Eating attitudes of anorexia nervosa, bulimia nervosa, binge eating disorder and obesity without eating disorder female patients: differences and similarities

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HIGHLIGHTS
• Disordered eating attitude scale was able to distinguish eating disorder patients.
• Similarities and differences are highlighted by means of relationship with food.
• Anorexia and bulimia nervosa patients presented more dysfunctional eating attitudes.
• Obese and binge eating disorder patients presented interesting differences.

Abstract

The objective was to compare eating attitudes, conceptualized as beliefs, thoughts, feelings, behaviors and relationship with food, of anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED) patients and a group of obese (OBS) without eating disorders (ED). Female patients from an Eating Disorder (ED) Unit with AN (n = 42), BN (n = 52) and BED (n = 53) and from an obesity service (n = 37) in Brazil answered the Disordered Eating Attitude Scale (DEAS) which evaluate eating attitudes with 5 subscales: relationship with food, concerns about food and weight gain, restrictive and compensatory practices, feelings toward eating, and idea of normal eating. OBS patients were recruited among those without ED symptoms according to the Binge Eating Scale and the Questionnaire on Eating and Weight Patterns. ANOVA was used to compare body mass index and age between groups. Bonferroni test was used to analyze multiple comparisons among groups. AN and BN patients presented more dysfunctional eating attitudes and OBS patients less dysfunctional (p < 0.001). For DEAS total score, AN and BN patients were similar and all other were different (p < 0.001). Similarities suggested between BN and BED were true just for the “Relationship with food” and “Idea of normal eating.” BED patients were worst than OBS for “Relationship with food” and as dysfunctional as AN patients besides their behavior could be considered the opposite. Differences and similarities support a therapeutic individualized approach for ED and obese patients, call attention for the theoretical differences between obesity and ED, and suggest more research focused on eating attitudes.

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1. Introduction

In addition to the characteristic symptoms of the syndrome, eating disorder (ED) patients have a series of inadequate and dysfunctional attitudes toward eating with a complex relationship with food that is marked by anxiety, anger, fear, and guilt, among other factors [1–3].

Eating attitudes consist of beliefs, thoughts, feelings, behaviors and relationship with food [4], and understanding these attitudes may help to understand food choices and to target nutritional counseling. Specifically for ED patients, the understanding of eating attitudes will help to elucidate clinical features and are good predictors of food intake [5]. Moreover, changing disordered attitudes is important for the successful treatment of ED [6]. It is thought that eating attitudes have implications in both treatment and achieving greater knowledge of clinical variability in ED patients [7].
For anorexia nervosa (AN) and bulimia nervosa (BN), several typical eating attitudes have been generally described: difficulty with food choices and eating with company, dichotomy classification of food (good or bad, safe or dangerous), incompetence in dealing with meals, false beliefs about nutrition, angry at feeling hungry, and use of food to address emotions [7]. These issues may be common to both AN and BN because both disorders share certain attitudes and a higher percentage of AN patients evolve to BN [1].

Eating attitudes, using the aforementioned definition, for binge eating disorder (BED) and obese patients have not been deeply discussed. For BED, it has been reported that they demonstrate chaotic eating habits, high levels of loss in control and exhibit negative affect [8,9]. It has been confirmed that most overweight and obese patients do not overeat in any distinctive pattern [10]. Thus, it is more difficult to define a profile of eating attitudes for obesity because obese individuals have many different profiles; it is not possible to define an “obese personality” because obesity is notably heterogeneous.

Nevertheless, obese patients may also have dysfunctional eating attitudes due to their eating and weight history, beliefs and cognitions incorporated during dietary practices and dietary behavioral change efforts in trying to lose weight. However, most studies on eating behaviors in obese patients have identified it as being “unhealthy,” “uncontrolled,” “disordered,” “dissinhibited,” or “restrained,” and does not provide insight into the specific eating attitudes related to obesity [11]. Patients may also present false nutrition beliefs: “all or nothing” thoughts are common, which result in the lack of control behaviors, depending on whether their beliefs are right or wrong in relationship to their choices. Frequent feelings include guilt and failure related to their eating practices. It has been acknowledged that characteristics related to executive function, namely impulsivity and reduced decision-making abilities, could result in inadequate self-control for obese patients [12].

