

Orthorexia nervosa: cultural adaptation of ortho-15

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Abstract

Introduction: The cult of body in modern society, seen as a vector of individuality, places beauty and aesthetics as happiness and wealth factors. With rigorous and unreachable established patterns, the number of people affected by food-related disorders and collective subjectivity increases. Orthorexia nervosa, a relatively recent eating disorder first described in 1997, is characterized by the obsession with what is normally seen as healthy food. Individuals affected by the disorder seek foods considered “pure”, spending time and effort in the pursuit of healthy food that is incompatible with everyday life and puts them away from social relations. *Objective:* This study was intended to translate and culturally adapt the Ortho-15 questionnaire, developed in 2005 as a tool of perception of orthorexia. *Methodology:* Translation of the Ortho-15 from Italian to Portuguese followed by discussion and implementation of pilot testing with a focus group to enable the questionnaire to be firstly used in a study with Technical Nutrition students in Brasilia, Federal District, Brazil, and eventually in other studies. *Results:* Ortho-15 was adapted for use in the target population. *Conclusion:* Translation and cultural adaptation of Ortho-15 is of great importance, since there are no published studies on the prevalence of orthorexia in Brazil. Further studies to determine the psychometric properties of the questionnaire are suggested.

Keywords: Orthorexia Nervosa. Eating Disorders. Eating Behavior. Ortho-15.

Introduction

In Brazil, as well as in many other countries over the world, there has been an increasing number of people with overweight or obesity. Such trend, which was first observed in industrial countries, has been reported with relative frequency in developing countries too.¹

Various factors account for the growing obesity rates in the world population.² Medium and long term social changes, such as the increasing industrialization of all areas of human life since the Industrial Revolution, along with changes in social arrangements and in the combination of human groups (smaller and monoparental families, urban life, processed foods), have led to a series of changes in eating rituals. Examples are long distances between home and work, little time to eat, the massive advertising of fast food chains and the growing supply of industrial foods are some of the issues that affect eating habits. In addition, less physical activity, typical of modern societies, increases the impact on people, causing more and more overweight or obesity.

As Simmel³ pointed out, our “meals” have undergone brutal changes, which lead us to pay little attention to commensality and the ways of sharing food. As a result, having meals with the family, the preparation of foods, and the rituals that put eating within an own cultural context, named by Simmel as a “meal”, have been replaced by fast meals, eaten in restaurants, cafeterias, or at the workplace. Such *depersonalization* of the eating act, as defined in this work, is the exact opposite of the pleasing eating principle. Depersonalization means the loss of all eating ritualization, such ritualization marked by cultural and symbolic values. Somehow, withdrawing from this pattern can lead to its opposite, the rational perfection and precision at the eating time, which could lead to eating disorders.

Such changes in eating habits, with impacts on the individual’s nutritional status, have produced a phenomenon called “nutritional transition”.⁴ Obesity is a serious public health problem, which tends to become increasingly worse.

The population’s weight increase can be claimed as one of the main risk factors for numerous diseases. For this reason, to keep the body without overweight is largely encouraged by health professionals with the purpose of improving the people’s quality of life.

Dialectically, overweight in Brazil and in the world population has increased dramatically, as well as the aversion to obesity and fuller silhouettes. According to Fischler,⁵ this is typical of our times, which he calls lipophobia, i.e., an increasing obsession with thinness and rejection of obesity. The media, particularly associated with fashion and lifestyle, contributes enormously to the perpetuation of an almost unattainable thinness stereotype, at the same time dreamed by lots of people.

In social terms, obesity has no longer been seen as just an excess of body fat. It has acquired a broader meaning, with negative connotation, which belittles obese people in their environment.⁶ It is a process of stigmatization, as defined by Goffman.⁷ As a consequence of the same phenomenon, researchers have observed a different use of the medical technologies in order to conform to such new beauty standards or as a form of consumption associated with social groups or classes. Cosmetic plastic surgeries have been made at increasingly earlier ages and as a way to achieve social distinction.⁸

This all converges to new discussions on the body as an object, once, as described by Le Breton, “how people view the body is another way to view the world and the social bonds; a disorder introduced to the body configuration is a disorder introduced to the world coherence”.⁹ (Translated by the authors).

