACIÓN A LA IMAGEN CORPORAL DEL OBESO SOMETIDO A BY-PASS GÁSTRICO

## Resumen

Al ser la obesidad mórbida una entidad que se asocia a numerosas complicaciones clínicas, a un aumento de la mortalidad y a un deterioro de la calidad de vida de quien la sufre; la Organización Mundial de la Salud (OMS), recomienda considerar como alternativa los tratamientos quirúrgicos. En este sentido, los beneficios físicos y psicológicos vinculados a la cirugía bariátrica están bien documentados. No obstante, la cirugía conlleva efectos negativos en un alto porcentaje de individuos. Los cambios estructurales que produce en el circuito digestivo, sumado a la desorganización de la imagen corporal que sufren los pacientes que se someten especialmente al By-Pass Gástrico, refuerzan la idea de que no todo es positivo. Ante esta realidad, la presente revisión teórica trata de debe de subrayar la importancia de estudiar el papel que tienen las variables psicológicas en la adaptación a la nueva imagen corporal en estos pacientes.

**Palabras Clave:** Obesidad, By-Pass Gástrico, imagen corporal.

## Introduction

Obesity is a chronic multifactor disease, presenting a rising prevalence around the world.<sup>1</sup> In the United States, 69% of population is overweight, and 30% is obese (IMC  $\geq 30$ ). In Europe, obesity prevalence has tripled during the last two decades and this fact causes a million deaths per year.<sup>2</sup>

Latin America is not an exception. 130 million people in Latin America are victims of overweight and obesity, in other words, nearly a quarter of the population presents this disease.<sup>3</sup> Specifically in Venezuela, 30.8% of adults are obese and have the highest percentage in South America related to overweight people: 67.5%.<sup>3</sup> Basing on these figures, it is estimated that, by 2030, the amount of obese adults in Latin America will reach 30% of the population.<sup>4</sup>

This rise of obesity around the world is attributed to genetic, social, cultural, economic and emotional factors. It is therefore essential for the people having this disease to carry out a change in terms of lifestyle.<sup>5</sup>

It has been suggested that genetic factors might be causing up to 70% of BMI variations, and environmental factors are causing the remaining 30%.<sup>6,7</sup> Contribution of genetic and environmental factors to the obesity etiology is still controversial; however, the increasing prevalence of this pathology, along with diet changes and physical activity, suggests that, when presenting genetic susceptibility, lifestyle changes might not be the only factors causing obesity.<sup>8</sup> Evidence seems to be directed to the fact that different environmental factors might or might not cause the gene expression.<sup>9</sup>

Regarding social factors, some studies show an inverse relation between the obesity level and socioeconomic status.<sup>10-12</sup> This relation is higher among women than men and children; some findings have shown that it is more likely for women to be overweight in lower social classes than in a higher status.<sup>13</sup>

Furthermore, it is widely accepted that both positive and negative emotional states affect eating behavior.<sup>14-16</sup> Effects of anxiety over eating have been studied on several researches, but still nowadays no definite results about the eating increase or reduction when presenting high levels of anxiety have been shown.<sup>17</sup>

First of all, obesity must be prevented and treated, by means of lifestyle changes, where diet and physical activity represent the main foundation to reach the goal.<sup>18</sup> But, when weight is considered excessive and surpasses the regular level ( $\geq 40\%$  regular weight), these measures are not enough, consequently, surgical treatments should be taken as the only effective long-term option.<sup>1,19</sup>

Bariatric surgery is mainly about reducing or limiting the stomach, in order to confine the amount of food a person eats.<sup>1</sup> (Kleifinger et al., 2009). The most common surgeries to treat morbid obesity are: gastric bypass, gastric band, biliopancreatic diversion with duodenal switch and the laparoscopic vertical banded gastroplasty or gastric sleeve.<sup>2,20-21</sup>

Gastric bypass is the most common surgical procedure, carried out to control obesity.<sup>22</sup> It is listed as a derivative or partially absorptive technique, leading to reduce food intake. It consists in creating a small stomach pouch, by fastening a Y-shaped section of the small intestine to the gastric pouch, which allows passage of food and bypasses the rest of the stomach, duodenum and the first segment of the jejunum. This bypass reduces the amount of calories and nutrients absorbed by our organism.<sup>22,23</sup>

Obtained weight loss depends on the initial weight of the person, being the average between 40 and 70 Kg., reaching the top in one year and a half, and keeping it during two or three more years, and then slightly regaining some weight.<sup>24,25</sup>