Studies aimed to describe eating attitude characteristics have focused on eating intake or choice [13]. Previous studies have predominantly described the eating attitudes of ED and obese patients using scales, such as the Eating Attitude Test — EAT [14], the Eating Disorder Examination [15] or the Eating Disorder Inventory [16]. Although useful and well-developed psychometrically, these scales have limited scope, tending to measure attitudes that focus on the symptoms of eating disorders, as opposed to the relationship with food in general [4].

Comparisons of ED groups and obesity are very heterogeneous in the literature: they do not evaluate the same groups, and some studies are quite old, and discuss mostly aspects of the disease (e.g., presentation, personality, comorbidities). These studies do not focus on eating attitudes, or at least not in a broad view [17–19]. More studies have compared BED and non-BED obese patients, but these studies considered other issues, such as appetite-related substances, cognitive function, energy intake, and personality [20–23].

The comparison of the eating attitudes of AN, BN, BED and obese patients could be considered of interest, both clinically and theoretically. In this context, the objective of the present study was to evaluate eating attitudes, focusing on the beliefs, thoughts, feelings, behaviors and relationship with food, exhibited by ED and obese patients and to compare potential similarities and differences.

2. Materials and methods

2.1. Sample

Female eating disorder patients were evaluated from a group receiving multiprofessional treatment at the Eating Disorders Unit of University of Sao Paulo (USP), Brazil. Anorexia nervosa, bulimia nervosa and binge eating disorder patients who were accepted at this unit of treatment during 2009 until 2012 were recruited to participate in this study. Obese women – diagnosed by Body Mass Index (BMI) ≥ 30 kg/m² – patients seeking multiprofessional treatment at the Obesity Outpatient of University of Sao Paulo (USP), Brazil were invited to participate in this study during the 2012 recruitment.

To participate, the ED patients must meet the following inclusion criteria: age between 18 and 45 years old, literate, and do not have specialized ED treatment for at least one month. Obese patients (OBSpat) must meet the following criteria: age between 18 and 45 years old, literate, do not use specialized medication with the objective to lose weight for at least one month, and do not have BED symptoms. To exclude those with BED symptoms in the obese group, participants were asked to complete the Binge Eating Scale – BES [24] and the Questionnaire about Eating and Weight – QEW [25]. From the 73 patients who were contacted, 36 patients received a score ≥ 17 for BES and/or presented BED symptoms according to the QEW.

2.2. Procedures

ED was diagnosed using criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) according to a psychiatric interview. On the first day of treatment, the patients completed the study instrument and had their weight and height measured by a dietician to calculate their BMI. The procedure was performed in the waiting room of the ED Unit.

Obese patients were recruited during a screening or while they were waiting for their first visit to the Obesity Outpatient Clinic. Their weight and height were measured on the same day by a nurse and the study instruments were completed in the outpatient dependencies.

2.3. Instruments

Eating attitudes were evaluated using the Disordered Eating Attitude Scale – DEAS. The DEAS consists of 25 questions, which are scored on the basis of the Likert scale, ranging from 37 to 185. The DEAS includes five subscales, known as:

Subscale 1 — Relationship with food: evaluates attitudes related to the ways that individuals address food in terms of food control, food refusal, guilt, anger, desire and shame (score ranging 12–60); Subscale 2 — Concerns about eating and body weight gain: evaluates concerns regarding calories, intake control, obsessive thoughts about food and weight gain (score ranging 4–20); Subscale 3 — Restrictive and compensatory practices: evaluates the restriction of food and calories, and attitudes aimed to compensate large or uncontrolled food intake (score ranging 4–20); Subscale 4 — Feelings toward eating: evaluates feelings concerning pleasure and food memories and how normal one feels to eat (score ranging 3–15); and Subscale 5 — Idea of normal eating: evaluates rigid nutrition concepts and beliefs (score ranging 14–70). The higher the score in the scale, the more dysfunctional is the attitude [4].