The body as a social expression

In contemporary societies, the dimension and importance of the body to someone are expressed by the desire of being part of the world and being recognized as part of a group or community. We can affirm that the body is the framework of our identity because identity is built progressively and shaped *by* and *in* our body.¹⁰

In modern society, the body plays the role of a tool in building the subject’ subjectivity, in terms of Bourdieu, both the individual and group *habitus* at the same time. As a determinant core of the subject, it has become a source of expression of the *habitus* and the mediator of the individual’ sense of belonging in the society. Such inscribed, indelible and practices-generating matrix can be defined as a “system of socially constituted arrangements which, as structured and structuring structures, constitute the generating and unifying principle of a set of practices and ideologies typical of a group of agents”.¹¹ (Translated by the authors).

This means that the body is the locus of social incorporation, of materialization of social differences in the form of postures and physical arrangements. On the other hand, the body represents a physical capital that the individual spends while struggling competitively in a mined and stratified social field. Physical beauty and socially valued abilities or skills (such as in sports or arts) count as a *physical capital*, which may represent the social distinction and the likelihood of raising or maintaining the *status*. Such asset can also be converted into cash and economic power.

All in all, the body has become increasingly central in modern and post-modern societies. Such understanding by the social subjects has occurred as an introjected cultural value, somewhat unconsciously, that works almost unreflectively, although practically, in common everyday life. People have realized that such set of cultural and symbolic values have changed, although surreptitiously, despite all the fuss made by the media on the ideal body. For many, what is at stake now is the body only and not the entire symbolic range of society's values.

However, such values are structural, objective, part of the power that some mechanisms have to impose representations on the individuals. For Bourdieu, "the symbolic power, subordinate power, is a transformed form, that is, unrecognizable, transfigured and legitimate, of other forms of power: [...] and thus turning them into symbolic power, capable of producing real effects without apparent energy spending".¹² (Translated by the authors). Such symbolic power exerts a *symbolic violence* on the subject's opinion on his/her own body, on the way the individual relates with it.

We are assuming that such symbolic violence on the body has produced the so-called "cultural pathologies" regarding the body, such as muscle dysmorphia (commonly "bigorexia"), anorexia, bulimia, orthorexia, and other serious psychosomatic disorders. Bigorexia can be considered the result of instrumentallization of the own body, which passes to be seen by the subject as below its potential and limits, giving him a feeling of weakness and low performance. This makes the individual transgress the body limits and not accept the signs of imbalance of their own body. Anorexia and bulimia, two food-related disorders, are directly related to self-image. Finally, we have orthorexia, which is associated with a perfect, correct relationship with food, nutrition assumed as a challenge and object of surveillance, a form of surpassing the nutrition instinct itself.

All these have a compulsive root, i.e., they are included in the so-called compulsive mental disorders. However, what has not been discussed are their roots of social constrictions, obligation, social demand, a symbolic violence exerted by society over the individual.

In response to the excessive cult of thinness and the qualities attributed to lean individuals, the number of food-related dysmorphic disorders has increased. If the social construction of lean bodies has achieved primary socialization, one can argue with certainty that thinness has been incorporated into the *habitus* of social agents with extreme power and more and more precociously.

Thus, overvaluation of thinness in detriment of health can lead to a breakup of the harmonious relationship between man and food. One of the consequences of "lipophobia" is the massive information delivered by the media on healthy diets and the risks that some foods pose to health. Because of the continuous pursuit for healthy foods as a way to prevent diseases and to fit into an aesthetically acceptable pattern, people have changed their behavior in the meals, often choosing restrictive diets and which are not included in their social, cultural or even their preference patterns.

