

## Body Image Perception of Obese Individuals Monitored at the Endocrinology Clinic

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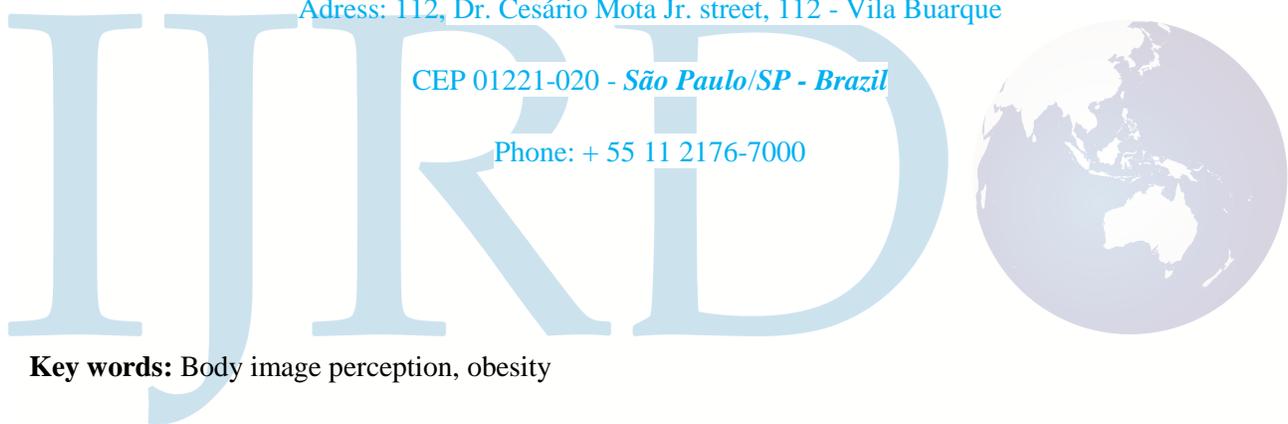
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### Abstract:

**Objective:** Evaluate body self-perception of obese patients monitored in an endocrinology clinic.

**Method:** Cross-sectional study, with data obtained via interviews from fifty obese patients receiving treatment at the Endocrinology Clinic. We used a questionnaire asking about personal characteristics, comorbidities, medication, daily habits, and the calculation of Body Mass Index (BMI) for the classification of obesity according to sample variables defined by Cole et al. Body image was determined using the silhouette scale. **Results:** predominance of females with an association of obesity to other comorbidities such as diabetes mellitus, dyslipidemia, and arterial hypertension. In 44% of patients, the predominant behavioral profile was anxiety. The cause attributed to weight gain in 22% of cases was pregnancy, and emotional problems in 44.4%. Currently, 44% of patients assessed in this study are using adjuvant medication for weight loss, with sibutramine prescribed in 24% of cases. All these patients

received relevant nutritional guidance. 40% of patients undertake physical activity. The main motivation for weight loss was health (48%). We can see that there is a significant variability in the distortion of body image, mainly with women, whereby 51.1% believe that their BMI is 2.5 points below the real level. In terms of intention, 40% wished to lose 5 points on the BMI, with the majority still classifying themselves as overweight even with this level. **Conclusion:** This study showed a distortion of body image, especially amongst women, demonstrating that they idealize an image less obese than what they really show themselves to be.

## Introduction

Obesity is considered a multifaceted syndrome in which genetics, metabolism, and the environment all have a role to play, assuming different clinical expressions according to diverse socio-economic settings. It is currently considered a condition of elevated prevalence, which draws the attention of clinicians, researchers, nutritionists, P.E teachers, and social workers (1,2).

The growing prevalence of excess weight and obesity in the Brazilian population was assessed through epidemiological studies and is partially attributed to dietary issues resultant from alterations in psychological state, greater access to processed food, lack of adequate information, and changes in life style and eating habits (1,3). According to the World Health Organization, globally there are 1.6 billion overweight adults, with 400 million of these being obese (4).

In considering obesity, studies investigating body image show that obese individuals have an inadequate or distorted perception of their own body (5). Reports show feelings of diminished self-worth, mainly amongst obese adolescents, however we know little about body image perception amongst adult individuals (6).

Van Kolck (1984) argues that a useful method for evaluating a patient's perception of their weight in this context is through drawings (7). The psychological sense of a drawing of the human figure has its basis in the concept of body image, which, in its turn, becomes the vehicle for the expression of personality. Interestingly, body image is projected into the drawing of the human figure, and, consequently, it reflects its own self-conception, beyond expressing different representations of the individual (7).

