DOI: 10.12957/demetra.2018.33495

Eating behavior and body image of mothers of patients witheating disorders

Atitudes alimentares e imagem corporal das mães de pacientes com transtornos alimentares

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Abstract

Introduction: Eating disorders are defined as psychosomatic illnesses resulting from a conflicting relationship of the individual with the food. *Objective*: the study aimed to investigate the eating behavior and to evaluate the perception and satisfaction with the body image of mothers of patients with eating disorders. *Methodology*: It is a quantitative research carried out in a specialized service in the interior of São Paulo. The methods used were a 24-hour Reminder, the "How is your diet" test, the EAT- 26 and the Silhouetted Figures Scale. Thirteen mothers participated in study, out of the 18 patients attended by the program. *Results*: the EAT-26 was negative, with 17.23 points, the How-to-eat test showed an average of 38.85 points. *Discussion*: Regarding body image, mothers' dissatisfaction was noted. The study concludes that mothers are dissatisfied with body image, although they do not present eating behaviors similar to the habits of patients with the disorder. *Conclusion*: Few studies have been conducted evaluating the eating behavior of patient's mother with eating disorders, so it is necessary to carry out more research involving this aspect. Family participation in treatment is necessary to achieve success.

Keywords: Eating disorder. Eating habits. Body Image. Mother.

Resumo

Introdução: Transtornos alimentares são definidos como doenças psicossomáticas resultantes de uma relação conflituosa do indivíduo com a comida. *Objetivo*: Investigar o comportamento alimentar e avaliar a percepção e a satisfação com a imagem corporal de mães de pacientes com transtornos alimentares. *Metodologia*: Trata-se de pesquisa quantitativa, realizada em serviço especializado no interior de São Paulo. Os métodos utilizados foram Recordatório de 24 horas, o teste "Como está sua Alimentação", o EAT- 26 e a Escala de Figuras de Silhuetas. Participaram do estudo 13 mães, das 18 pacientes atendidas pelo programa. *Resultados*: O EAT-26 foi negativo, com 17,23 pontos, o teste "Como está sua Alimentação" mostrou a média de 38,85 pontos. Em relação à imagem corporal, notou-se insatisfação por parte das mães. *Discussão*: As mães apresentam insatisfação com a imagem corporal, apesar de não apresentarem comportamentos alimentares semelhantes aos hábitos de pacientes com o transtorno. *Conclusão*: Poucos estudos foram realizados avaliando o comportamento alimentar de mães de pacientes com transtornos alimentares, portanto é necessário realizar mais pesquisas envolvendo esse aspecto. É necessária a participação da família no tratamento para que este seja bem-sucedido.

Palavras-chave: Transtorno Alimentar. Atitudes Alimentares. Imagem Corporal. Mães.

Introduction

Eating disorders (ED) are defined as psychosomatic illnesses resulting from a conflicting relationship between the individual and food. The most common types of ED are anorexia nervosa (AN) and bulimia nervosa (BN) and the main symptom of both illnesses is the concern with weight and body image.

The first ED signs appear mostly in childhood and adolescence, although they are more common in women. These disorders are hard to treat, given its multifactorial etiology. In order to achieve satisfactory results in ED treatment, it is necessary gathering a multi-professional team, with doctors, dietitians and psychologists.[1-4]

Health professionals[5] and patients' relatives often ask what the factors leading to ED are, an attempt to find answers to the genealogy of the symptoms.[6]

Cultural and psychosocial factors can influence children eating experiences after birth and provide the initial learning about hunger, satisfaction and perception of flavors. Strategies used by parents to introduce food and teach children how to eat specific foods can have both adequate and inadequate effects on the child's food preferences and food intake control.[7]

Family history has been attracting special attention and acquiring greater relevance in etiology, besides boosting investigations about its influence on eating behaviors. Several studies aim at establishing a relation between the behavior of patients' family members and factors triggering or maintaining ED. Certain features of dynamics presented by patients' family, such as low ability to express emotions, low cohesion level and intense conflicts, are frequently mentioned in the literature. The mother-daughter relationship is often studied, because of the existing fusional and symbiotic relationship, insecure attachment and high level of confli.[6] Transgenerational transmission results in lack of limits and subjective space; according to Kaës,[7] only the narcissistic requirements remain in this scenario. This process results in the transmission of elements through subjects, but not between them. Thus, secrets and grief make the transformation and symbolization processes harder.[8]

Other studies highlight the psychic transmission observed between generations. According to Pereira, Lock & Oggins,[9] family members must have an alliance to help treating AN[10] girls. Mothers can be great allies to treatment, studies, nutritional assessments and surveys on mothers' eating habits can provide results that help better understanding the role played by mothers in their daughters' illness and in the sought to different treatments involving their own participation.