The DEAS was developed with Brazilian women college students and found good internal consistency (Cronbach’s Alpha 0.75), and convergent and known group validity [4] – which means it has acceptable reliability and is valid. For the present groups evaluated, the Cronbach’s Alpha were: 0.84 for AN; 0.76 for BN; 0.80 for BED and 0.66 for OBS — indicating good reliability for ED groups and acceptable for obesity. Besides that, a comparison of Alphas in these different samples, performed by Hakstian-Whalen test [26], showed no significant difference (p = 0.14; M = 5.38).

The scale was also validated for women adult individuals in English, Spanish and Japanese languages [27–29] and was thought to be useful for studying eating aspects in different populations and highlighting differences in attitudes among diverse groups and clinical populations.

Regarding the scales used to evaluate BED symptoms; BES was developed by Gormally et al. (1982) [24] and was adapted for the Brazilian context [30]. It is a 16-item scale, which evaluates the severity of binge eating and provides classification as following: absence of regular binge eating (score ≤ 17), moderate binge eating presence (score between 18 and 26), severe binge eating presence (score ≥ 27). The
QEW [25] was validated for BED screening in Brazil [31], it consists of 26 questions with a template to evaluate bulimia nervosa (purging or not purging subtypes) and BED symptoms — according to answers for specific questions.

2.4. Ethics

The study protocol was approved by the ethics committee of the Public Health School of the University of Sao Paulo, and had the approval of the direction of the Eating Disorders Unit and Obesity Outpatient Unit. All participants of this study provided their written consent.

2.5. Statistical analysis

Statistical analyses were performed using SPSS 18.0 (Statistical Package for Social Science Inc., Chicago, Illinois, USA). The significance level adopted was 0.05. Normality was tested using the Shapiro-Wilk test and non-normal variables (DEAS scores, age, BMI) were standardized using the Z-score.

ANOVA was used to compare BMI and age between groups. Multiple comparisons were performed using Bonferroni’s test. A general linear model (GLM) analysis was used to evaluate DEAS total and subscale scores among groups, controlling for BMI and age. The confidence interval coefficient was analyzed and pairwise comparisons between groups were performed. Effect size (partial Eta square) and observed power for comparisons are also presented.

3. Results

Female ED patients from the Eating Disorders Unit who participated in this study consisted of 42 subjects with anorexia nervosa (ANpat), 52 subjects with bulimia nervosa (BNpat) and 53 subjects with binge eating disorder (BEDpat). Obese patients without BED symptoms from the Obesity Outpatient (OBSpat) consisted of 37 subjects. The age and BMI of the patients are shown in Table 1.

As expected, obese and BED patients were older than the AN and BN subjects, but not different between them. BN patients were older than AN patients — although the comparison found a p = 0.051, the effect size was d = −0.599 (Cohen’s d), which attested for the difference.

Regarding BMI, AN patients, who are compatible with their disorder, had the lowest values, BNpat intermediate, and BED and obese patients had highest values with no difference among them.

The DEAS total and subscale scores for all of the different groups are shown in Table 2.

Table 1

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<tr>
<th>DIAGNOSTIC</th>
<th>Age</th>
<th>Body Mass Index</th>
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<tr>
<td></td>
<td>Mean (95% CI)</td>
<td>Mean (95% CI)</td>
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<tr>
<td>AN (n = 42)</td>
<td>24.9 (23.1–26.8)</td>
<td>16.73 (16.2–17.3)</td>
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<td>BN (n = 52)</td>
<td>29.5 (27.0–31.9)</td>
<td>25.07 (23.5–26.6)</td>
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<td>BED (n = 53)</td>
<td>36.45 (34.9–39.0)</td>
<td>38.72 (36.9–40.6)</td>
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<td>OBS (n = 37)</td>
<td>39.14 (36.4–41.9)</td>
<td>38.55 (36.7–40.4)</td>
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a Different from BN (p = 0.051), BED (p < 0.001) and OBS (p < 0.001); b Effect size (Cohen’s d) = −0.599, which attested for the difference.