With a basis in a review of the literature, Friedman and Bromwell highlighted two aspects relevant to body image: dissatisfaction and distortion of body image (8). Regarding dissatisfaction, the authors show that it appears to be associated with obesity, while the data regarding distortion, though showing an association with obesity, is still not consistent.

Cash et al. affirms that body image refers to somebody's psychological experience of the appearance and functioning of his or her own body (9). According to the author, dissatisfaction associated with weight, which frequently leads to negative body image, comes from a cultural valorization of slimness and social stigma related to obesity.

Preoccupation with such harmful effects has also included psychological questions associated with obesity, mainly those connected with body image (10). This term refers to an illustration, which one has in terms of size, image, or body form, as well as feelings related to these characteristics (10). That is to say, it is a "mental picture" of their own physical appearance.

Therefore, it is a method frequently used for body image evaluation, using a series of silhouette figures, ranging from slimmer to bigger (11,12). We invited each participant to choose the figure that currently best represents him or her, and the figure that he or she would most like to have, or would judge to be ideal. We evaluated satisfaction and dissatisfaction according to discrepancies between the selected figures.

The silhouette figures possess numerous advantages: they are an easily applied and simple instrument, which does not require sophisticated infrastructure. Nor do these less abstract, visual images require great range of vocabulary or verbal fluency, which makes them especially efficient in the evaluation of body image perception (12).

In this manner, increasing knowledge about the relationship between body image and managing obesity has helped professionals to understand this factor in a more detailed fashion. In this sense, we can justify our interest in evaluating individual perception of body image associated with obesity as allowing us to achieve a better understanding and approach to these patients.

### **Objective**

Evaluate body image perception of obese patients being treated at the endocrinology clinic.

### **Method**

This is an analytic, cross-sectional study, approved by the Research Ethics Committee of the Santa Casa Medical of São Paulo. The study obtained data through evaluating and interviewing fifty closely monitored patients with obesity at the Obesity Clinic in the Endocrinology and Metabiology department. This took place between the second and third consultations, over a period of four to six months.

### Collection of Data

We collected data through a semi-structured questionnaire carried out with patients being treated at the Obesity Clinic on the second and third visits, with closed questions asking about personal characteristics, associated comorbidities, medication used, daily habits, psychological disturbances, previous treatments, and the reason for the patient wishing to lose weight.

### Body Mass Index (BMI)

For the calculation of the BMI we used sample variables defined by Cole et al., calculating by dividing body mass by the square of the height measured in meters. We determined a diagnosis of obesity as being a BMI equal to or greater than 30 Kg/m<sup>2</sup> (13).

### Body Image

We determined body image using the silhouette scale, whereby the patient indicates the silhouette corresponding to their perception (10). The scale is made up of 15 laminated cards for adults for each gender, with a height of 12.5 cm by a width of 6.5 cm, with the white figure centralized on a black background with a height of 10.5 cm by a width of 4.5 cm. In the adult scale, the median BMI correspondent to each figure varied between 12.5 and 47.5 kg/m<sup>2</sup>, with a constant difference of 2.5 points. (Figure 1)

We asked each adult to choose from the cards using criteria in the following sequence: “the figure which best represents your current size”, “the figure that would represent the size that you would most like to have”.

### Criteria for Inclusion

Aged between 20 and 40 years old, with a BMI greater or equal to 30 Kg/m<sup>2</sup>.

### Statistical Analysis

For the descriptive analysis of the data, we expressed the categorical variables with absolute frequencies and percentages, compared using the chi-Square test.

We expressed the continuous variables in mean and standard deviation and compared them using the student *t* test or Fischer’s exact test.

We set the level for the rejection of the null hypothesis at 0.05 or 5% ( $\alpha \leq 0,05$ ), highlighting the significant values with an asterisk (\*).

## Results:

We interviewed and monitored 50 patients, 45 of them women. Of these, 22 presented type 2 diabetes mellitus, with 20 presenting systematic arterial hypertension and 14 presenting dyslipidemia. Only 4 were smokers (Table 1). The first graph shows reasons for the increase in food intake ( Graph 1).

Mean weight was 85.5 Kg, with the maximum weight attained by these patients showing a median of 101 Kg, and the minimum weight of 73 Kg. The median BMI was 38.9 Kg/m<sup>2</sup>. Our study used this data for statistical finality and knowledge of the patient's obesity profile, finding a greater prevalence of obesity degree II.