The aim of this study was to investigate the eating behavior of patients' mothers and to evaluate the perception of patients with eating disorders about their body image.

Method

A quantitative research was conducted in a specialized service in Sao Paulo State – Brazil, with 13 out of the 18 mothers of patients. One mother did not want to participate in the research, two were deceased and other two missed the survey.

Data was collected in individual and isolated rooms - mothers' identity was classified. The survey was answered by mothers, each participant had30 minutes to answer the questions.

Nutritional state was assessed through Body Mass Index (BMI). The procedures adopted to weigh and measure the height of the assessed mothers followed orientations by the Brazilian Ministry of Health.[11]

The food intake recorded for the mothers was investigated using the 24-hour Reminder method and the consumed food groups were identified.[12]

The test developed by the Brazilian Ministry of Health ("*Como está a sua alimentação*" – "How is your diet") assess participant's eating habits by addressing a specific score to each answer. The scores were summed at the end of the test. When participants score less than 28 points, they must change their habits in order to live a healthier lifestyle. When scores range from 29 to 42 points, participants must pay attention to issues such as drinking water or exercising. Finally, if scores are higher than 43 points, participants have a healthy lifestyle.[13]

The *Eating Attitudes Test* (EAT-26) was also used and evidenced inadequate eating patterns, besides providing the index of the main concerns faced by ED patients, such as the intention of losing weight or the fear of gaining weight.[14] EAT-26 is one of the most used ED-related surveys, since it is a self-tracking psychometric test that easily identifies signs and symptoms of disorders, and allowsquick diagnosing and early treat them. The test was created by Garner & Garfinkel[15] and validated for the Brazilian population. It consists of 26 questions divided in three scale or factors gathered through a factorial arrangement: (I) Diet Scale (D) – items 1, 6, 7, 10, 11, 12, 14, 16, 17, 22, 23, 24, and 25 - reflects the pathological refuse to eat food with high caloric value and the intense concern with physical appearance; (II) Bulimia and Food Concern Scale (B) – items 3, 4, 9, 18, 21, and 26 - related to compulsive eating episodes followed by vomiting and by other mechanisms adopted to avoid weight gain; (III) Oral Control Scale (OC) – items 2, 5, 8, 13, 15, 19, and 20 - shows self-control towards food and identifies social forces encouraging food intake.

Questions were subjected to 3-point Likert scale, with six answer options. A score, ranging from zero to three (always = three points; many times = two points; sometimes = one point; few times, almost never and never = zero points) was provided to each answer. Question 25 had reversed score. Test result derived from the sum of all points. Result higher than 21 points were positive because they suggest the risk to develop ED.[16]

Body image perception and satisfaction were assessed through the Silhouette Figure Scale, which is an instrument suitable for the Brazilian population. It consists in the presentation of figures from the thinnest to the fattest silhouette. The participant must choose the figure that portraits his actual body, and ideal or desired body.[17] The scale has 15 silhouette figures of adults of each sex, which are printed in different plastic cards (12.5cm height and 6.5cm width). Cards depict a white figure in a black background (10.5cm height and 4,5cm width). The measures of these figures present progressive increase, mainly in the waist-hip ratio. BMI ranged from 12.5kg/m² to 47.5kg/m² at regular increase 2.5kg/m².[18]

The assessed variables were described through arithmetic mean, standard deviation and coefficient of variation. The D'Agostino and Pearson normality test was conducted to assess the parametric or non parametric nature of the statistical inference, which pointed towards the normality of the origin population. Therefore, Student *t* and Kruskal-Wallis tests were applied in case of similar samples.[19]

The research was approved by the University Ethics Committee - protocol n. 47825415.3.3001.5440. Every participant signed a free and informed consent form prior to the survey.