In order to achieve success in the gastric bypass procedure, it is essential for the patient to carry out a change in terms of lifestyle habits.<sup>25</sup> However, structural changes caused by this procedure in the digestive tract, may produce some symptoms, such as nausea or pain when the patient ingests an amount of food which cannot be received by this new gastric reservoir. Therefore, the patient must eat small amounts of food, continue the restrictive diet and chew food properly, in order to avoid these consequences.<sup>24,25</sup> Furthermore, there may be alterations caused by the disruption of the body image, as a result of the drastic change, which may produce, not only behavioral, but emotional alterations in the patient.<sup>26</sup>

Given these changes, during the preoperative process before the gastric bypass procedure, it is not sufficient to carry out an evaluation on the nutritional record of the patient and his/her pulmonary, heart and gastrointestinal conditions,<sup>2,27</sup> it is also necessary to perform a psychological evaluation covering the emotional states of obese people who have gone through this treatment. These states represent factors determining whether the patient can take over or not the process of losing weight, and, at the same time, face all changes he/she will experience along with the surgery.<sup>17</sup>

## Emotional disorders associated to obese people

After a revision, it was suggested that, from the factors experienced by obese people who have gone through a gastric bypass procedure, it is possible to set a classification: psychopathological aspects (associated signs, symptoms and disorders) and psychological aspects (features and types of personalities).<sup>28</sup>

## A. Psychopathological Aspects

In psychological evaluations measuring anxiety and emotion levels, 71.5% of patients were reported to show symptoms associated to anxiety.<sup>15,29</sup> These symptoms are produced by a feeling of guilt, specially coming from the social stigma they go through.<sup>16,30</sup>

Furthermore, these people experience states of uncertainty and inferiority, which present a lower capacity to face and solve problems, causing a higher level of stress.<sup>30,31</sup>

Likewise, they show low self-esteem, related to body dissatisfaction and poor comprehensive self-image in obese people,<sup>30</sup> which evidences a relation between self-esteem and weight: the higher level of obesity, the lower level of self-esteem. Additionally, a lower level is reported in females, which reduces through aging.<sup>32,33</sup>

These people are less happy with themselves. 40% do not accept themselves and do not considered autonomous and part of the society.<sup>30,34-35</sup> Moreover, this self-perception is negatively affected by the level of obesity, or other disorders related to eating behavior, symptoms of depression, perfectionism or chronic diet restriction.<sup>33,36</sup>

Depression prevalence is around 30%. Taking into consideration the severity levels of the symptoms of depression, 62.2% of patients present mild symptoms, 14.2% moderate and 8.7% severe.<sup>14,37</sup> However, most of these people deny the symptoms of depression and relate this emotional disorder to overweight itself.<sup>30</sup>

Current literature shows an association between people presenting morbid obesity, who go through a gastric bypass, and night eating syndrome or eating behavior disorder, especially binge eating disorder.<sup>38-39</sup>

It has been found that these people relate their overweight to intake, as a response to emotions, positive or negative (emotional intake).<sup>30</sup> This kind of intake makes a difference between overeating as a response to emotional stress, reaching 29.6% of these patients.<sup>37</sup>, or overeating as a response to positive emotions or social events, reaching, in a lower extent, 12% of the cases.<sup>38,40</sup> Finally, most of the people point out that they are almost all day eating small amounts of food, generally highly caloric.<sup>38</sup>

To summarize, psychopathological alterations of obese people, susceptible to surgery are extremely varied, reason why it is necessary to continue researches in order to classify them and, thus, reach a specific disorder for this kind of patients. This would help people prevent obesity, but also improve efficiency in terms of treatment adherence.

## B. Personality of obese people

In order to find answers to the eternal enigma represented by obesity, from its etiological factors to its approach, it has been raised the need to research about the existence of a personality influencing, benefiting or determining this condition.

This has been fervently discussed in the psychological field, but so far, it is not possible to define a specific condition associated to obesity, given that there are obese people presenting or not psychopathy. This fact would lead us to affirm the non-existence of a disorder properly associated to obesity, specifically because of the different ways personality has been defined and measured, as well as the unlike possible kinds of obesity.<sup>41</sup> For instance, treated and non-treated obese people, patients presenting moderate, mild or morbid obesity, as well as obesity since childhood or adolescence, adult obesity, among others.

