

Factors associated with the risk of eating disorders among academics in the area of health



Fatores associados ao risco de transtornos alimentares entre acadêmicos da área de saúde

Factores de riesgo asociados a trastornos alimenticios entre estudiantes del área de la salud

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ABSTRACT

The object of this study was aimed at identifying factors associated with the risk of eating disorders in undergraduate students in the area of Health Sciences. It is a cross-sectional, quantitative and descriptive study carried out in Montes Claros, MG (Brazil), from August to October 2012. The profile of the university students was identified and the Eating Attitudes Test (EAT-26) applied. 200, students aged 23.4 ± 6.13 years participated in the study, 76.5% of them females. A frequency of 4.0% of the students were at high risk of developing eating disorders, 21.0% at low risk and 75.0% had no risk factors. Various inadequate self-perceptions of the body, dietary practice, missed breakfasts and snacking during intervals were associated with factors for eating disorder risk ($p < 0.05$). For students with inadequate nutritional status, 34.4% were at risk of an eating disorder ($p = 0.004$). The high risk of developing eating disorders among students in a nutritionally deficient condition indicates that they should receive preventive dietary advice.

Descriptors: Eating disorders. Feeding behavior. Students, health occupations.

RESUMO

O objetivo deste estudo foi identificar fatores associados ao risco de transtornos alimentares entre acadêmicos da área de saúde. Trata-se de um estudo transversal, quantitativo e descritivo, realizado em Montes Claros, MG, Brasil, no período de agosto a outubro de 2012. Foi identificado o perfil dos universitários e aplicado o Teste de Atitudes Alimentares (EAT-26). Participaram 200 universitários com idade de $23,4 \pm 6,13$ anos, sendo 76,5% do sexo feminino. Observou-se que 4,0% apresentaram alto risco de desenvolverem transtornos alimentares, 21,0% baixo risco e 75,0% não apresentaram risco. As variáveis "percepção do corpo inadequada", "prática de dieta", "ausência do café da manhã" e "lanches nos intervalos" foram associadas com fatores de risco de transtorno alimentar ($p < 0,05$). A prevalência de fatores de risco para transtorno alimentar foi de 34,4% nos universitários que apresentaram o estado nutricional inadequado ($p = 0,004$). O alto risco de desenvolvimento de transtornos alimentares entre estudantes em condição nutricional deficiente indica que os mesmos deveriam receber aconselhamento nutricional preventivo.

Descritores: Transtornos da alimentação. Comportamento alimentar. Estudantes de ciências da saúde.

RESUMEN

El objetivo de este estudio fue identificar los factores asociados con el riesgo de trastornos de la alimentación entre los estudiantes del área de la salud. Se trata de un estudio transversal, cuantitativo y descriptivo en Montes Claros, Minas Gerais (Brasil), en el período de agosto a octubre de 2012. El perfil de la universidad se identificó y aplicó el Test de Actitudes Alimentarias (EAT -26). En el estudio participaron 200 estudiantes universitarios de entre $23,4 \pm 6,13$ años, el 76,5% son mujeres. Se observó que 4,0% tenían un alto riesgo de desarrollar trastornos de la alimentación, el 21,0% de bajo riesgo y el 75,0% no mostró ningún riesgo. La percepción del cuerpo inadecuada, práctica de dieta, la falta de desayuno y refrigerios durante los descansos se asociaron con el riesgo de trastorno alimentario ($p < 0,05$). La prevalencia de factores de riesgo para los trastornos de la alimentación fue de 34,4% en la universidad que tenía un estado nutricional inadecuado ($p = 0,004$). El alto riesgo de desarrollar trastornos de la alimentación entre los estudiantes en mal estado nutricional indica que ellos deben recibir orientación sobre la nutrición preventiva.

Descritores: Trastornos de la conducta alimentaria. Conducta alimentaria. Estudiantes del área de la salud.

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■ INTRODUCTION

Eating disorders are psychological disorders which can lead to biopsicosocial damage with a high rate of morbidity in the population. They possess a multifactorial etymology composed of genetic predispositions, social-cultural and biological and psychological vulnerabilities⁽¹⁻³⁾. In the last several years, the incidence of eating disorders has increased in the population. Despite the differences between instruments, methodology and diagnostic criteria, the estimated prevalence of these disorders among Brazilians varies from 0.5 to 5.0% in the age range of 18 to 30 years and mainly in women⁽¹⁻⁴⁾. Two of the main eating disorders are anorexia and bulimia nervosa. These disturbances are characterized by difficulty of treatment and damage to health and diet, which predisposes people to malnutrition or obesity and are both associated with a bad quality of life^(1-2,5).

In tracking eating disorders in the population, especially in epidemiologic studies, self administered questionnaires are recommended because of their ease of administration, efficiency and low cost. Through this instrument an evaluation is made of the factors or behavioural risks for eating disorders, that are then used as problem indicators for a defined place and population⁽⁶⁾.

Actually some research points to a bigger incidence of risk factors for eating disorders among young academics, principally for academics on courses in the area of health, in some of which physical appearance is very important, such as nutrition, physical education, nursing and medicine⁽⁷⁻⁹⁾.

