

BODY PERCEPTION AND BARIATRIC SURGERY: THE IDEAL AND THE POSSIBLE*Percepção corporal e cirurgia bariátrica: o ideal e o possível*

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Research conducted in the Clinical Hospital
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ABSTRACT - Background – Bariatric surgery helps significantly in weight loss. Little is known whether the change in body shape and size is enough to meet the expectations created preoperatively. **Aim** – To evaluate the different perceptions of body size and shape before and after bariatric surgery. **Method** – A total of 423 patients were evaluated by Nine-figure Outline Scale. Of these, 32% were pre-surgery (PreS), 20% were evaluated between 10 and 12 months after surgery (PO-1), 13% between 18 and 24 months (PO-2), 15% between 30 and 36 months (PO-3) and 20% after 42 months of operation (PO-4). Groups were compared using one-way analysis of variance. **Results** – When choosing figures that represented a man and a woman of normal size, no differences were observed between groups. Regarding the choice of figures representing the own size, differences were observed between groups PreS and all other groups ($p < 0.001$), and PreS chosen larger figures. In choosing figures that represented a size that believed they could achieve, PreS differed from the PO-1, PO-2 and PO-3 ($p < 0.001$), showing a tendency to choose larger silhouettes after surgery. When choosing figures that represented a size that would like to have PO-4 differed from PO-1 and PO-2 ($p < 0.05$), showing that in the PO-4 there was a tendency to choose larger figures. **Conclusion** – The body perception seems to comply with own body size, even after weight loss. As longer postoperative period, the participants were more aware of the real possibilities of weight loss. There were signs of dissatisfaction with the body size and shape, mainly in the PO-1 and PO-2, which can lead to frustration and little use of the benefits of the surgery for health and quality of life.

HEADINGS - Bariatric surgery. Body image.
Obesity. Weight loss.

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RESUMO - Racional – A cirurgia bariátrica favorece significativa perda de peso. Pouco se sabe se a mudança no tamanho e forma corporal é suficiente para suprir as expectativas criadas no pré-operatório. **Objetivo** – Avaliar as diferentes percepções de tamanho e forma corporal antes e após operação bariátrica. **Método** – Foram avaliados 423 pacientes utilizando-se a Escala de Desenhos de Silhuetas. Desses, 32% foram avaliados no pré-operatório (PreO), 20% entre 10 e 12 meses após a operação (PO-1), 13% entre 18 e 24 meses (PO-2), 15% entre 30 e 36 meses (PO-3) e 20% a partir de 42 meses da operação (PO-4). Os grupos foram comparados utilizando-se ANOVA (SPSS 17.0). **Resultados** – Ao escolheram figuras representativas de um homem e de uma mulher de tamanho normal, não se observaram diferenças entre os grupos. Quanto às escolhas de figuras que representavam o próprio tamanho, o grupo PreO diferenciou-se de todos os grupos ($p < 0,001$) escolhendo figuras maiores. Ao escolherem figuras representativas de um tamanho que acreditavam que poderiam alcançar, o grupo PreO se diferenciou de PO-1, PO-2 e PO-3 ($p < 0,001$), mostrando tendência a escolha de figuras de silhuetas maiores depois da operação. Nas escolhas de figuras que representavam um tamanho que gostariam de ter, o grupo PO-4 se diferenciou de PO-1 e PO-2 ($p < 0,05$), mostrando que no PO-4 houve tendência a escolha de figuras maiores. **Conclusão** – A percepção corporal parece estar de acordo com o próprio tamanho, inclusive após perda de peso. Quanto maior o tempo pós-operatório, maior a consciência das reais possibilidades de perda de peso. Observaram-se sinais de insatisfação com o tamanho e forma corporal, principalmente no PO-1 e PO-2, o que pode levar à frustração e pouco uso dos benefícios da operação para a saúde e qualidade de vida.

DESCRIPTORES – Cirurgia bariátrica. Imagem corporal. Obesidade. Perda de peso.

INTRODUCTION

Obesity can be defined as a disease resulting from abnormal or excessive accumulation of fat so that it can result in damage to health²³. Obesity is a clinical and chronic disorder. It is difficult to be controlled and has a multifactorial origin, involving different aspects in its genesis and maintenance^{15,21,4,24,10}.

Specifically regarding morbid obesity, there are very significant losses related to physical and mental health, which can lead people to seek alternatives to drastic weight loss, such as bariatric surgery. In recent years there has been an increase in performing these surgical procedures because, after the procedure and consequent loss of weight, people begin to experience significant improvements, particularly in healthcare^{2,8}.