Therefore, our focus is on social pathologies, which we consider as an expression of the *habitus* of individuals and gender relation. Translating it in terms of concepts, we wish to describe the body dysmorphic disorders and their *hexis*, as a result of the body docilization and medicalization in modern society.

Orthorexia nervosa

In this context, every day new disorders are discovered and described. In this recent field, orthorexia nervosa, a food-related behavior, has been described as a relatively new eating disorder, not yet recognized as a disorder by the Diagnostic and Statistical Manual of Mental Disorders - IV (DSM IV).¹³ It was first described by Bratman, in 1997, which coined the term “orthorexia”, meaning “correct nutrition”, deriving from the Latin word *ortho* (straight, right, correct).¹⁴

Bratman & Knight, in their book *Health Food Junkies*, described the characteristics of people with orthorexia.¹⁵ Being knowledgeable on alternative dietary practices and because they lived with people who adhered to vegetarianism and macrobiotics for a long time, Bratman e Knight identified some cases of orthorexia in some people of these groups. As specialists, they observed that people who needed to make dietary restrictions by medical reasons (e.g., food allergies and intolerances) evolved (without clinical indication) to very broad food restrictions, characterizing an idiosyncratic eating behavior which was then named orthorexia nervosa. In the book, a first questionnaire, comprised of ten questions, was suggested as a self-test to diagnose orthorexia.

Because of the lack of clinical studies on orthorexia, the number of papers published is still very small. Studies agree that people who present it has personality traits of compulsive obsession, and as orthorexia is a pathological obsession of eating healthy food, it can lead to important food restrictions.^{16-20.}

In addition to dietary restrictions, the disorder leads to a typical behavior that ultimately makes the subject spend much time looking for, selecting, preparing and adapting foods. Differently from anorexia or bulimia, orthorexia is not a quantitative, but a qualitative, food disorder, i.e., people with orthorexia are primarily concerned with the quality of the food chosen¹⁶. They exclude from their diets foods that are not organic or that lose nutrients and/or incorporate harmful substances during processing.²¹

Added to the quality aspect, Bratman has already found and reported that people with orthorexia tend to stay away from social situations and prefer to have their meals alone as a way to avoid questions about their food choices and worries¹⁴. Thus, the focus is not to lose weight but to have a diet that they consider perfect.²²

Studies conducted so far indicate that some professional categories are more vulnerable to the occurrence of orthorexia nervosa.²³⁻²⁵ Thus, chances are that health students and professionals who have nutrition in the school grid may develop orthorexia.²⁶ Eating disorders and changes in body image seem to be more frequent in people whose profession one way or another requires more care or attention on foods and nutrition.^{27,28} When in groups, the individuals tend to behave and make decisions in a similar way.

Orthorexia cannot be easily perceived because healthy eating is encouraged and considered a habit that promotes well-being and longevity, i.e., orthorexia seems to follow health standards and takes some time to become a “problem”. People with orthorexia are proud of their behaviors and choices and will gradually become “experts” in obtaining foods considered pure or of high standard or quality. Such positive character prevents them to accept that such “healthy” behavior can be harmful to health.

In 2004, Lorenzo Donini and his peers published the first study on the prevalence of orthorexia nervosa in population groups. The research was conducted in Rome, Italy, with a group of 404 subjects. The study developed and validated a tool to detect orthorexia, named Ortho-15.¹⁶ The questionnaire, comprised of 15 questions, was developed based on the ten-question test proposed by Bratman.¹⁴

In Brazil, there are no data available on the prevalence of orthorexia nervosa, which shows the importance of the translation of Ortho-15 to Portuguese and its cultural adaptation, in order to preserve the original meaning of the questions that comprise the questionnaire. The second step was the administration of the questionnaire adapted to a specific population, and the results will be published soon.

Goal

The aim of the study was to make the translation and customization of Ortho-15, developed by Donini and collaborators, for use as an instrument of analysis of orthorexia of a population, first with the students of the Nutrition and Dietetics Technical course of the Federal District, a survey that will be published later.