The causes that led to weight gain in the 45 women can be seen in the Graph 2, being the emocional disturbs the highest motive. In the evaluation, the main motivation, which led patients to seek out our weight loss service, was health, as we demonstrated in Graph 3. We presented the comparison between prior and current treatments in the Graph 4, with a higher change in physical activity and diet.

The analysis of body image in women was mainly determined by 23 women who believed themselves to have a weight 2.5 points below the real one.(Graph 5) The evaluation of the men showed that 3 were one point below and 2 were equal.

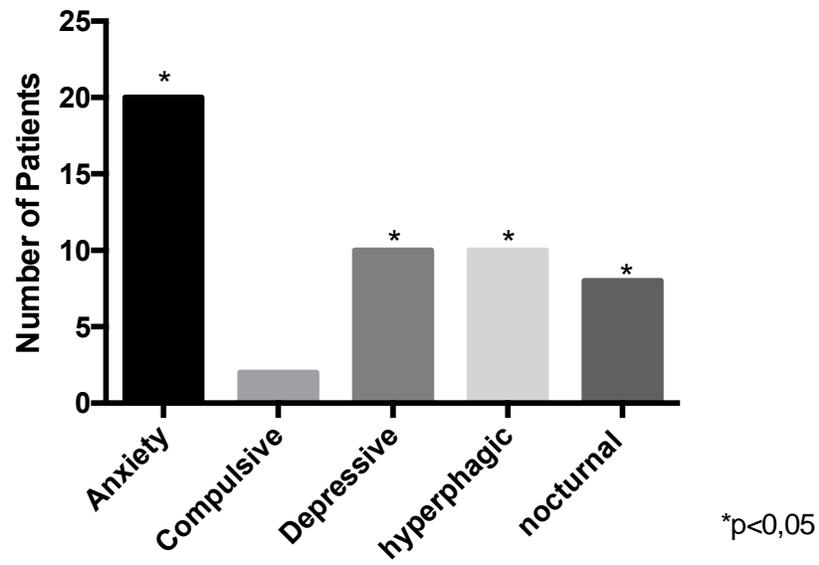
In relation to ideal weight, 18 women intended on losing 5 points, 2 on losing 10 points, 4 on losing 2.5 points, 11 intended to lose 12.5 points, 2 to lose 15 points, 2 to lose 17.5 points, and 6 already matched their current and ideal weights. Of the men, 3 intended to lose 5 points, and 2 already matched their real and ideal weights.

Table 1. Basal characteristics

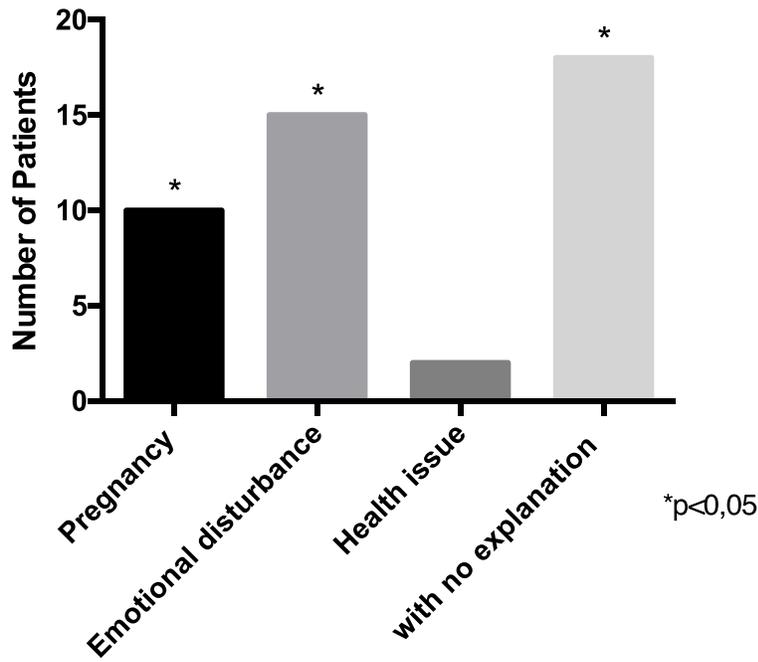
<b>Patients</b>	<b>50</b>	<b>*</b>
<b>Women</b>	<b>45</b>	<b>*</b>
<b>Men</b>	<b>5</b>	
<b>T2DM</b>	<b>22</b>	<b>*</b>
<b>Hypertension</b>	<b>20</b>	<b>*</b>
<b>Dyslipidemia</b>	<b>14</b>	
<b>Smokers</b>	<b>4</b>	