Regarding psychosocial aspects obese individuals experience significant damage which affect multiple aspects of their lives¹⁴. Because of these many damages, as well as different forms of discrimination, obese people have experienced problems related to depreciation and dissatisfaction with their body image^{15,11}.

Regarding psychosocial issues related to body image perceptions before and after surgery, it's not known whether the changes observed after weight loss are maintained over postoperatively time. There is no doubt that bariatric surgery is related to important psychosocial benefits for the patient⁶. In relation to the body after a few months, changes become apparent as evidenced by weight loss. Some studies have indicated the fact that with the weight decrease is also evident the improvement in the perception of body shape and size¹². A study of 109 patients who underwent bariatric surgery showed significant decrease in body dissatisfaction and decreased concern with the body after six to 12 months after surgery, a period in which patients were still obese⁶. Another study of patients undergoing bariatric surgery, the authors sought to understand the relationship between different constructions of body image, and seek to understand how body image is built into the personality of a person as well as how it gives the overvaluation of shape and weight in obese patients⁹. The authors concluded that after bariatric surgery patients showed decreased rates of overvaluation of weight and body shape, decreased body dissatisfaction, decreased negative affection, and an improvement in self-esteem.

However, the question is about the maintenance of these changes over postoperatively time. No studies were found that evaluated these changes in relation to body image within a continuum of time.

The objective of this study was to evaluate the

different perceptions of body size and shape (normal, real and ideal) of patients who were preoperatively bariatric surgery compared to patients coming from different postoperatively time.

METHOD

This research was approved by the Ethics Committee of the Clinical Hospital of the Faculty of Medicine of Ribeirão Preto, University of São Paulo, according to the process n ° 8763/2009. All participants signed an informed consent form.

Participants

The study included 423 adults male and female, all from the Bariatric Surgery Center of the Clinical Hospital of the Faculty of Medicine of Ribeirão Preto – USP. Of these, 71 (28%) had not undergone bariatric surgery (PreS), 66 (26%) had surgery between 10 and 12 months (PS-1), 38 (15%) had undergone surgery between 18 and 24 months (PS-2), 36 (14%) between 30 and 36 (PS-3) and 46 (18%) had surgery for over 42 months (PS-4).

Table 1 shows the frequency and percentage of participants by gender and body mass index according to the different time intervals.

TABLE 1 – Frequency and percentage of participants by gender and Body Mass Index (BMI) according to the different time intervals

Period	Women F (%)	Men F (%)	Mean BMI (kg/m ²)
PreS (pre-surgery)	114 (83)	23 (17)	51,43
PS-1 (between 10 and 12 months)	73 (86)	12 (14)	33,8
PS-2 (between 18 and 24 months)	50 (89)	6 (11)	30,6
PS-3 (between 30 and 36 months)	49 (79)	13 (21)	30,7
PS-4 (after 42 months)	66 (80)	17 (20)	33,3

Material e tools

We used the following materials and tools: a) precision balance and tape-measure, with the goal of measuring height and weight of the participants, b) semi-structured interview, developed according to the research objectives, used as a complementary source of information demographics; c) Nine-figure Outline Scale (Stunkard, Sorensen & Schulsinger, 1983²⁰), in order to evaluate the perception of body image.

This scale consists of a group of eighteen cards, comprising nine drawings of male silhouettes and nine drawings of female silhouettes organized in an increasing order in relation to the body size. For this study we suggested that each card has a number which corresponds to a BMI class, defined as: cards 1 and 2 = no obesity, card 3 = overweight, cards 4 and 5 = obesity grade I; cards 6 and 7 = obesity grade II; cards 8 and 9 = morbid obesity.

Data collection

Patients were contacted in the Bariatric Surgery Center of Clinical Hospital of the Faculty of Medicine of Ribeirão Preto – USP on the occasion of their return for the follow up with the physician and / or nutritionist. Assessments were made in one session. We tried to maintain the adequate environment regarding privacy and lighting for the application of the instruments. First anthropometric measurements were made by measuring the height and weight of the participants in order to calculate the body mass index. Then we made the interviews and the application of Nine-figure Outline Scale. In this, participants should make the following choices:

1. Choose a figure that represents a normal size man
2. Choose a figure that represents a normal size woman
3. Choose a figure that represents your own size
4. Choose a figure that represents a size that you believe you can achieve if you want to change your weight
5. Choose a figure that represents a desired body size

Patients were invited to participate in the research protocol that included more extensive evaluation. Thus, it is noteworthy that the data presented here is part of a more comprehensive evaluation.