Method

Ortho-15 was developed in Italian and published in English by Donini et al. in 2004.¹⁶ Table 1 shows the original version of the questionnaire in Italian, comprised of 15 questions with a scale of four graded responses.

Table 1. ORTHO-15 questionnaire in Italian, Donini et al.¹⁶

	<i>Sempre</i>	<i>Spesso</i>	<i>Talvolta</i>	<i>Mai</i>
1. Quando mangia fa attenzione alle calorie degli alimenti?				
2. Quando entra in un negozio di prodotti alimentari, è confuso?				
3. Negli ultimi 3 mesi, il pensiero del cibo è stato per lei una preoccupazione ?				
4. Le sue scelte alimentari sono condizionate dalla preoccupazione per il suo stato di salute?				
5. Il sapore è la più importante delle qualità di cui lei tiene conto nel giudicare un cibo?				
6. È disposto a spendere di più per avere un cibo sano?				
7. Il pensiero del cibo sano la preoccupa per più di tre ore al giorno ?				
8. Si concede qualche trasgressione alimentare?				
9. Ritiene che il tono dell'umore incida sul suo comportamento alimentare?				
10. Ritiene che la convinzione di alimentarsi con cibi sani aumenti la sua autostima?				
11. Ritiene che il consumo di cibi sani modifichi il suo stile di vita (frequenza ristorante, amici...)?				
12. Ritiene che consumare cibi sani possa migliorare il suo aspetto fisico?				
13. Si sente in colpa quando trasgredisce ?				
14. Ritiene che in commercio siano presenti anche cibi non sani?				
15. Attualmente quando consuma i pasti, lo fa da solo?				

In the instrument, weights were attributed for the scale, and the behavior relating to orthorexia had weight 1, and to the healthier behavior weight 4, as shown in Table 2 below.

Table 2. Scoring grid developed by Donini et al.¹⁶ for Ortho-15 test responses.

Responses scale				
Questions (grouped per type)	<i>Always</i>	<i>Often</i>	<i>Sometimes</i>	<i>Never</i>
No. 2, 5, 8, 9	4	3	2	1
No. 3, 4, 6, 7, 10, 11, 12, 14, 15	1	2	3	4
No. 1, 13	2	4	3	1

Donini evaluated the predictive capability to diagnose orthorexia nervosa by calculating the efficacy, sensitivity, specificity, positive and negative predictive value. Threshold was set in <35, and in this threshold Ortho-15 was highly specific for the diagnosis of orthorexia nervosa. For the cut-off value of <40, the test showed 100% of sensitivity and 73.6% of specificity. The author suggests the cut-off value of < 40 for population studies. This was the cut-off used in our study, which is being written to be published.

The translation and validation of Ortho-15 are the first and basic step of the study that investigates the prevalence of orthorexia nervosa among the students of the Nutrition and Dietetics Technical courses in the Federal District. The people enrolled in the study was comprised by students of several technical schools in the Federal District, and the results will be presented in another paper.

The instrument was translated according to the methodology recommended by the World Health Organization (WHO), which was used in the translation of the Portuguese version of the instruments of assessment of quality of life (WHOQOL, 1998),²⁹ and consists of the following steps:

a) Direct contact with the author

Contact was made with the authors to explain the reasons of the research. They made available a version of the questionnaire, which was first developed in Italian and later translated (but not adapted) to English.

b) Translation

A sworn translator made the translation from Italian to Portuguese.

c) Review of the translation

After being translated, the Portuguese version of the questionnaire was reviewed by a focus group comprised of two students of the technical course in Nutrition and Dietetics, two representatives of the population in general, one linguist, one nutritionist, one follower of vegetarianism, one psychologist, and one sociologist, who were the mediator of the debate. The discussions were recorded in digital audio equipment, and handwritten notes were also taken.