Psychopathological findings in some obese people are poorly related to the popular concept of type-related personality of the obese person. According to this vision, the obese person may seem to be happy and free of problems in terms of social interaction, but, at the same time, he/she may suffer from inferiority states, he/she may be passive and dependent and have a great urge to be loved.<sup>18</sup>

Moreover, these efforts to identify a type of personality of the obese person have led us to opposed findings, because it is remarkable how diverse and large is the number of personalities among obese people. Some studies evaluating patients who wished to undergo any surgery, identified from three to ten subtypes of personalities, and one third of these individuals did not match any sub-type.<sup>28,42</sup>

Even if no specific personality disorder has been proven yet, some personality features related to avoidance, dependent, compulsive and hostile behaviors are visible.<sup>28</sup> Obese people avoid situations where their body contour is compared with others, which would lead them to increase their anxiety and worsen symptoms of depression they may present; affecting, simultaneously, their self-perception.<sup>43-45</sup> and aggravating the sense of inadequacy, deficient interpersonal relationships, low-level frustration, impulsiveness and pessimism.<sup>43,46</sup>

Moreover, some studies have shown higher levels of paranoid personality features in overweight women, than in men.<sup>47</sup> Psychosis features seem to be more related to low weight than to obesity; however, some researches show a frequent high-leveled MMPI-II psychosis grade, associated to extremely obese people, who are candidates for surgery.<sup>48</sup>

So far, it is still impossible to determine if obesity causes specific personality disorders, or instead, these are the reasons triggering obesity. Some studies show narcissistic personality features in obese people, pointing out the fact that these features increase when losing weight.<sup>49</sup> In this regard, researchers suggest that when obese people lose weight, especially by means of a bariatric surgery, they start to show discomfort related to certain parts of their body (generally hips/abdomen, rear/buttocks, upper arm, chest/breasts), reason why there is a lineal relation between the higher amount of obese people who have undergone surgeries and those who just go through aesthetical surgeries.<sup>36,47,50</sup>

This physical improvement in the parts of their bodies producing a higher level of discomfort, results in a reinforcement of their comprehensive self-image; however, due to their narcissistic personality, months after losing weight, they find other parts of their bodies causing a new discomfort.<sup>50</sup>

From the review I am carrying out, it can be pointed out that only few articles study the relation between obesity and personality features, given that it is just now that overweight is starting to be considered a condition having important psychological consequences.

## Changes following bariatric surgery

Physical and psychological benefits associated to bariatric surgery have been documented, among them, risk factors reduction, self-esteem increase and body image satisfaction.<sup>24,28</sup> A decrease of interpersonal dependency after weight reduction may be associated to an increase of personal strength,<sup>51,52</sup> which includes an improvement in the symptoms of depression and social skills when losing weight.<sup>53,54</sup>

It may be proven that body satisfaction increases with surgery, but this increase is temporary, because discomfort reappears over time, and then it will be required another body change the person usually considers positive.<sup>36,47,50</sup> Furthermore, it has been reported that there is a difference in terms of the perception related to the benefits obtained after bariatric surgery, if the patient goes through a post-operative process lasting six months or over two years, because, as time goes by, the perception becomes negative when weight is stable and the patient is aware of the undergone change, which evidences a "before and after" surgery.<sup>55</sup>

Nevertheless, for a high percentage of patients, surgery involves immediate negative effects, in comparison with the benefits. Structural changes produced by this derivative procedure result in some symptoms that the patient must avoid by following a restrictive diet.<sup>22,23</sup> Additionally, a disorganization of the body image is included, caused by the extreme weight reduction.<sup>26</sup> This decrease generates a variation in the "self", which generates, as a consequence, not only behavioral alterations, but emotional ones in the individual.<sup>17</sup>

Studying the progress of psychological variables as key factors of body image adaptation after bariatric surgery represents a poorly explored field of knowledge. No study reports, whose main interest is related to this field, were found in Venezuela or other countries (according to consulted sources in the last 10 years), because most of these studies are carried out by physicians and they tend to focus on evaluating effectiveness of procedures to lose weight, leaving aside the psychological aspect.

Taking into consideration the abovementioned findings, every single piece of information about this area, allowing us to study the progress of the patient's psychological variables, while he/she perceives the physical changes his/her body experiences after a gastric bypass surgery, is especially important; in order to approach that "before and after" sensation following the surgery. As a result, it will be possible to make the patient adapt to his/her new body image, improve care plans, reduce treatment failure and assure his/her treatment adherence along way.

To this effect, studies on this field should point out the idea of testing the progress of the psychological variables determining the adaptation process to physical changes as a consequence of the gastric bypass surgery, taking into account the fact that these changes, at first, will tend to be defined as "absolutely positive", in order to progressively integrate both positive and negative aspects when the patient's weight is considered clinically stable.

## Work Clasification

AREA: Psychology.

TYPE: Review.

TOPIC: Obesity, Body Image.

SPONSOR: None.

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