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Psychological Intervention for the Management of Body Image after Bariatric Surgery called Psychology of Body Image in Obesity Blanca Ríos (PSYCHO-BIO-BR)

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Abstract

This article aims to show the Psychological Intervention Program for Body Image (BI) Management for patients with Bariatric and Metabolic Surgery (MBS) called PSYCHOLOGY OF BODY IMAGE IN OBESITY BLANCA RIOS (PSYCHO-BIO-BR). We know that after MBS there is a rapid and significant weight loss in the short term, which causes patients to present a distorted self-perception of their body dimensions, the perception of their clothing sizes are undefined, they think that they cannot occupy certain furniture because they continue with the self-perception of having a body even with obesity, they do not feel physically ad hoc to what they experience in their daily life activities with respect to their current body size, and sometimes they do not feel the immediate weight loss post-surgery. We must pay more attention to this aspect in the process of weight loss and in its long term follow up, so that the patient can have an adequate self-knowledge of his "new body" and therefore improve his Quality of Life. This psychological intervention program aims to follow up and help the patient to mentally identify the real body dimensions with homework and activities in each session with an Integrative Psychotherapy.

Keywords:

- Metabolic and bariatric surgery
- Obesity
- Body image
- Gastric bypass
- Gastric sleeve
- Bariclip
- Body mass index,
- Cognitive behavioral therapy
- Mindfulness

Introduction

Obesity is a worldwide health problem that has been increasing in adults and children, [1] which involves critical health challenges. There are several treatments for obesity management, and one of the most effective is Bariatric and Metabolic Surgery (MBS), [2] which have been shown to be effective techniques in terms of significant weight loss and maintenance of results.[3] MBS achieves improvements in multiple comorbidities associated with obesity such as type 2 diabetes (TD2), arterial hypertension, hyperlipidemia, obstructive sleep apnea and cardiovascular diseases, which leads to a better Quality of Life (QoL) for the patient, and it has been reported how massive weight loss positively impacts QoL and other indicators such as psychosocial distress including isolation, self-esteem and body image perception,[4,5] compared to conventional weight loss interventions such as nutritional counseling, exercise and pharmacological treatment.[6,7] Depending on the bariatric procedure, patients can lose 40 to 75% of excess body weight during the next 3 years after MBS. However, the dramatic weight reduction after Surgery, which is generally a short period of time (the 3 months after the intervention), can lead to distortion of body image perception, self-esteem and self-perception.[8] Among the sometimes-overlooked adverse consequences of massive

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weight loss associated with MBS is excess skin in different regions of the body (e.g., abdomen, thighs, upper arms, chest), which can lead to patient dissatisfaction and may present physical and psychosocial problems, challenges that can affect their health and ability to function. Many occasions a high percentage of patients present body dissatisfaction and at the same time difficulty to accept, assume and introject their "new body", losing in some cases the real dimensions of some parts of their body or not adequately understanding their current body proportions. The patient becomes aware of the changes his body is undergoing during weight loss and knows the causes of these changes. However, they are not able to perceive the reality versus perception regarding their body dimensions, since in many occasions their visual perception is not in accordance with the kilograms lost, the spaces they feel are not ad hoc to their body, the furniture is not big enough to occupy it, etc. In general, patients find it difficult to have an adequate introspection during the process of weight loss, which occurs gradually, so I consider necessary a Psychological Intervention to help them to achieve a better knowledge of their body.

Body Image, Obesity, Bariatric and Metabolic Surgery

The concept of BI is a theoretical construct widely used in the field of Psychology, Psychiatry, Medicine in general or even Sociology. It is considered crucial to explain important aspects of personality such as self-esteem or self-concept, or to explain certain psychopathologies such as dysmorphic and eating disorders. [9]

According to Rosen (1992), BI is a concept that refers to the way in which one perceives, imagines, feels and acts with respect to one's own body. In other words, perceptual, subjective (such as satisfaction and dissatisfaction, worry, cognitive evaluation, anxiety) and behavioral aspects are contemplated. [9]