Data Treatment

For coding of Nine-figure Outline Scale, established the criteria used by Nogueira de Almeida, dos Santos, Pasian and Loureiro (2005)⁷. For different questions, the number of figures chosen corresponds to scores awarded to choices with values 1-9. After coding, we calculated the frequency of occurrence of the scores and the groups were compared using analysis of variance - ANOVA (SPSS 17.0)

RESULTS

In choosing on a figure that represents a normal size man, there was no difference among groups. We observed in all the periods an extensive distribution of choices, particularly among the sizes "normal weight," "overweight" and "obesity class I" (Figure 1).

Among the choices of silhouettes of figures representing a normal size woman, there were also no significant differences between groups. However, in all periods we observed more choices on "eutrophic" figures (Figure 2).

In choices related to the figure that represents your own size, PreS group differed from all groups ($p \leq 0,001$), showing higher concentration of choices among the figures of larger size (Figure 3).

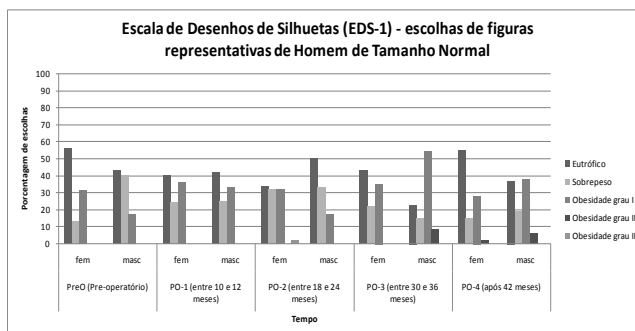


FIGURE 1 – Choosing a figure that represents a normal size man

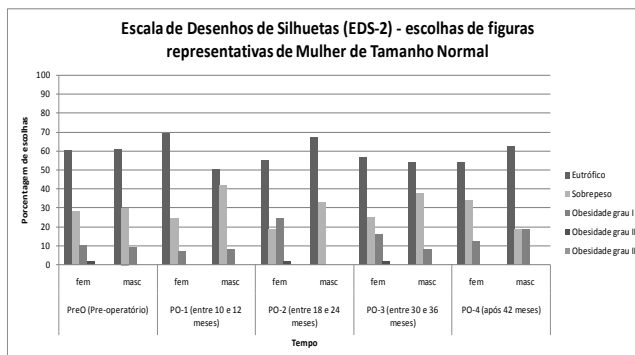


FIGURE 2 – Choosing a figure that represents a normal size woman

In relation to the choices corresponding to a size that participants believed that they could achieve PreS group differed from the group PS-1, PS-2 and PS-3 ($p \leq 0,05$), showing a tendency to choose size figures larger after the surgery (Figure 4).

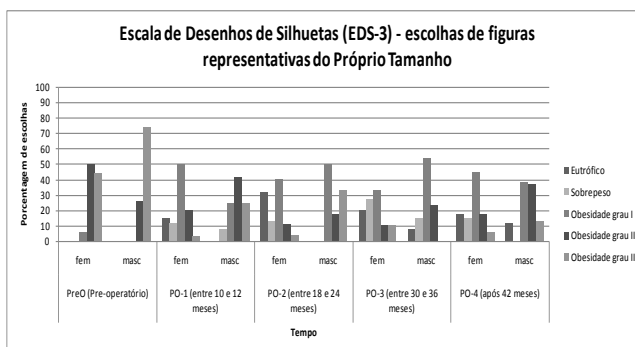


FIGURE 3 – Choosing figure that represents your own size

In the choices of figures related to the desired body size, most of them, regardless of the period (pre or post surgery), chose most representative figures of normal weight, with no difference among groups (Figure 5).

DISCUSSION

This study aimed to evaluate the different perceptions of body size and shape (normal, real and

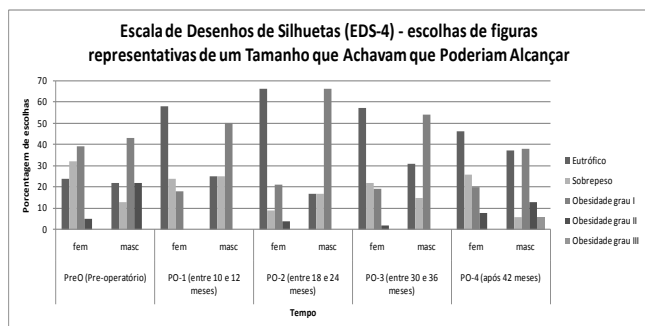


FIGURE 4 – Choosing a figure that represents a size that participants believed that they could achieve