The group discussed each point of the translated instrument, both regarding its content and form in Portuguese. Many questions were changed, and the content of the message was adapted to fit the closest meaning of the Brazilian culture. Specific points were improved and others were partially eliminated, without losing the original question. Conceptual and terminological accuracy was pursued. The final version was the result of the group consensus.

d) Pilot test

The translated and adapted version of the Ortho-15 test was administered to a group of 20 participants, students of the technical courses on Nutrition and Dietetics and Technical Secretariat, a professional school in the Federal District. It was decided to include the students of the Secretariat because of the similar characteristics (mostly females, the same admission form to the institution, same regions of origin) and that at the same time did not represent students of health programs. After completing the questionnaires, the students expressed their doubts and indicated the questions that they considered more or less difficult to understand. The suggestions and difficulties found were recorded by the researchers and discussed by the same focus group that made the cultural adaptation, for approval of the final version.

e) Back translation

After review and consolidation of the Ortho-15 by the expert focus group, another sworn translator, who did not participate in the Italian-to-Portuguese translation, made a back translation of the questionnaire.

f) Re-evaluation of the back translation

The re-translated questionnaire was sent to the author in its original language (Italian) so that he could see whether the questions maintained the same properties of the original questionnaire and met the goals as originally proposed.

After being approved by the author, the instrument was considered suitable to be administered to the students of the technical courses of Nutrition and Dietetics of the Federal District.

Ethical aspects of the research

The study was submitted to the Research Ethics Committee of the Institute of Human Sciences (CEP-IH), University of Brasília (UnB), and was approved under number FR 331326 in May 18, 2010. All students enrolled in the study were informed on the research goals and benefits and agreed to sign the Informed Consent Form.

Results and discussion

In the process of evaluation of the translation and cultural adaptation of the instrument, the participants of the focus group were selected to ensure that the questions relating to the object of study (orthorexia nervosa) and the language and culture were well represented. Bratman¹² describes in his book that people who decided to follow a vegetarian diet and who had food allergies seemed to be more likely to develop orthorexia. Thus, we considered important to have a vegetarian participant in the focus group.

A psychologist, a sociologist and a linguist were also included in the expert group to ensure that after translation the questions would produce, considering the Brazilian population, the same kind of responses that the original Italian questionnaire does. The other participants included a nutritionist, students of the technical course on Nutrition and Dietetics, and representatives of the population in general.

The Ortho-15 questionnaire, translated and adapted to the Portuguese idiom is shown in Table 3 below, followed by an English version (Table 4).

Table 3. Portuguese version of Ortho-15, adapted by Pontes and Montagner, Brasília-DF, 2010.

Marcar com um X a alternativa que melhor corresponde ao seu comportamento em relação à comida	Sempre	Muitas vezes	Algumas vezes	Nunca
1. Você fica atento(a) às calorias dos alimentos quando come?				
2. Quando você vai a um mercado de alimentos, se sente confuso a respeito do que deve comprar?				
3. Nos últimos três meses, pensar sobre sua alimentação tem sido uma preocupação?				

Marcar com um X a alternativa que melhor corresponde ao seu comportamento em relação à comida	Sempre	Muitas vezes	Algumas vezes	Nunca
4. As suas escolhas alimentares são determinadas pela preocupação com seu estado de saúde?				
5. O sabor é a qualidade mais importante que você leva em consideração ao escolher um alimento?				
6. Normalmente, você se dispõe a pagar mais por alimentos saudáveis?				
7. A preocupação com alimentação saudável toma mais de três horas do seu dia?				
8. Você se permite alguma quebra da sua rotina alimentar?				
9. Para você, o seu humor influencia o seu comportamento alimentar?				
10. Você acredita que a convicção de se alimentar saudavelmente aumenta sua autoestima?				
11. Você acha que o consumo de alimentos saudáveis modifica seu estilo de vida (ida a restaurantes, amigos...)?				
12. Você acredita que consumir alimentos saudáveis pode melhorar o seu aspecto físico?				
13. Sente-se culpado(a) quando sai da sua rotina alimentar?				
14. Você pensa que no mercado existem alimentos não saudáveis?				
15. Ultimamente, você costuma estar sozinho(a) quando se alimenta?				