Thompson (2001) conceives the BI construct as consisting of three components: perceptual, subjective (cognitive-affective) and behavioral. In other words, BI is a complex construct that includes the perception we have of the whole body and each of its parts, as well as its movement and limits, the subjective experience of attitudes, thoughts, feelings and evaluations, and the way we behave derived from the cognitions and feelings we experience. [10]

The BI corresponds to the perception of oneself about one's body. There are associated sociocultural factors, it has been reported that the higher the socioeconomic and knowledge level, the higher the incidence of distorted personal BI,[11] due to the high social demand that exists, as well as the stigma and discrimination of people living with obesity that manifest stereotypes related to negative attitudes towards obesity, and are reflected in discourses, the media, intimate social groups and/or the family.[12-14]

One of the constructs studied in relation to the experience of patients undergoing surgery, and of people with obesity, is that of BI.[15,16] For example, Raich (2000) states that social pressure towards thinness can generate a serious disturbance in BI, especially in people with obesity. Similarly, it has been pointed out that in this type of population, a negative self-image of the body is generated, [16] which in turn creates excessive concerns about it,[13] and there is a low satisfaction of people who experience this condition with their BI.[17] Additionally, it is important to understand the concerns and satisfaction of these people regarding their BI since they affect their interpersonal relationships, their performance in daily life and their identity.[18,19]

Now, it is important to highlight the cultural differences that nations have in relation to BI and obesity, Western countries have a strong tendency to value thinness as an ideal of beauty, which leads to reflect that procedures such as MBS, beyond the health benefits, can be an "effective" solution for patients to accommodate their BI to Western beauty models, even considering the risks involved in these interventions. According to the above, the increase of these surgeries globally may be connected to the social pressure towards thinness to which patients are exposed. [19,20]

There is no conclusive evidence on how changes in BI possibly occur in patients with MBS, i.e., hypothetically, changes are not directly due to the physical changes that these patients may undergo.[20] It is then discussed that there may be improvements in some aspects of HF assessment, but not in others. However, patients with MBS present distortions in their body dimensions, without fulfilling the diagnostic criteria of Body Dysmorphic Disorder,[22] since this distortion of the BI is observable by the patient and others, in addition to the fact that this result is due to the rapid weight loss and sometimes there is excess adipose tissue, to the point of having excess flaccid skin, which eventually requires post MBS plastic surgery.

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All this leads to understand the BI as a multidimensional psychological experience, in whose construction have an important role beliefs, perceptions and emotions about the body,[23,24] and that plays a fundamental role both in the QoL of people and in the strengthening of emotions, social skills, assertiveness and personal competences.[25] In that order, MBS would become a procedure that affects not only the physical dimensions, but also has psychosocial consequences, [15,16] so it is important to understand the effects of this surgical procedure on the multidimensional construction that the subject makes with respect to his own body, since it would not necessarily act in the same way in each individual and in all the dimensions of his psychological experience.

It is a medical and psychological challenge to manage the BI of patients with MBS, and the importance of psychological support can be observed to achieve a new way of life for patients so that they can have more adaptive behaviors.

It is necessary to have a program of strategies for the management of BI in patients with MBS, since one of the aspects of great importance in lifestyle changes after surgery is the acceptance of their "new" image, and it has been seen that the higher the BMI, the greater the distortion of the image.

A high percentage of patients experience body dissatisfaction and difficulty accepting, assuming, and internalizing their "new body," in some cases losing sight of the actual dimensions of certain parts of their body or failing to adequately understand their current body proportions. Patients become aware of the changes their bodies are undergoing during weight loss and understand the causes of these changes. However, they are unable to perceive the reality versus their perception of their body dimensions, as in many cases their visual perception is not in line with the kilograms lost, they feel that spaces are not ad hoc to their bodies, furniture is not large enough to occupy, etc. In general, patients find it difficult to have adequate introspection during the weight loss process, which occurs gradually. For this reason, the Psychological Intervention for Body Image Management after Bariatric and Metabolic Surgery called Psychology of Body Image in Obesity Blanca Ríos (PSYCHO-BIO-BR) has been created. This consists of using different psychotherapeutic techniques with specific activities, carried out over at least one year, to achieve adequate awareness of the patient's body dimensions so that they can have a real and gradual introjection of the post-CBM BI and act in accordance with their "new body" in all areas of their life. Therefore, the aim of the article is to show the psychological intervention program PSYCHOLOGY OF BODY IMAGE IN OBESITY BLANCA RíOS (PSYCHO-BIO-BR) for the management of BI in patients undergoing MBS.