For the DEAS total score, higher values were found for AN and BN patients, with no difference among them. ANpat also had higher scores than BED and OBS. BNpat scored higher than BEDpat and obese patients. BEDpat had higher DEAS total score than OBSpat.

Regarding subscale 1 – Relationship with food – the highest score was found to BNpat group and the lowest was found to OBSpat group, with significant differences between ANpat and BNpat, ANpat and OBSpat, BNpat and OBSpat, BNpat and BEDpat, and also for BED and OBS.

Analysis of subscale 2 – Concerns about eating and body weight gain – found that ANpat and BNpat had the highest and OBSpat lowest scores. Significant differences were observed between AN and OBS, BN and BED, BN and OBS.

Subscale 3 – Restrictive and compensatory practices – showed the same pattern: ANpat and BNpat had the highest and OBSpat lowest values. Significant differences were found between ANpat and BEDpat, ANpat and OBSpat, BNpat and BEDpat, BNpat and OBSpat, BEDpat and OBSpat.

For subscale 4 – Feelings toward eating – ANpat and BNpat had highest scores, and BEDpat and OBSpat lowest ones. AN was significant different from BED and OBS, and BN was also significant different from BED and OBS.

Lastly, for subscale 5 – Idea of normal eating – similar scores for groups were observed, with higher values for ANpat and BNpat and lower for BEDpat and OBSpat. Significant differences were found just between AN and BED, AN and OBS. However, the effect size for between comparisons regarding subscale 5 was 0.08 – below a minimum of 0.15 – indicates that a type 1 error could have been present, suggesting that the magnitude of the difference was not real.

4. Discussion

This study performed a comparison of disordered eating attitudes among women with different ED diagnosis and obese patients and found interesting similarities and discrepancies. To the best of our knowledge, this is the first study that reports such an evaluation, which embodies eating attitudes as beliefs, thoughts, feelings, behaviors and relationship with food.

Regarding age, higher values for BED and OBS patients were observed, which was consistent with the profile of adult clinical samples elsewhere [32,33]. The older BN patients (even not showing significant difference) compared with AN were also consistent with the knowledge of a higher age of incidence for BN [1] – even studying patients from an adult service.

As expected, the BMI was lower for AN, intermediate for BN and higher (and similar) for BED and OBS patients. It is known that usually BED patients have a more superior BMI than BN [3,34], and have the risk of putting on weight during the course of disorder – which can evolve into an obese condition [10]. Even thought BMI were different – and OBS – BN and BED, BN and OBS.

AN and BN are considered the “most serious” ED, with higher effects for patients global and clinical health [1,3], and analysis of data on eating attitudes revealed more dysfunctional eating attitudes as a whole in these two subgroups. BNpat presents psychological characteristics, such as impulsivity and anxiety symptoms, which translate into chaotic eating patterns and attitudes [7,35]. Furthermore, AN patients experience a higher necessity to control their environment, inflexible thoughts, perfectionism and limited social spontaneity [12,35] – which is reflected in their eating attitudes.

Despite issues related to eating behavior in obesity, OBS patients had the lowest value for the DEAS total scale, i.e., less dysfunctional eating attitudes. This result was important even more when they were differentiated from BED patients. Specific studies evaluating eating attitudes, which use the presented definition of this construct in BED were not found; clinical observations demonstrate lower levels of distorted
Beliefs, thoughts and feelings compared to AN and BN patients. According to Stunkard (2011) [10], compared with non-BED obese, BED patients experience greater psychopathology, and they also report less exposure to risk factors for general psychopathology compared to individuals with BN. Our results were consistent with these reports.