Results

Participants were in the age group 38 to 63 years (48 years, on average) and lived close to Ribeirao Preto City, Sao Paulo State - Brazil; 53.8% of the sample was married (n= 7) and 46.2, single (n= 6).

The "*Como está a sua alimentação*" test scored 38.85 points, on average (p= 0.1488). Macronutrient consumption evaluations showed 19% protein consumption (0.9g/kg, on average; lower reference limit= 10%; p= 0.0005 and upper reference limit= 35%; p= <0.0001). A comparison between mothers' food intake and the food pyramid showed mean consumption of 0.62 portions of the Beans and Oleaginous group (p= 0.054), of 1.50 portions of the Meat and Eggs group (p= 0.072) and of 0.92 portions of the Milk, Cheese and Yogurt group (p= <0.0001).

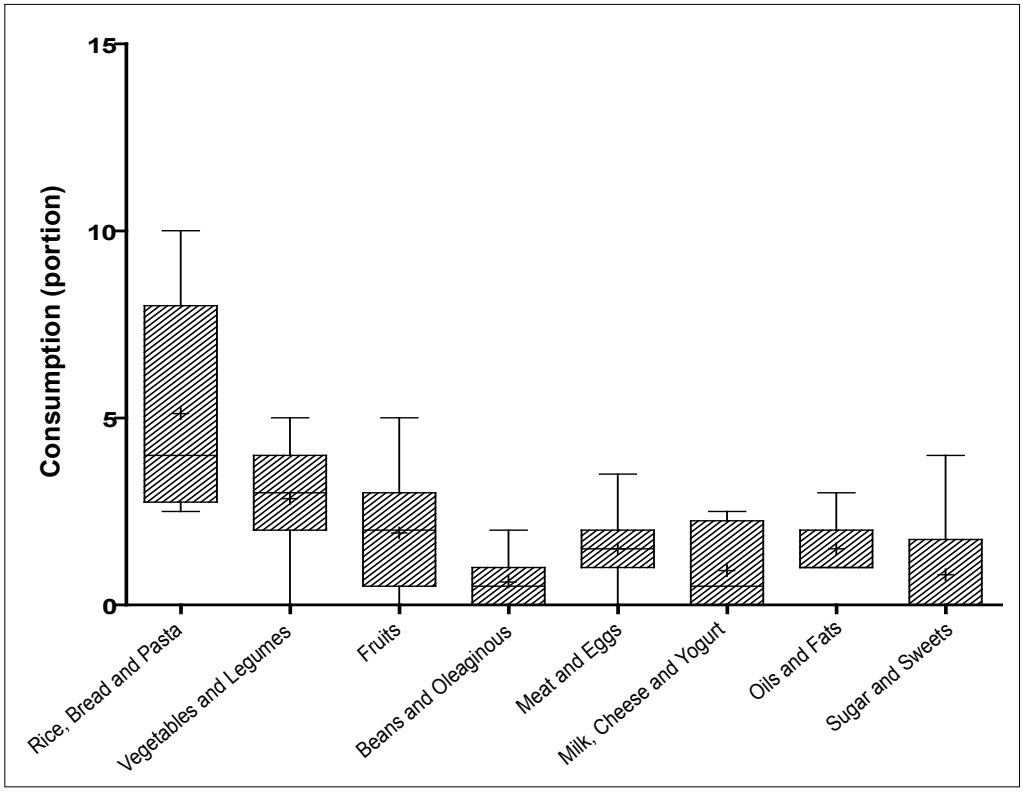

Figure 1. Consumption of portions of different groups in the food pyramid.

Carbohydrate consumption reached 52.13% (lower reference limit= 45%; p= 0.040 and upper reference limit= 65%; p= 0.002). The mean consumption of the Rice, Breads and Pasta group recorded 5.12 portions (p= 0.266) and of the Vegetables and Legumes group was 2.15 portions (p= 0.276). The mean consumption of the Fruits group reached 1.92 portions, whereas the mean consumption of the Sugar and Sweets group recorded 0.81 portions (p= 0,590).