Methodology

A literature review was conducted in scientific search engines on the techniques used for body image management in patients undergoing bariatric and metabolic surgery (Table 1).

There are multiple psychological interventions for managing BI in patients with obesity and/or eating disorders, using various isolated psychotherapeutic techniques. However, they do not fully encompass the management of BI post-MBS, so a combined psychological intervention is necessary, through Integrative Psychotherapy, which involves the use of various psychotherapeutic techniques. [26] This intervention was structured to include Cognitive Behavioral Techniques, Solution-Focused Therapy, and Mindfulness.

Psychological Intervention Program for Body Image Management called Psychology of Body Image in Obesity Blanca Rios (PSYCHO BIO-BR).

The sessions and activities of the PSYCHO-BIO-BR Program are presented below (Table 2):

Discussion

It is known that Bariatric and Metabolic Surgery is an effective technique for weight loss in patients living with obesity[27,28] and the control of their co-morbidities[29] and the very rapid decline causes there to be a distortion of BI,[8,30] so it is important to work on HF from the pre-surgical stage and in long-term follow-up, and to create models of care suitable to help the patient to better adapt to these post-surgical body changes.[11]

It is recommended to extend psychological intervention for post-CBM body image management (PSYCHO-BIO BR) to one year or more, as follow-up is necessary and essential. However, it is difficult to carry out prolonged follow-up, as

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Table 1.

Empirical Studies for the Management of Body Image in Patients with Overweight, Obesity and Bariatric Surgery