Importantly, obesity is also related to feelings of guilt, anxiety and is associated with the lack of strategies to cope with stress in an effective manner [36]. All these issues could affect eating attitudes, but the DEAS total score and 2 subscales (“Relationship with food” and “Restrictive and compensatory practices”) were different for OBSpat and BEDpat. These results indicate that even with similar psychological characteristics, an ED associated with obesity (as is the case for BED) presents much more disturbed and socially impaired eating attitudes. Recently, Pollert (2013) [9] asserted that the perception of a loss in control is an inherent component of BED compared with non-BED participants, independently of the effects of caloric intake and affect.

Carter and Jansen (2012) [11] further reported that one should be careful to not assume that concepts inherited from eating disorders will directly translate to obesity. Therefore, another instrument to evaluate disordered feelings, thoughts and behaviors in obesity could be required.

When specifically considering the subscales, a more dysfunctional “Relationship with food” was found for BN patients — which was different of the others, including AN. It may be affirmed that AN patients achieve the goal proposed by our culture, which suppresses women hunger and makes women ashamed of their appetite and needs [37]. Consistent with this thought, a woman with AN could not see her relationship with food dysfunctional or disrupted; she feels that she overcame food. Thus, AN may give the individual control over food, whereas BN behaves in the opposite manner. A woman with BN also believes that she should not eat, but she blames herself because she cannot do that, thus having feelings of failure and unsuccessfulness [37].

Our clinical observation showed that BN patients are more prone to express their thorny relationship with food; they experience more anger, guilt, ambivalence and incompliance for food. This impaired relationship is thought to be a main challenge of nutritional therapy for BNpat [4].

Surprisingly, for “Relationship with food,” BEDpat and ANpat showed similar scores, although the BNpat was different from BEDpat, and the BEDpat was different from the OBSpat. Thus, despite a high seriousness related to the AN consequences, the BEDpat showed no difference in the effect on “Relationship with food” compared with ANpat. Nevertheless, they could still have a desire to control their eating similar to ANpat, but are not able to act on this desire due to an increase in impulsivity, which can be related to their emotional vulnerability and deficiency in the abilities to modulate negative emotions in a functional manner [9]. This result may indicate a similar troubled relationship with food, which could result in completely distinct nutritional status results and consequences.

Similar considerations may be entertained for the results on “Concerns about eating and body weight,” which were similar for ANpat and BNpat and OBSpat and BEDpat. These results indicate that even with similar psychological characteristics, an ED associated with obesity (as is the case for BED) presents much more disturbed and socially impaired eating attitudes. Recently, Pollert (2013) [9] asserted that the perception of a loss in control is an inherent component of BED compared with non-BED participants, independently of the effects of caloric intake and affect.

Table 2
Means and 95% confidence intervals (CI) of Disordered Eating Attitude Scale (DEAS) total and subscale scores for anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED) and obese female patients without BED symptoms (OBS) (n = 184).

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<tr>
<th>Diagnostic</th>
<th>Total Subscale 1</th>
<th>Subscale 2</th>
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<td><strong>DEAS total score</strong></td>
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<td><strong>Mean (95% CI)</strong></td>
<td>110.6 (97.4–121.8)</td>
<td>36.45 (31.7–41.9)</td>
<td>13.24 (11.5–16.1)</td>
<td>14.71 (13.3–17.5)</td>
<td>9.57 (7.8–11.2)</td>
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<td><strong>(n = 52)</strong></td>
<td>119.1 (110.2–125.8)</td>
<td>46.83 (43.7–50.2)</td>
<td>14.71 (13.4–16.4)</td>
<td>15.50 (14.4–17.1)</td>
<td>9.75 (8.6–10.8)</td>
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<td><strong>BED</strong></td>
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<td><strong>(n = 53)</strong></td>
<td>89.7 (81.0–99.8)</td>
<td>39.57 (35.4–43.3)</td>
<td>10.42 (8.3–11.8)</td>
<td>8.83 (6.7–10.0)</td>
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<td><strong>OBS</strong></td>
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<td><strong>(n = 37)</strong></td>
<td>65.1 (54.5–75.5)</td>
<td>19.92 (15.2–24.1)</td>
<td>8.27 (5.9–9.9)</td>
<td>5.95 (3.6–7.3)</td>
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<td><strong>p value &lt; 0.001 Eta square = .322; Observed power = 100%</strong></td>
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to lose weight despite as the concern of AN patients about putting on weight. However, the BED and OBS patients also showed a similar level of concern in the present evaluation. This could be explained by the fact that stigmatization and making themselves responsible by their condition regarding weight is observed in BED and obesity – and not in other ED – because they attributed their condition to a lack of self-control [38].

