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artigo original

Binge eating disorder, anxiety, depression and body image in grade III obesity patients

Compulsão alimentar periódica, ansiedade, depressão e imagem corporal em pacientes com obesidade grau III

Maria Isabel R Matos[a], Luciana S Aranha[a], Alessandra N Faria[a], Sandra R G Ferreira[b], Josué Bacaltchuck[c] and Maria Teresa Zanella[a]

[a]Department of Medicine, Discipline of Endocrinology, Federal University of São Paulo, Medical School of São Paulo (UNIFESP/EPM). São Paulo, SP, Brazil. [b]Department of Preventive Medicine, Discipline of Clinical Epidemiology, Federal University of São Paulo, Medical School of São Paulo (UNIFESP/EPM). São Paulo, SP, Brazil. [c]Department of Psychiatry, Researcher of the Program of Binge Eating Disorders, Federal University of São Paulo, Medical School of São Paulo (UNIFESP/EPM). São Paulo, SP, Brazil.

Abstract

Introduction: The objective of this study was to assess the frequency of Binge Eating Disorder (BED) or Binge Eating episodes (BINGE), anxiety, depression and body image disturbances in severely obese patients seeking treatment for obesity.

Method: We assessed 50 patients (10M and 40F) with Body Mass Index (BMI) between 40 and 81.7 Kg/m^2 (mean 52.2±9.2 Kg/m^2) and aging from 18 to 56 years (mean 38.5±9.7). Used instruments: Questionnaire on Eating and Weight Patterns – Revised (QEWP-R) for BED or BINGE assessment, Beck Depression Inventory (BDI) for depressive symptoms, State - Trait Anxiety Inventory (STAI-TRAIT and STAI-STATE) for anxiety and Body Shape Questionnaire (BSQ) for body image assessments.

Results: In this population BED and BINGE frequencies were 36% and 54%, respectively. Symptoms of depression were detected in 100% while severe symptomatology was found in 84% of the cases. The frequency of anxiety as a trait was 70%, as a state, 54% and 76% of all patients reported discomfort regarding body image. The frequency of BED was higher in patients with higher anxiety scores as a personality trait (>40) but not as a state (46% vs. 13%; p<0,05). A high frequency of BINGE was found in those with higher scores (>140) in the BSQ assessment.

Conclusion: Our results indicate a high frequency of binge eating episodes, severe depressive symptoms, anxiety and concern with body image in grade III obesity patients.

Keywords Eating disorder. Obesity. Anxiety. Depression. Body image.

Resumo

Introdução: O objetivo desse trabalho é avaliar a freqüência de transtorno da compulsão alimentar periódica (TCAP), episódios de compulsão alimentar periódica (CAP), ansiedade, depressão e distúrbios na imagem corporal em pacientes com obesidade grau III que procuram tratamento para obesidade.

Método: Foram avaliados 50 pacientes (10M e 40F) com Índice de Massa Corporal (IMC) de 40 a 81,7 Kg/m^2 (média =52,2±9,2 Kg/m^2) e idade entre 18 e 56 anos (média de 38,5±9,7). Instrumentos utilizados: Questionário sobre Padrões de Alimentação e Peso ("Questionnaire on Eating and Weight Patterns - Revised" - QEWP-R), Inventário de Depressão de Beck ("Beck Depression Inventory" - BDI), o Inventário de Traço e Estado de Ansiedade ("State - Trait Anxiety Inventory" - STAI) e Questionário de Forma Corporal ("Body Shape Questionnaire" - BSQ).

Resultados: Nesta população, as freqüências de TCAP e CAP foram de 36% e 54%, respectivamente. Sintomas depressivos se mostraram presentes em 100% dos pacientes, sendo que 84% apresentavam sintomatologia grave. A freqüência de ansiedade como traço foi de 70% e como estado, de 54%. A preocupação com a imagem corporal esteve presente em 76% dos pacientes. A freqüência de TCAP foi maior nos pacientes com alto grau (escore >40) de ansiedade como traço de personalidade, mas não como estado (46% *vs*. 13%; p<0,05). Foi encontrada uma elevada freqüência de episódios de CAP nos pacientes com escore elevado (>140) na avaliação do BSQ.