T2DM: Type 2 diabetes mellitus, \*:p<0.05

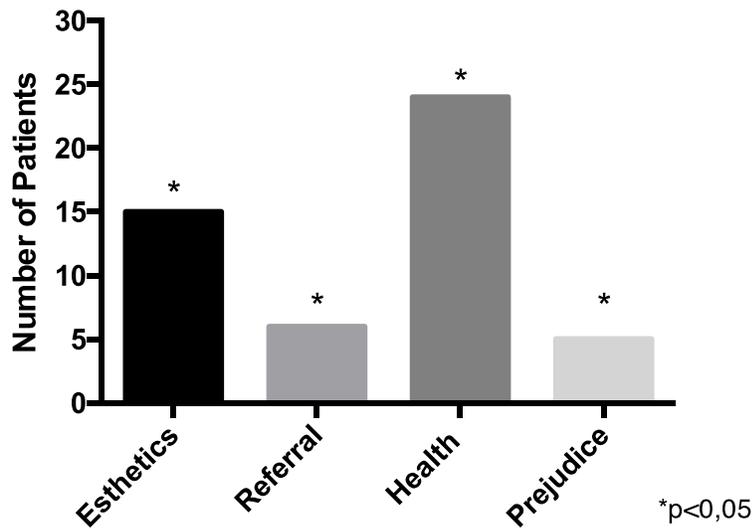
Graph 1. Behavioral profile prevalence in obese patients



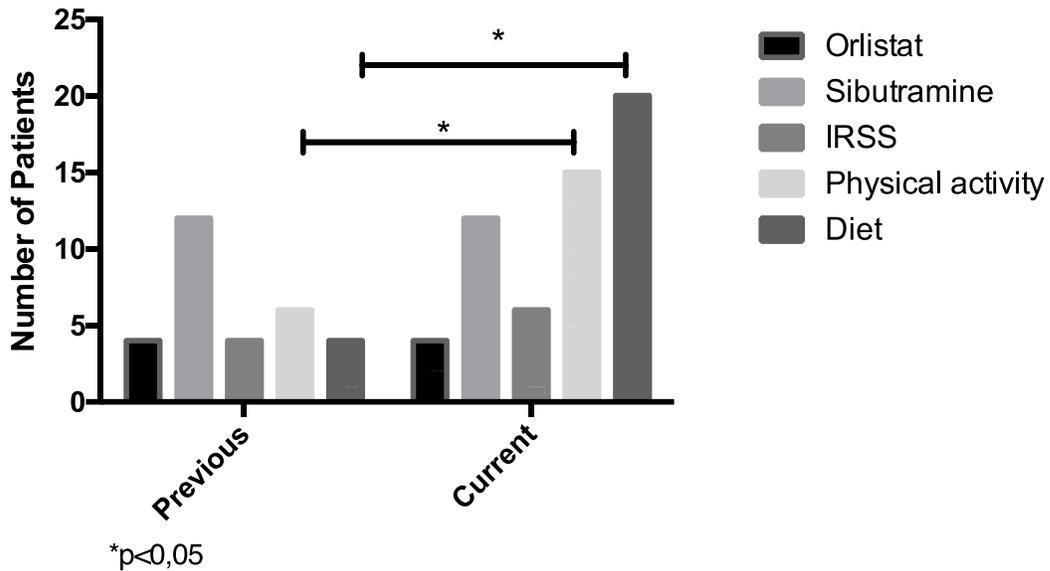
Graph 2. Causes of weight gain in women



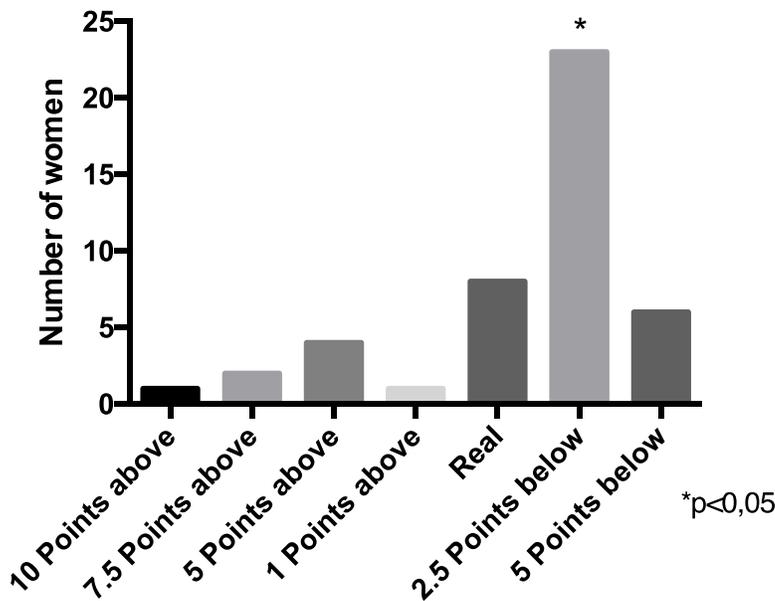
Graph 3. Prevalence for weight loss factors