Title and author(s)	Objective(s)	Intervention	Results	Country
Cognitive-behavioral strategies for the treatment of obesity. (López & Godoy, 1994).	Efficiency of a program for the treatment of obesity that includes three types of categories: cognitive, behavioral and physical activity.	Self-reporting of food, exercise on irrational thoughts	The program was effective and there was a significant weight loss and they achieved the acquisition of healthy habits.	España
Cognitive behavioral intervention on body image. (Sanchez et al., 2004).	The objective is the review of interventions on BI Disorder and the application of CBT in students of the University of Barcelona.	Body shapes questionnaire Interview for Body Dysmorphic Disorder Interview for the TCAs Rosenberg Self-Esteem Interview Brief Symptom Inventory Beck Depression Inventory.	Treatment has produced a significant improvement in satisfaction with BI and at 3- and 6-month follow-up. The efficacy of the treatment is reinforced by significant changes in BMI. .	España
The higher the BMI, the greater the degree of body image dissatisfaction. (Casillas et al., 2006).	The objective was to assess the degree of dissatisfaction of the I of people attending a university primary care center.	Stunkard pictogram.	A positive correlation was observed between the degree of dissatisfaction and BMI. As well as risk factors.	Mexico
Self-image perception in obese or overweight patients. (Abad et al., 2012).	The objective was to compare the selected figure with the Stunkard Silhouettes and BMI in overweight and obese patients.	Stunkard silhouettes	The concordance between the two was poor, with a marked predominance of underestimation of BMI in patients with obesity. Significance was higher among the The study was also found in women, in participants with a lower level of education, and among those who presented some component of metabolic syndrome.	España
A 5-year follow-up study of Laparoscopic Sleeve Gastrectomy among morbidly obese adolescents: Does It improve Body. Image and prevent and treat Diabetes? (Ahmed et al., 2018).	To evaluate the efficacy of Sleeve Gastric for weight reduction, resolution and improvement of obesity, comorbidities and psychological aspects in the short and long term in morbidly obese adolescents.	Body image Questionnaire (BIQ- 14 items).	Study with some limitations. Improvement in Quality of Life at 6 and 12 months post MBS.. Adolescents are more active and willing to participate in school activities.	Saudi Arabia
Body Image as a potential motivator for Bariatric Surgery. (Makarawing et al., 2020).	This is a case-control study evaluating the differences in BI among patients with MBS and their weight with the general population.	Multidimensional Body-self Appearance Orientation Relations Questionnaire Appearance Scale.	The results support findings from previous studies supporting the influence of weight loss satisfaction and BI after MBS.	Netherlands
Contributing of CBT in the context of Bariatric Surgery. (Cheroutre et al., 2020).	El objetivo es identificar la contribución de la TCC en el contexto de la CBM. The objective is to identify the contribution of CBT in the context of MBS.	Review article with 98 citations Group sessions before and after MBS.	CBT has shown improvement in eating behavior, psychological co-morbidities and weight..	France
Body Image Disturbances and weight bias after bariatric surgery. (Meneguzzo et al., 2021).	The objective is to perform a semantic evaluation of BI in patients with MBS compared to a control group of obese or overweight patients without MBS.	IBody Dissatisfaction Self-esteem Body perception Semantic Evaluation of Body Images.	The results report that patients have greater psychological burden and more difficulties in judging their bodies than the control group. The mental representations of their body seem not to be linked to their BMI. The findings provided useful information for the design of specific BI interventions in people with obesity, overweight and MBS.	Italia
The Influence of Weight-Related Self-Esteem and Symptoms of Depression on Shape and Weight Concerns and Weight-Loss 12 Months After Bariatric Surgery. (Felske et al., 2021).	The objective is to assess weight-related self-esteem and depressive symptoms before and at 12 months post-MBS and whether they are associated with changes in weight and figure concerns independent of weight loss; also depressive symptoms and/or weight-related self-esteem.	Depression and self-esteem symptoms at pre and 12 months associated with changes in image and weight. Improved weight and image Improved weight and self-esteem.	Results report improvement in weight-related self-esteem, figure and weight concerns, depressive symptoms, and BMI from before to 12 months post-MBS. Improvement in depressive symptoms was associated with improvement in weight concerns, but not shape concerns. And self-esteem associated with weight and shape and weight concerns, but not depressive symptoms, were associated with improved weight loss.	Canadá

Note: *BI: Body Image; BMI: Body Mass Index; CBT: Cognitive-Behavioral Therapy; BMS: Metabolic and Bariatric Surgery.*

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Table 2. Psychological Intervention Program PSYCHO-BIO-BR