Conclusão: Nossos resultados demonstram a ocorrência de alta freqüência de episódios de compulsão alimentar periódica, sintomas depressivos graves, ansiedade e preocupação com a imagem corporal em pacientes com obesidade grau III.

Descritores Transtornos da alimentação. Obesidade. Ansiedade. Depressão. Imagem corporal.

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Introduction

Obesity an increasingly prevalent disease around the world and is becoming one of the main public health problems in developed countries. Obesity is determined by the association of several factors: organic, genetic, environmental, cultural, alimentary and sedentariness. Emotional factors contribute incisively for the development of obesity, and may also be originated from it, aggravating the condition of the affected subject and making the treatment more difficult.[1-5]

Although there are no specific psychiatric disturbances associated to obesity, obese patients who seek treatment to lose weight have a high psychiatric morbidity.[2-7] A recent Brazilian study reports that near 15% of the patients seeking treatment for obesity suffer from eating disorders.[8] The detection of such eating disturbances is particularly important as they may interfere with the result of the treatment of obesity. The body image may also be altered in obese subjects due to the frequent changes in the body weight of patients who constantly undergo several treatments to lose weight.[7,10]

The association disturbances of the body image and the eating behavior is frequent in these patients.[11-15] Depressive and anxiety symptoms which aggravate the other conditions are also common, being present in around 30% to 50% of obese patients, respectively.[1,2,5,16-19]

It is well known that severely obese patients have an unsatisfactorily response to the conventional treatment. More recently, bariatric surgery has been successfully used, enabling a great reduction in body weight, improving other associated morbid conditions, as on the quality of life. This treatment is indicated for patients with grade III obesity, defined by a body mass index equal to or higher than 40.

The aims of this study were to assess the occurrence of Binge Eating episodes (BINGE) and Binge Eating Disorder (BED), depression, anxiety and problems associated to body image, in a population of patients with grade III obesity who sought an Endocrinological Service for treating their obesity.

Method

Patients of both genders with grade III obesity participated in the study, that is, those with a body mass index (BMI) ≥40 kg/m^2 (according to criteria established by the World Health Organization in 1998), aging 18 to 65 years, who spontaneously sought the Ambulatory of Obesity of the UNIFESP- EPM to treat their obesity. The data collection lasted for six months. This group was composed by the first 50 patients to whom was indicated bariatric surgery. For this reason, we have not included patients with severe psychiatric conditions (psychotic disorders) or with personality disorders, although mild, or with mental retardation, alcohol or drug abuse. The protocol of this study was approved by the Ethical Committee of the São Paulo Hospital, UNIFESP, and all patients agreed to participate and signed an informed consent.

When patients underwent the clinical psychological assessment gender, age, weight, height and body mass index (BMI) were recorded. Patients then answered to four questionnaires: 1) Questionnaire on Eating and Weight Patterns – Revised - QEWP-R,[20-22] 2) Beck Depression Inventory – BDI,[23,24] 3) State - Trait Anxiety Inventory - STAI[18,19,24-26] and 4) Body Shape Questionnaire – BSQ).[7,27-29]

Binge eating was assessed by the QEWP-R, a structured instrument based on the criteria proposed by the DSM-IV for BED. Subjects received a diagnosis of Binge Eating episode (BINGE) when they mentioned the ingestion, in a short time interval (two hours or less), of an amount of food clearly greater than what most people would consume in a similar time period, along with a feeling of losing control on this episode. Subjects received a diagnosis of Binge Eating Disorder (BED) when the frequency of episodes was of at least twice per week, for a six-month period, associated to marked distress related to those episodes, and to three or more of the following criteria: eating much more rapidly than normally, eating until feeling uncomfortably full; eating large amounts of food when not physically hungry; eating alone for being embarrassed due to the quantity eaten; and feeling disgusted, or very depressed or guilty after overeating.