Graph 4. Assesment of previous and current treatments



Graph 5. Women's body image perception by silhouette scale points. Points according to the silhouette scale in women



## Discussion

Treatment of patients with obesity keeps as a challenge. We usually use a questionnaire asking about psychological profile and previous treatment to analyze in detail the patients and their evaluation of their own body image. Besides all treatments available, still remain unclear the real benefits to lead a success in the obesity therapeutics. We emphasized this study a feature little reported in literature, about patient perception about themselves.

According to our analysis, women predominated with a significant association for comorbidities that generally accompanied obesity. These included diabetes mellitus, dyslipidemia, and arterial hypertension. Our study corroborated the study by Carneiro et al., which demonstrated a significant presence of arterial hypertension in over weight and obese patients (14). Another study in Fortaleza (Brazil) found that the prevalence of arterial hypertension could increase by 39.1% in obese individuals (15).

We can observe that anxiety was encountered in the behavior profiles of 44% of the patients. Studies by Andrade and Gorstein affirm that anxiety is an emotional state with both psychological and physiological components (16). They also claim that it is part of the normal spectrum of human experience as a developmental driver. It becomes pathological when it is disproportional in relation to the situation instigating it or when there is no specific object motivating it. Therefore, we understand anxiety as a transitory emotional state or condition of the human organism that is characterized by disagreeable feelings of tension and apprehension, consciously perceived, which takes place through an increase in the activity of the autonomous nervous system, and can affect amongst other factors, alimentary dysfunctions (17).

During this period, the psychological aspects of people affected by obesity are of primary importance. A relevant study presented at the Consensus Conference on Obesity, concluded that “obesity generates an enormous psychological burden....In terms of suffering, this burden can be the greatest adverse effect of obesity” (18).

Pregnancy, that is to say, the post-partum period in which women present the greatest difficulties to return to their previous weight, made up 22% of the cause for weight gain, while there was a prevalence of 44.4% due to emotional reasons. Few studies showed this prevalence, but many emphasized the importance of psychological evaluation of obese patients due to psychological factors that lead to many eating problems (19,20).

In terms of treatment, considering only the demonstrative and statistical criteria, 40% of patients had already successfully undertaken treatment at the time, but with relapses. However, with a significant number not receiving adequate nutritional advice, nor psychological treatment or physical activity. We change this in our follow-up. Several studies showed the importance of those tools in obesity treatment (21).

In current treatment, 44% use medication, 24% of these taking sibutramine. All of these received nutritional orientation. Of these, 40% undertook physical activity, however only 75% of these according to recommendation. Interestingly, patients using medication felt themselves to be more motivated in this study to undertake physical activity. It is worth highlighting that the introduction especially of this medication was against recommendation and maybe due to this a smaller number of patients used it.

The principal motivation for weight loss was health, corresponding to 48% of patients. This showed that esthetics and social prejudice were marginal or nonexistent factors, with unpublished articles about this.

We can see that there is a variability of body image distortion, mainly in the female sex. 51.1% believe that their BMI is 2.5 points below the real level. In terms of intention, 40% wished to lose 5 points on the BMI scale, with the majority with this level still classifying themselves as overweight. During this period, our study showed one of the factors hampering treatment of obesity, having as a conditional factor, the patient's not managing to determine adequately their excess weight.

Other study demonstrated that changes in body image were not related to changes in weight. However, they measured the Appearance Evaluation and Body Areas Satisfaction scales of the Multidimensional Body-Self Relations Questionnaire (22). Our study used a scale with images, to determine more accurately the body image perception. Since obesity is multifactorial pathology, it is important to highlight one tool that may be used to lead a success in the treatment.

Owing to the scarcity of studies considering the question of body image perception, and the ever-greater challenge for treating obesity, we showed the context of our service and the pathways that we are following in an attempt to treat in a more efficient way and with the fewest possible relapses, one of the biggest current epidemics.

## Conclusion

Through this study, we demonstrated that there are significant distortions of body image, especially amongst women, when we show that they idealize a less obese image than what they really

present. In this context, it becomes a greater challenge for the interdisciplinary team to treat these patients, who require a treatment that must be as tailor made as possible.

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