Num of session	Moment of the intervention	Technique	Objectives	Activities in each session	Suggested questions	Material	Homework and in-session activities.
1	15 days to one month prior to MBS	Initial interview	a) Elaborate a complete interview to know the patient's current emotional state. b) That the patient adequately understands the MBS that will be performed on him/her. c) Explain in detail their post-surgical lifestyle changes, including changes in Body Image.	The therapeutic alliance is established, and information is collected. A semi-structured interview is carried out, where the following are evaluated: reason for consultation, expectations towards MBS, family dynamics, support networks, psychodevelopment, psychopathology, types of dining room, grief, psychiatric history of the patient and family, identification of psychological contraindications, weight, height BMI, type of MBS and date of the intervention. Pre-BC body measurements and history of BI. Inquire about the REAL expectations of your BI after MBS.	How much do you feel your BI has interfered with your life in general? In what? when? where? With whom? How many from 1 to 10, with 1 being the minimum and 10 being the maximum impact on your life in general.	2 meters x 2 meters paper (this varies depending on the patient's measurements) and colored markers. (It is suggested to apply the Stunkard Silhouettes or the Body Scale Questionnaire (BSQ), to have a pre and post assessment).	) Take a picture with your clothes from when you were living with obesity. b) Paste the paper on a wall in your home and have someone help you paint in red the outline of your whole body, in your underwear, and write down the date. Write down with a + or - sign, the parts that you like the most or the least. c) Taking a video of the patient doing some habitual activity, made by a third person, without telling the patient and then watching and analyzing the patient's movements before that activity. d) Looking in the full-length mirror without clothes on after bathing and before going to bed and touching your body.
2	15 days after MBS	SFT and CBT	a) The patient will begin to perceive the body changes with weight loss. b) The patient will learn to know the myths and realities of the importance of BI as a universal idea. c) The patient will learn to evaluate and accept his/her current Bi according to the weight loss.	Ask for waist, hip, arm, leg and bust measurements. Talk about your expectations of how you feel, emphasize that you should look in the mirror during weight loss daily. To know the components of the BI. Myths and realities of thinness or according to your culture. Acceptance of change is evaluated (See Table 1). Recognition of their own limits and expression of hope. Meaning of your BI. Emphasis is placed on the misuse of public images. Setting therapeutic goals, acceptance of self-criticism and re-defining new expectations.	What do you imagine you will look like when you lose weight? Do you have any ideas or images of someone you know, how you would like to see yourself? what are your expectations when losing weight? What do you think of thin women? What do you think about women with obesity? What do you imagine when you see an image of a thin woman on TV or any other media? Do you think a thin woman has more value in society? Do you think you are conflicted about being thin? How do you feel about looking thin? What does it mean to you, your BI?	Use of the same paper from session 1 and colored markers. Tape measure. Show you pictures of men and women in your weight or famous people. Ask if they have identified their areas that stand out the most, and what they like about them. The patient is shown images of different bodies with adjectives and the results are analyzed in the session, depending on the patient's response.	a) Take a photo with the same clothes from the previous session. b) Look in the mirror naked after bathing and before going to bed. Touch your body naked or in underwear and recognize the parts where you have lost fat. c) On the paper that was pasted on the wall in session 1, again with the help of a family member, paint your outline again in blue and note if you notice any areas that have changed with the weight loss. d) Ask a family member to retake a video of him or her doing an activity without telling you and then review it in session. e) Review homework from the previous session.
3	1 month post MBS	SFT and CBT	a) To know which parts of his body, bother and please him the most. b) To understand which part of his body has the most meaning for him and why?	Explain about the standards of beauty in our culture. Symbolisms of each part of your body that causes you conflict and your emotions and thoughts are evaluated. Learn to give an adjective to body parts either negative or positive.	Do you think that in our culture thinness is synonymous with? What do "areas of increased fat accumulation" symbolize to you, and what do you feel and think about it? What would you say to each area of your body that has lost fat? How would you say goodbye to your obese body, what would you say to it or what ritual would you do to that large body?	Use the same paper from session 1 and colored markers. A picture of the patient with obesity and to say goodbye to "himself. Images of thin women can be used to work on their perception in this regard.	a) Take a photo with the same clothes as in session 1. b) Keeping a self-record of concerns and behaviors in relation to different areas of your body, e.g. what it feels like to feel your hip bones, what it feels like to see yourself in the mirror with less abdomen, what you think about feeling your neck bones, being able to bend your legs when sitting, etc. c) On the paper you stuck on the wall of your house from session 1, again with someone's help, paint your outline again in green and write down the feeling and thought of each area where you have lost weight. Note the + or - signs of the parts of your body that make you uncomfortable and create positive affirmations, areas that you previously and often criticized. d) Ask a family member again to take video of an activity he/she is doing without telling you and then review it at the next session. e) Review assignments from the previous session
4	2 months post MBS	SFT and CBT	a) To know the importance of their body according to their life history, experiences and family education. b) To understand the relationship between food, their thoughts, emotions and behavior and their BI. c) Learn to accept pleasant comments from others.	Connections between aspects of themselves, their environment and biographical elements. Valuation of feelings and emotions and beliefs regarding their BI. Work on the roots of the subjective behaviors of your BI. Elaborate by hierarchies the anxiety caused by each part of your body. Do Jacobson's Relaxation exercise and Diaphragmatic Breathing. Learn to give a positive adjective to the parts of the body, which are pleasing to you.	How does your BI influence your social, work, sexual and personal environment? What irrational thoughts exist in relation to your BI? What area of your body, in order of 1 (min) and 10 (max), causes or caused you anxiety? What parts of your body do you still feel the most volume? Do you feel you look the same as before? What would be the differences?	Use the same paper from session 1 and colored markers. Ask to be in a comfortable place for the Relaxation exercise.	a) Take a photo with the same clothes as in session 1 b) Review the self-reporting of their concerns and identify misconceptions and favorable behaviors about their BI. c) On the paper that was pasted on the wall of your home from session 1, again with someone's help paint your outline again in yellow and write down the feeling and thought of each area where you have lost weight. d) Ask a family member to take video of another activity they are doing without telling you and then review it in session. e) Carry out the Relaxation and/or Breathing exercises.
Subsequent sessions once a month	3 or more months post MBS	CBT and Mindfulness	a) Teach you to value areas of your body that at some point you had devalued. b) Understand your real but not ideal IC and the benefits you are having c) Learn Mindful Eating exercises to have a full attention when eating. d) Reinforce their self-esteem with positive words about what they have achieved.	Discover new positive aspects of yourself and that not everything revolves around your BI. Know the importance of BI in your life and environment. Teach administered exercises to feel less body weight, specified in the homework at home. Video related to physical appearance, health and emotional pleasure. Mindfulness about body changes. Identify what he wants or how he wants to look in the short-, medium- and long-term future. Acceptance of oneself as he/she is. Check list of what you have achieved. List of achievements in previous sessions. Closing of the session with all the photos and videos taken during the past sessions.	What have you discovered in relation to your BI? Is your waistline more noticeable? Have you felt lighter? What have you seen in the mirror, what do you see now? Do you like what you see in the mirror? What do you think about it? How do you feel about it? Do you feel that your self-esteem has improved? Do you feel that you are happier now Do you feel more attractive? Do you feel you accept yourself? What do you feel is missing to reach your goal?	Use the same paper from session 1 and colored markers. Photos, videos and writings that have been made in past sessions.	a) Take a photo with the same clothes as in session 1. b) Do exercises at home to feel lighter, such as rolling on the floor, climbing stairs and see how you feel, putting on clothes that did not fit you before, trying to do some squat type exercises that you could not do before. c) On the paper that was pasted on the wall of your house from session 1, again with someone's help paint its outline again in purple. d) Place small stars on the parts of your body where you consider them to be achievements or on the parts you feel you have changed, or some word or sticker alluding to being a great achievement. e) Close the session with all the material accumulated in the past sessions. It is recommended to extend this program preferably up to one year post MBS to be able to continue it and work with the material that the patient creates together with the therapist.