These results of similarity between ANpat and BEDpat were consistent with the knowledge that ED and obesity may share some biological and intermediate neurocognitive phenotypes, such as cognitive vulnerabilities. ED and obese patients may share specific neurobiological correlates that are related to the food reward system and may only vary on the frequency or severity of these traits [12]. These results seem rational when considering that BED may be thought of as a complex presentation of obesity, with more impaired cognitive dysfunction.

Consistent with their ED symptoms, AN and BN patients were not different for “Restrictive and compensatory practices.” Furthermore, ANpat and BNpat exhibited more of these behaviors compared with BEDpat [3]. In addition, BEDpat had higher scores for this subscale than OBSpat. For definition, there are no inappropriate compensatory behaviors to counteract the potential effects of binging on weight BED, and thus, it could be concluded that the result of higher “restrictive and compensatory practices” for BED indicated they have more restrictive practices than OBS patients. Nevertheless, one of the DEAS question included in this subscale (“When you eat more than usual, what is your behavior afterwards?”), has as option for the potential to go on a diet to compensate [4], and even not precisely considered as a “inappropriate compensatory behavior.” It appears that BED patients could have more compensatory ideas and behaviors (such as diet, to eat less after exaggeration in eating) than OBS individuals.

For “Feeling toward eating,” the AN and BN patients’ scores were similar and higher than BED and OBS individuals, which were also alike. These results indicated that the AN and BN patients feeling less normal and had less pleasure in relationship to food. BED and OBS patients appeared to be less dysfunctional with reference to this feeling – which was analogous between them – using food more as a source of pleasure than punishment.

Considering the higher score for BN and AN patients for “Relationship with food” and “Feeling towards eating” compared with BED and OBS patients, it is interesting to speculate what came first: did these AN and BN women have a less positive feeling about eating, hard experiences with food that put them at risk for ED; or were they so submerged in the ED, that food became the opposite of something that was natural, good and pleasant? For BED and obesity patients eating also involves social pressures and guilt, but the effect on their relationship and feelings with food appeared to be lower than AN and BN.

Rigid concepts and beliefs about eating, as evaluated by subscale 5, showed a difference only for AN compared with BED and OBS. However, the effect size showed that a real difference did not exist because the magnitude was minimal. This result makes sense if we remember that the idea about “normal eating” is a cultural concept, which is currently focused on the condemnatory values and messages that were disseminated by the media, families, peers and health professionals [39]. Thus, it is reasonable that all of the groups presented similar scores and showed no difference.

It is difficult to compare the presented results with the literature because similar studies (a comparison of AN, BN, BED and OBS regarding disordered eating attitudes) were not found. Moreover, studies make comparisons using heterogeneous samples, diverse instruments and the construct of eating attitudes are not well defined — and the adopted definitions tend to differ among them [8,12,18,20,22].

Nevertheless, despite the instrument, purpose and sample, comparisons between BN and BED patients (including other ED groups and obese individuals) normally showed that the BN group presented increased psychopathology [17–19,22]. Using Eating Disorder Inventory and Eating Disorder Questionnaire, Raymond et al. (1995) [19] found that BNpat experienced more eating- and weight-related pathology compared to BED patients. In addition, BEDpat were less anxious and less worried about their eating patterns than BNpat, and binge eating was less ego dystonic in BEDpat than BNpat.

Furthermore, the result that BEDpat had more dysfunctional eating attitudes compared with obese individuals is consistent with the finding by Raymond (1995) [19] that BED participants were more pathologically disturbed than obese participants who did not binge eat. For example, Marcus (1992) [17] found higher rates of eating disorder symptoms as assessed by Eating Disorder Inventory in BEDpat compared with non-binge eating obese patients. Moreover, Fassino (2003) [8] found higher rates of depression and impulsivity for BED obese patients than in obese patients without BED.