Lipids consumption reached 28.2% (lower reference limit= 20%; p=0.0052 and upper reference limit= 35%; p= 0.014). The mean lipids consumption reached 1.5 portions (p= 0.016) in comparison to the Oil and Fat group in the Food Pyramid.

The general mean recorded through EAT-26 was 17.23 points (p= 0.4299). Positive results were achieved by 23.1% of the participants (n= 3).

Eutrophy was observed in 23.1% of the participants (n=3). The number of overweight participants (23.1%; n=3) was the same: 38.4% (n=5) were at Obesity Level I and 15.4% (n=2) at level II. Table 1 shows the perception about, and satisfaction with, the body figure. Ideal BMI, which represents the desired body figure, is significantly lower than the real one (the assessed BMI) (p=0.016). The current BMI, which shows how mothers see themselves presently, is significantly bigger than the desired BMI. This outcome points to dissatisfaction with the current BMI. The real BMI is significantly lower than the current BMI (p=0.016), in other words, participants' mothers present inaccurate body image.

Table 1. Body image perception and satisfaction, according to the comparison between GRATA patients' mother current BMI (kg/m²) and the ones corresponding to silhouette figures in the current moment, in average (standard deviation). Ribeirao Preto-SP, 2016.

IMC_A	IMC_R	IMC_D	Difference between BMI_C and BMI_R	p	Difference between BMI_R and BMI_D	p
34.23 (10.38)	29.08 (5.65)	24.81 (6.88)	5.5	0.016*	9.42	0.0018*

BMIc: current Body Mass Index; BMIr: real Body Mass Index; BMId: desired Body Mass Index; *Significant difference

Discussion

An individual psychic life is first organized around the feeding/being fed relations (caring/being cared). If we take into account that food establishes the mother-baby relationship, we can conclude that the feeding process has great importance in child's emotional life.[6] Therefore, parents' lifestyle and the way they interact with their children are important factors for the construction of the child's eating habits. These interactions have positive or negative effect on the child's nutrition and on its social and cognitive development. Caregivers who do not recognize the signs emitted by the child can cause them to lose the sense of satiety and hunger. Such loss can lead to weight gain or to nutritional deficit.[8,20]

ED Patients set characteristic relationships with their mothers. Studies about mother-daughter relationship, from birth to the age of two, showed that feeding sets a strong link between them. Mothers usually complain about suffering and impotence, whereas children are characterized by hunger; thus, they seem to have a hard time dealing with the care given by their mothers. Food turns into a symbolic equivalent of the maternal function within this complex relationship.[21]

Mothers who often talk to their daughters about diets and who encourage them to diet can have great influence on the risk of their girls to the develop ED.[22,23]

Genetic factors can also be associated with ED, according to Strober et al.,[24] ED incidence in sisters of patients with this disorder reaches approximately 6%. This number is almost six times higher than the highest values recorded for the general population. A study conducted with 45 pairs of twins showed 5% ED in dizygotic twins and 56% in monozygotic twins. Based on these research, genetic factors play an important role in ED occurrence and family is very important during treatment.[24]

Mothers gain weight during pregnancy and this weight is not usually easily lost. Therefore, mothers are likely a risk group for obesity and eating disorders due to weight gain.[25]

The sampled population has healthy eating habits according to the "*Como está a sua alimetanção*" test, because scores were above the lower limit (29 points). However, there was no significant difference in the upper limit (alert limit) -42 points. Based on these results, the general population is in the limit of healthy eating habits, on average, although the sampled population is in the alert interval(Ministry of Health). The intake of macronutrients complies the reference values (10% to 35% protein, 45% to 65% carbohydrate and 20% to 35% lipids).[26,27]

The comparison between the food portions taken by the mothers and portions of feed in the food pyramid, it is possible noticing adequate intake of the following groups: Rice, Bread and Pasta; Vegetables and Legumes; Beans and Oleaginous; Meat and Eggs; Sugar and Sweets. However, the intake of portions of food in the Fruits, Milk, Cheese and Yogurts group is below the reference values. Only the Oils and Fat group recorded consumption higher than the reference value.[28]