Depressive symptoms were assessed by the BDI, which is a structured instrument composed by 21 categories of symptoms and attitudes, and describe behavioral manifestations of depression. It assesses the intensity of depressive symptoms. Scores range from 0 to 63, and intensity categories vary from absent or normal (0 to 9), mild (10 to 15), mild to moderate (16 to 19), moderate to severe (20 to 29), and severe (30 to 63). The cutoff point used in this instrument to consider the patient as having depressive symptoms and, therefore, with greater probability of having clinical depression, was 20 points.[23,24]

The symptoms of anxiety were assessed by the STAI in the Trait (part of the personality structure) and State (reaction to stressing situations) models, which is an instrument to assess qualitatively the intensity of anxiety. The Trait and State questionnaires are composed by 20 questions each. Scores in this instrument range from 0 to 80, categories vary from low intensity (0 to 29), low medium (30 to 39), medium (40), high medium (41 to 50) up to high (51 to 80). The cutoff point used in this instrument to diagnose the Trait and State anxiety was 40 points.[18,26]

Body image was assessed by the BSQ, which is an efficient instrument to diagnose disorders and excessive concern with the body image related to eating disorders.[7,27] Two aspects of the body image can be distinguished: the accurateness in estimating the body size and the feelings towards the body or parts of it, that is, body dissatisfaction or underestimation of the body shape. The BSQ measures the excessive concern with the body shape, the self-depreciation due to the physical appearance and the feeling of being 'fat'. It assesses qualitatively the intensity of the disorders and the concern with the body image connected to eating disorders and is composed by 34 questions. The punctuation ranges from 0 to 204, and intensity categories range from absent (0 to 80), mild (81 to 110), moderate (111 to 140) up to severe (141 to 204). The

cutoff point used in this instrument to diagnose concern with the body image was 110 points.[28,29]

The statistical analysis was performed by the Statistical Package for the Social Sciences (SPSS) software for Windows, using the chi-square test to assess the existence of associations between BED and BINGE with the demographic variables, with the symptoms of depression, anxiety and concern with the body image.

Results

The sample had 50 patients (40 females – 80% and 10 males – 20%). The age ranged from 18 to 56 years, mean of 38.5±9.7 years and the BMI varied from 40.0 Kg/m² up to 81.7 Kg/m², mean of 52.2±9.2 Kg/m².

All patients reported prior treatments for obesity for at least five years. All had undergone treatment with medications and half of the sample (54%) had followed a hypocaloric diet. Regarding the period they underwent a diet to lose or to maintain the lost weight since the beginning of the problem, 25 patients (50%) reported being at a constant diet, 11 (22%) a quarter of their lifetime, 8 (16%) three quarters and 6 (12%) half of their lives.

As we can notice in Figure, there was a high frequency of severe depressive symptoms, of anxiety and an excessive concern with the body image, as well as of BED (36%) and BINGE (54%). BED frequency among men was 40%, not differing from the frequency of 35% observed among women. It was noteworthy that all male patients who had BINGE episodes met also criteria for BED. Regarding females, from 23 patients who had BINGE (58% out of 40), 14 met criteria for BED (35% out of 40). Concerning the BED diagnosis, there were no statistically significant differences. As for BINGE episodes, 58% (29 patients) reported great or extreme disgust