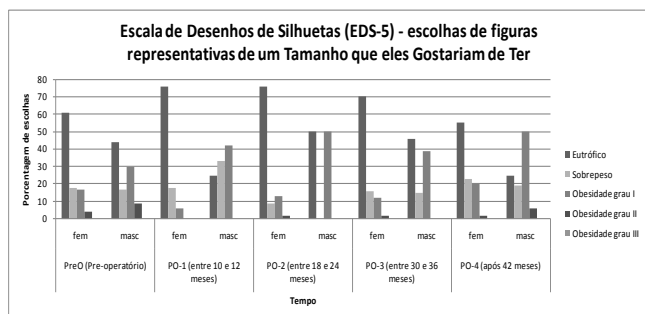


FIGURE 5 – Choosing figure that represents a desired body size

ideal) of patients attending a bariatric surgery center. We used a range of silhouettes drawings which was applied both before and after the surgery in different periods.

When patients chose a figure that represents a normal size man, most choices in different periods were representative of eutrophic figures. The only exception occurred in the group PS-1 when the majority chose figures representing obesity class I as the normal size man, pointing to an aspect of lesser demanding in relation to man about what is considered normal. These choices were exactly at the time when these people were losing most amount of weight. It is supposed that, when they found themselves thinner, the demand appeared to decrease in relation to the perception of normal size and weight of a man. Furthermore, it can be considered that requirement for a man body size is different with respect to women. In general, women are demanding by themselves and they are also required to have slimmer bodies to be considered "normal"^{1,5}. This can be shown in the choices of figure that represents a normal size woman when, in all periods, most of these choices were eutrophic figures.

In the choices that represent their own size, the data suggests that the perception of the patients after surgery was in accordance with the weight loss experienced and the consequent changes in body shape and size. This result points to the accuracy of body perception when these patients are in sharp changing process in relation to the size and shape of the body. Considering that the obese tend to overestimate the

size of their own body¹⁹, it is supposed that the most adequate perception of own body size at this time may be related to the expectations at this time. That is, since these people are in the process of weight loss, at this time would be acceptable for them to see how they really are. This attitude could be felt even as a stimulus for a more significant weight loss.

When patients made choices of figure that represented a size that they believed they could achieve if they wanted to change their weight, they seemed to show some consciousness about their real possibilities of reaching a body size and shape, especially in PreS when they chose most representative figures of obesity class I. Maybe this time, the patients have been more careful with their expectations. However, when they chose figures that should represent the size they would like to have, the data pointed to feelings of dissatisfaction and discontent with body image, and a desire to be different from the way they were.

The difference between judgment of a person with morbid obesity before undergoing bariatric surgery and another person who has operated seems to be associated with the attitude of that person in front of his/her own body - acceptance or rejection, positive or negative - and not necessarily the body shape and size. In this sense, the social and cultural patterns perpetuated by society can be considered responsible for carrying strong influence on the assessment of body image, which does not seem to remain stable over time postoperatively.

The excess of body weight and obesity itself are conditions that always accompanied the human history, with appreciation periods of these conditions, when the rounded bodies were a synonym of beauty patterns as in opposition to other periods of extreme depreciation and demands of beauty patterns. Nowadays of all conditions stigmatized by Western culture, the stigma of being overweight seems to be the most debilitating, since it is a visible condition to all people and because of this can affect significantly the social interactions of these individuals. The society in a general way can be identified as an important source of social norms of thinness, particularly among women, since it perpetuates the stereotype of the association between thinness and positive attitudes such as: sense of control, success and attractiveness^{11,13,18}.

The present results point to the fact that these patients often do not consider that the body shape and size possible to be achieved after bariatric surgery is quite different from that size and shape previously idealized or aspirated. This inconsistency in perception about themselves may contribute to the possible failures that they can face in the post surgery period, which can lead to feelings of dissatisfaction in relation to themselves or to the surgery itself. In this sense, these patients begin to make little use of the real benefits that can be derived from such surgery, like gains relating to their health and quality of life^{2,8,16,17,18}.

The body dissatisfaction is often expressed by the discrepancy between the perception and the desire for the body size. In this regard, the Nine-figure Outline Scale has contributed to discrimination between perceptions of actual and ideal body image. This can be useful in clinical practice since it allows an approximation of perceptual adaptation in relation to the idealized and to the possible with respect to changes in perception of body image⁶.

CONCLUSION

The body perception seems in accordance with the own size, even after weight loss. The longer the post surgery time the greater the consciousness of the real possibilities of weight loss. We observed dissatisfaction signals with the body shape and size, especially in the PS-1 and PS-2, which can lead to frustration and little use of benefits from surgery to their health and quality of life.

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