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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.

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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.

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].

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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," "disinhibited," 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 acknowledge 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) $\geq$ 30 kg/m^2 – 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 $\geq$ 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 dietitian 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 $\leq$ 17), moderate binge eating presence (score between 18 and 26), severe binge eating presence (score $\geq$ 27). The