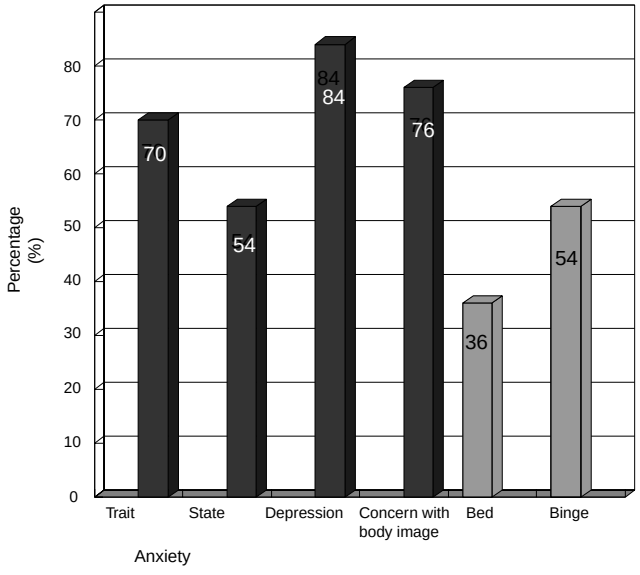

Table 1 - Prevalence of Binge Eating Disorder (BED) and Binge Eating Episodes (BINGE) in grade III obese patients, according to gender, age, body mass index (BMI) and the presence of severe or moderate levels of depression, anxiety (trait and state) and excessive concern with the body image.

Variables	N	BED %	BINGE %	Total %
Gender				
Male	10	40.0	40.0	20.0
Female	40	35.0	57.5	80.0
Age				
18 - ≤40	26	30.8	41.7	52.0
>40	24	41.7	63.6	48.0
BMI				
=40 - ≤50	26	46.2	50.0	52.0
>50	24	25.0	45.5	48.0
Depression - BECK -				
Moderate	8	25.0	50.0	16.0
Severe	42	38.1	54.8	84.0
Anxiety Trait - STAI -T -				
Medium	15	13.3	33.3	30.0
High	35	45.7*	62.9	70.0
Anxiety State - STAI -S -				
Medium	23	21.7	39.1	46.0
High	27	48.1	66.6	54.0
Body Image - BSQ -				
Moderate	12	16.6	25.0	24.0
Severe	38	42.2	63.1*	76.0
Total	50	36.0	54.0	100.0

due to eating excesses, and 74% (37 patients) reported a great concern with the difficulty to control these episodes. No patient of this sample had bulimia nervosa. Regarding weight and body shape, 70% claimed that these were the factors that most influenced their way of life and the manner in which they felt facing the external world.

In order to improve the analysis of the correlations between the several assessed disorders, the sample was divided according to the existence of BED or BINGE as depicted in Table. The prevalence of these eating disorders was analyzed according to the gender, age range, BMI and the occurrence of severe or moderate symptoms of depression and anxiety and the excessive concern with the body image. As we can notice, BED frequency was higher in the group with high anxiety as a personality trait, when compared to the frequency found in the group with low/medium degree of anxiety (46% versus 13%; p=0.029). In Table we can also notice that the frequency of BINGE was higher in the group having a high degree of concern with the body image, when compared to the frequency found in the group with mild/moderate degree of concern with the body image (63% versus 25%; p=0.021). Although there was a trend towards more cases of BINGE among those who had a higher degree of anxiety as a personality trait, the observed differences did not reach statistical significance (p=0.055). We did not find statistically significant associations between BED and BINGE and gender, race, age, BMI or depressive symptoms.

Discussion

As far as we know, this is the first study published in Brazil about the prevalence of psychiatric symptoms in a sample of grade III obese patients who seek treatment to lose weight.

The studied population was that of a excellence service of a university hospital in the city of São Paulo were obese patients, with or without associated comorbidities, are seen, and they had not responded to a prior clinical treatment and have low income and schooling. Therefore, generalizations should be restricted to other populations with similar characteristics and the obtained results should be replicated in other samples of grade III obese patients, mainly in other services that treat the same type of disorders.

The rate of females (80%) was higher than that of males (20%), similar to the gender distribution (84.1% *vs*. 15.9%) found by Coutinho in a sample of obese patients who sought treatment to lose weight.[8] Although the prevalence of obesity is higher among female patients, according to epidemiological studies in the Brazilian population, (13% vs. 8%),[30] the prevalence of females in the studied sample seems to reflect only the higher demand for treatment among women.