Dunker & Philipi[12] assessed girls attending to a public school in Sao Paulo city, aged between 15 and 18 years. Based on their research girls with AN Symptoms were averse to specific food groups, such as candies, chocolate bars, soft drinks, spaghetti and French fries. Groups without these symptoms are fond of these foods. A similar study was conducted by Stracieri & Oliveira,[29] who showed that AN patients tend to avoid food with high sugar and carbohydrate content, because they associate these food groups with weight gain. Thereupon, it is possible observing that the eating restrictions of AN patients are different from mothers' behavior addressed in the present study.[24]

Based on EAT 26, the recorded result is close to the limit set for eating disorders. This test is widely use to help identifying ED; therefore, a positive result in it can point towards ED development or maintenance.[28] Such eating behavior shown by mothers is increasing and leads to a greater risk of adolescents and college students develop the disease.[30]

Studies have been conducted with risk groups prone to develop ED, such as ballerinas, athletes and students enrolled in nutrition courses. A survey carried out in a University in Ipatinga – MG showed that out of the 169 surveyed students, 50 (29.59%) were positive for EAT. This result is concerning, because ED is not a common pathology.[29] Studies with female athletes in different modalities did not present changes in their eating habits, they were negative for EAT-26. However, a study carried out with synchronized swimming and rhythmic gymnastics athletes showed their positivity for EAT-26.[31]

Paredes, Nessier & González conducted a research with dancers from Santa Fe Municipal Lyceum in the age group 13-23 years. This study showed that 58.3% of the sample was positive for EAT-40, which is the test that originated EAT-26.[32]

A research assessing 413 adolescents of both sexes (40 high performance athletes, 245 artistic gymnastics regular athletes and 128 non athletes) was carried out by Neves et al.[33] They aimed at establishing relations between corporal dissatisfaction, media influence, perfectionism, mood and risk to develop ED. Their results showed that 33.9% of regular athletes and 54.3% of high performance ones had corporal dissatisfaction. This outcome can be related to the pressure these athletes suffer in order to have a perfect body.[33]

According to Pike & Rodin,[34] mothers of ED adolescents have more chances to develop ED than mothers of adolescents without eating disorders. Recently, Elfhag & Linné[35] conducted a research with 3.147 students from 20 schools in Osona and with their parents. They observed that 10% of girl students had inadequate eating behaviors - their score was higher than 20 points in EAT-26, whereas 3% of fathers and 8% of mothers recorded the same result. Their study concluded that there is a strong correlation between mothers and daughters with ED.[36]

Overweight and obesity mothers had high prevalence in our study. Based on results of the Silhouette Figure Scale, we can perceive many concerns related to weight and body image, mainly when the ideal BMI is compared to the current ones. Of the adoption of inadequate methods to lose weight and to reach body image dissatisfaction can be risk factor for ED.[24] However, a study conducted by the Interdisciplinary Project of Attention, Teaching and Research in Eating Disorders in Childhood and Adolescence (PROTAD) of IPq – HC-FMUSP with 35 mothers, whose adolescent daughters have ED (age group 10 to 17 years), got to the conclusion that patients' mothers have the same levels of body image dissatisfaction than mothers who do not have children with ED. It confirmed the hypothesis that body image dissatisfaction is common among women.[37]

It is very important to have family members participating in the treatment of ED patients, mainly mothers, since the mother-daughter relationship is very intense. This scenario was corroborated by a survey encompassing 16 families that have participated in 16 group therapy sessions. Family presence during the treatment contributed to reduce patients'suffering.[38,39]

It is possible concluding that the assessed mothers were dissatisfied with their body image and also that overweight and obesity were prevalent in the sample. Although the eating habits of patients' mothers are different from the ones presented by ED patients themselves, it is necessary paying close attention to this group, because it can present risky behaviors related to ED development, mainly to its importance during the treatment. It is important proceeding with further research about the eating behaviors of patients' mothers.

Contributors

Garcia CL and Miguel RM participated in study design, data collection and in manuscript elaboration. Manochio-Pina MG and Pessa RP reviewed the content and approved the final version of the manuscript.

Conflict of interests: The authors declare no conflict of interest.

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Received: April 21, 2018
Reviewed: June 28, 2018
Accepted: July 30, 2018