Note: *BI: Body image; MBS: Metabolic and Bariatric Surgery; BMI: Body Mass Index; CBT: Cognitive Begavuiral Therapy; SFT: Solution Focused Therapy.*

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patients show poor therapeutic adherence post-CBM, but it would be important to postpone it as long as possible or, alternatively, to do it in a group setting. This intervention was created in a doctoral thesis where it was compared with psychoeducation and whether there were significant differences between the groups, and it was concluded that it is also useful to do it in combination, i.e., PSYCHO-BIO BR psychological intervention and psychoeducation.

The importance of multi-inter- and transdisciplinary support should be emphasized, which has been shown to improve HF during follow-up and optimal weight loss in MBS.

The work of the BI is not a simple task; it is one of the most complex and late aspects that hinders the achievement of an adequate adaptation during weight loss. It is evident that the patient is sometimes not psychologically prepared for such beneficial changes, or perhaps he/she is not used to having a good BI and all that it implies.

MBS has been a useful and successful tool for many years, it has helped to benefit the lives of patients, not only to avoid medical comorbidities but also around mental health, where there is an improvement in self-esteem, self-care, self-image, social, family and sexual relationships, work, etc.

Therefore, it is always recommended to carry out psychological evaluations pre and post intervention, as well as the longest possible follow-up, which will allow the patient to achieve an adequate adaptation of his new lifestyle and that it is forever and that he really becomes a happy human being.

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