Most assessed patients reported having spent great part of their lives trying to make a diet to lose weight or to maintain the loss of weight, showing the difficulty to obtain good results, the chronic course of the disease and the lack of availability of really efficient treatments. In this assessment we could identify a high frequency of binge eating episodes (BED and BINGE) among severely obese patients, higher than that observed in populations of grades I, II and III obese people. Spitzer et al, in 1993, in a population of obese people from all categories, found 29% of BED.[31] Borges, in 1998, in a population of obese subjects admitted in a control program for losing weight, found 16%.[21] In other population of patients with obesity or who were overweight and who were seeing an endocrinologist in a private office, in order to loose weight, Coutinho found 15% of patients with BED.[8] A plausible explanation for these differences is that our sample had only grade III obese subjects. In fact, in Coutinho's study the prevalence of BED reached 22% among grade III obese subjects, suggesting, therefore, that there is a higher chance of patients with a higher degree of obesity having this eating behavior disorder. In Italy, in 1996, Adami et al, also found high rates of BED (43%) and BINGE (63%) among subjects with grade III obesity who were eligible to bariatic surgery.[9]

It is a point of discussion whether the occurrence of binge eating episodes among obese people would be a consequence of restrictive diets, as some studies suggest.[32-35] On the other hand, the loss of the capability of controlling the ingestion of food could be contributing to a higher difficulty to comply with a diet to lose weight. However, we did not find a statistically significant association between BED and BINGE and higher figures of the BMI. Therefore, subjects who reported a greater ingestion of food through frequent binge eating episodes are not necessarily those who had a higher BMI. These results might indicate, as already known, that other factors besides the excessive ingestion of calories would be contributing to the severity of the obesity. Admitting that BED could be a consequence of the adoption of caloric-restriction diets, we could expect that this disorder would be even more frequent among patients more concerned to control the gain of weight. Consequently, we could even expect a lower BMI among them. It is important to highlight that, in case a bariatric surgery be indicated there would be always the concern that changes in the eating behavior could contribute to postsurgical complications or compromise in the future the result of the surgery, leading to the need of always trying to investigate and to treat BED or BINGE.[36]

In our study, it was noteworthy the high frequency of symptoms of severe depression (84%), much higher than the total frequency of depressive symptoms, of 28.7%, found in a population of morbidly obese subjects who sought surgical treatment for obesity in the Hospital of the University of Iowa.[37] Such difference may stem from the socioeconomic dissimilarities between the studied populations or from the stress related to the expectation of the surgery. However, a high frequency of severe depressive symptoms (50%) has been already described in another population of obese people who sought a program to lose weight.[38] We found no association between these symptoms and the occurrence of BED or BINGE. As a contrast, in a study that included patients with higher sociocultural and schooling levels than ours, Borges reported a positive association between BED and depressive symptoms.[21] Other studies that also have not found such an association, credit these results to the different methods used for making the diagnosis.[32]

High frequency of anxiety symptoms was also found in our study. In the general population, anxiety disorder is present in around 15 to 20%.[39] In accordance to our findings, studies show that there is a positive association between anxiety and eating disorders, and some of them suggest that anxiety disorders precede eating disorders.[40,41] Our data do not enable us to state which of these disorders would be the initial ones. However, the association of anxiety as a personality trait, but not as a state, and BED could be indicative that an anxious personality would be more prone to develop BED.

An also high percentage (76%) had an exaggerated preoccupation with the body image. This could be directly linked to the feeling of discrimination and prejudice that obese persons suffer in personal relationships due to their physical appearance. Our data show that the greater this concern, the higher the frequency of BINGE.

Conclusion

Summing up, the results of our study show a high prevalence of binge eating disorder and isolated binge eating episodes as well as symptoms of anxiety, depression and a high degree of preoccupation with body image in severely obese patients. Furthermore, we noticed the association between anxiety as a personality trait and the occurrence of BED as well as between the excessive concern with the body image and the occurrence of BINGE. However, our data do not enable us to state that the occurrence of an overanxious personality or a higher concern with the body image are actually risk factors for the development of eating disorders in severely obese patients.

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Correspondence:
Maria Isabel Rodrigues de Matos
Rua Eng.º José Bueno Bicalho, 30
04176-260 São Paulo, SP, Brazil
Tel.: (0xx11) 3887-2376
Fax: (0xx11) 3885-9834
E-mail: bel@psiquiatria.epm.br