The finding of the present discrepancies and similarities has several implications. The DEAS did not determine “levels of normality” in relationship to eating attitudes, but similar total scores for BED and OBS individuals demonstrated that obese patients have issues that are far from the quasi-quantitative aspects to be assessed in their eating behavior. This is consistent with Carter and Jansen (2012) [11] who stated that it is “important to be aware of the full range of eating behaviors that are potentially relevant to obesity, since different eating behaviors may be problematic for different people.”

However, OBS individuals had a better “relationship with food” and lower “restrictive and compensatory practices” than BED patients. Notwithstanding, the similarity of BED and OBS with regards to the “concerns about eating and body weight” suggested that obesity per se was not the major factor in weight gain disincomform, but that BEDpat also developed dysfunctional eating concepts that make them similar to AN patients, and may potentially involve a worse “relationship with food.”

The characteristics demonstrated for BEDpat with DEAS comparisons supported the fact that BED is not a simple behavioral subtype of obesity, but rather an ED diagnostic, as recently published in DSM-5 [3] because of its similarities with other ED issues. This was consistent with Schulz and Laessele (2010) [40], who found higher levels of comorbidities and emotional eating in BEDpat compared with obese patients.

The present study has important strengths, including a comparison of all classic, and more prevalent, ED diagnoses (AN, BN and BED) and obesity without ED symptoms. In addition, an evaluation of eating was beyond the classical issues evaluated, such as intake or clinical pathology, but assessing beliefs, thoughts, feelings, behaviors and relationship with food. Consistent with the thought from Walsh (2011) [41] regarding eating behavior, understanding eating attitudes may help to determine which factors contribute to the development and persistence of eating disturbances, or to comprehend how they change with treatment.

Nevertheless, we must consider some limitations for the present study. The instrument used in this evaluation was a scale that translated quantitative data. Using the DEAS, we could attribute this to subjective variables, but may not observe or investigate the identity of the feelings, thoughts, beliefs and behaviors in each group. Nevertheless, this focus would be potentially used for deep interviews or participative observations, which are rare methods in ED studies — but are commonly used to obtain clinical observations or quantitative data. We are aware that by using a single instrument, we “framed” the individuals in previous known attitudes. Thus, we compared if these attitudes were presented in higher or lower intensity among groups, but we cannot say if an investigation about the attitudes characteristic from each group was performed.

In addition, independent variables, which should predict to have an effect on eating attitudes, such as the environment, working conditions, educational level, genetic factors and psychological state [36] were not evaluated. The obese group was a treatment-seeking one, and they may be different from the non-treatment-seeking group (but ED group was also studied among a population of a specialized treatment center). Information of the duration of obesity was not collected or information on whether they had ever attempted to lose weight (or
how many times), but we also did not collect the duration of the ED or beginning of the ED symptoms. Finally, only women were included, and thus the results were not applicable to men. However, because EDs are mostly found in women, a sample of men would be difficult to achieve to make comparisons. Thus, the results should be interpreted in the context of these limitations.

However, these results support a therapeutic individualized approach for ED and obese patients. In a nutritional perspective, it is necessary to focus on interventions that are consistent with the patient's attitudes profile to maximize effectiveness. Once the treatment considers the different aspects of relationship with food, it might offer significant help in improving the recovery of ED and the healthy living style for obese individuals [11].

5. Conclusions
It was concluded that AN and BN patients presented more dysfunctional eating attitudes, and their scores on the instrument were similar in general; obese patients had the lowest score (e.g., less dysfunctional eating attitudes).

“Relationship with food” was the factor that differentiated or approximated most of the groups of ED and obesity, followed by “Feelings toward eating,” which showed that it could be the major difference among these groups regarding disordered eating attitudes.

The similarity suggested by several studies between BN and BED was true only for the restrained participants. Am J Clin Nutr 1992;55:362–71.