Table 4. English version of the Ortho-15 test for diagnosis of orthorexia nervosa (translated by the author.)

Choose the alternative that best corresponds to your behavior in relation to food	Always	Often	Sometimes	Never
1. When eating, do you pay attention to the calories of the food?				
2. When you shop for foods, do you feel confused on what to buy?				
3. In the last three months, thinking of food has been a worry to you?				
4. Are your eating choices conditioned by your worry about your health status?				
5. Is the taste of food more important than the quality when you choose foods?				
6. Usually, are you willing to pay more for healthy foods?				
7. Does the thought about healthy food worry you for more than three hours a day?				
8. Do you allow yourself any eating transgressions?				
9. Do you think that your mood affects your eating behavior?				
10. Do you think that the conviction to eat only healthy food improves your self-esteem?				
11. Do you think that eating healthy foods changes your lifestyle (eating out at restaurants, friends, ...)?				
12. Do you believe that consuming healthy foods may improve your appearance?				
13. Do you feel guilty when you transgress your routine diet?				
14. Do you think that on the market there is also unhealthy food?				
15. Lately, have you eaten alone?				

In the analysis of the questions of Ortho-15, some considerations should be made, especially regarding questions 6, 14 and 15.

Question 6, “Are you willing to pay more for healthier foods?” seems to be influenced by the individual’ socioeconomic condition. It means that a person may not be willing to pay more for certain foods, not because he/she does not consider it important, but because it is unaffordable. In Brazil, foods lower in fats and sugar, as well as foods grown without application of pesticides, are much more expensive. Nevertheless, the question refers to a desire, and perhaps not actually to a possibility.

Question 14, “Do you think that in the market there are unhealthy foods?” perhaps it implies a thought that nowadays is part of the common sense. If on the one hand media disseminates a huge number of advertising campaigns on foods considered “unhealthful”, on the other hand reports and interviews that address the hazards of excessive consumption of some foods are increasingly frequent. As a result, people may be paying more attention to aspects relating to the foods nutritional properties, which make them make associations between certain products and damages to health when they are in the market to buy foods.

Another consideration refers to question 15: “Lately, are you alone when you have meals?” Changes in lifestyle, distance between home and work/school, difficulties with public transport and the greater number of women present in the labor market are issues that may contribute for someone to be alone when he/she has meals. It is known that individuals with orthorexia usually eat without the company of others as a way to hide their restrictions on foods or not to be recognized as such. However, not only orthorexia leads to such behavior, but the other abovementioned issues can also lead someone to eat alone.

Conclusion

Very little is still known about orthorexia nervosa. There are also doubts on whether orthorexia is a new eating disorder or just a new trait of compulsive obsessive personality. There is a lot to be cleared up about its determinants and correlation with socio-demographic and other health-related variables.

The few studies that were conducted do not agree about the relation between orthorexia and diverse variables, such as gender, age, educational background, and body mass index. As orthorexia may bring serious consequences to health, when very strict behaviors are adopted, further studies become very important in order to elucidate such questions.

Treatment of orthorexia should be performed by a multiprofessional team and should consider the diverse aspects involving orthorexia nervosa. Psychological, sanitary, psychiatric, sociological, clinical and nutritional monitoring is vital. As little is still known about orthorexia, it is very important that health professionals become attentive to indicative behaviors of such disorder. If not, food restrictions can just be seen as adherence to healthy diets, but orthorexia-related behaviors may be developed.

Few studies were conducted, and there is no data published on the prevalence of orthorexia in Brazil or Latin America. This makes it extremely important to conduct researches that indicate its prevalence in the population in general and in groups considered at risk (students of the health area, people with dietary restrictions caused by treatment or lifestyle, professionals who need to maintain low weight).

The translation and cultural adaptation of Ortho-15 was the first and fundamental step towards future investigations on the magnitude of orthorexia in Brazil and its relationships. It is all-important to conduct studies to determine the psychometric properties of Ortho-15, and we hope that we have contributed to the adaptation of this instrument.

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