Inadequate eating behaviour is often present in students who have a disturbed relationship between body and food^(6,10) and can be associated with factors such as changes in life style, psychological pressure and reduction of eating time available due to the curriculum structure and the time for study⁽⁷⁾.

The literature about the risk factors of eating disorders is still very scarce in relation to its significance, but study on this theme has been increasing, because of the great curiosity of researchers to find the mechanisms that define and trigger them, as well as the risk factors, so that intervention and effective prevention measures can be implemented^(3,11). Therefore, this study aims to identify factors associated with the risks of getting eating disorders among academics in the area of health. The hypothesis was tested that this population has a greater propensity for developing eating disorders.

■ METHODS

It is a transversal study with a quantitative approach made between August and October 2012 with academics

from the health department in a Private University in the Monte Claros, MG (Brazil), leading to a monograph at the end of the course⁽¹²⁾. The town is situated in the North of the state of Minas Gerais and has 370 thousand habitants and is a university town for that region.

According to the school census made by the institution, the student population has approximately 1.990 enrolled in the health department: Nutrition, Psychology, Nursing, Bio medics, and Pharmacy. The sample was defined in a random manner and for convenience, composed of 200 students, with the following inclusion criteria: age over 18, attending the university regularly, interested and with time available to respond to the questionnaire. Excluded from the study were students on training in their fields and who didn't use the facilities of the campus often.

The data was collected by the researchers themselves, who applied the questionnaire in university facilities, during class recess. The students answered the questionnaire and returned it to them immediately.

The instrument was divided into two parts, first there were questions made by the researchers aiming to identify the student profile regarding course, gender, age, course enrolled, food habits and body image satisfaction. Also collected was self reported information about the weight and height for a nutritional status diagnosis based on the Body Mass Index (BMI/kg²)⁽¹³⁾. The second part entailed an anorexia and bulimia evaluation based on a self descriptive questionnaire called Eating Attitudes Test -EAT-26, translated and validated in previous studies in Brazil⁽¹⁴⁾. It is composed of questions of the Likert Scale type with 6 reply options (never, almost never, few times, sometimes, many times, always) which give scores from 0 to 3. The final score of the questionnaire can vary from 0 to 78 points. In this EAT-26 test, the characteristics of the participants who scored >20 points were considered high risk for the development of eating disorders. Participants who scored between 10 and 20 were considered low risk and between 0 and 9 were considered to have no risk. The results of the EAT- 26 were categorized as follows: EAT with no risk of having eating disorders and EAT with risk of developing eating disorders (low and high).

The descriptive analysis of the data was made through frequency distributions. The Chi-Squared Test was used to assess the association between the variables, these variables being divided into two for evaluation on a 2x2 contingency table. The magnitude of this association was estimated by the calculus of reason of chance (OR) and the respective confidence intervals (IC 95%) The tests were made with the Statistical Package for Social Sciences (SPSS) version 15.0 with error probability of 5%.

The study was conducted within ethical principles and approved by the Ethics committee of the Research Department of the University of Montes Claros (protocol number 67038/2012). Before distribution of the questionnaire, students signed a Terms of Clear and Informed Consent.

■ RESULTS

Amongst the 200 students who participated in the study, we observed a higher prevalence of the female gender 76.5%. The average age found was 23.4 old ± 6.13 years, with most of them being under 23 years old. The nursing students had a higher percentage of participation, 49.5% (Table 1).

Among the students it was observed that 8.5% (17) and 29.0% (58) had a body perception of being underweight and overweight respectively. 30% of the students responded that; practiced a diet (55), omitted breakfast (58) and had snacks between meals (61). It was verified that in the evaluations of nutritional state that 53.5% were eutrophic (BMI= 18.5 to 24.9Kg/m²), 9.5% were underweight (BMI= 18.5Kg/m²) and 37.5% overweight (BMI> 24.9Kg/m²)

According to EAR-26, 40% (8) of the students show high risk of developing eating disorders, 21% (42) show lower risk and 75% (150) didn't show any risk.

The relationship between the risk of eating disorders and the variables studied here is shown on Table 3.

Table 1. Profile of students on health courses at the Private University of Monte Claros, MG 2012.

| Variables | N | % |
|-------------|-----|------|
| Gender | | |
| Male | 46 | 23.0 |
| Female | 154 | 77.0 |
| Age (years) | | |
| 17-23 | 129 | 64.5 |
| 24-29 | 42 | 21.0 |
| > 30 | 29 | 14.5 |
| Course | | |
| Nursing | 99 | 49.5 |
| Nutrition | 13 | 6.5 |
| Biomedicine | 31 | 15.5 |
| Pharmacy | 38 | 19.0 |
| Psychology | 19 | 9.5 |

Source: Research Data.

It was observed that the students with an inadequate body perception and who practiced diets presented a greater chance of risk for eating disorder (p<0.01). Among the students who didn't have breakfast in the mornings and those who snacked between meals, the prevalence of risk for eating disorder was 41.4% and 36.1% respectively (p<0.05). The nutritional state was associated with the risk of eating disorders (p=0.004), such that the prevalence of risk for eating disorders was 34.4% in students who showed inadequate nutritional state and 16.0% for an adequate nutritional state.

■ DEBATE

This study is pioneering in the investigation of prevalence of factors associated with eating disorders among students in the area of health in the North of Minas Gerais, in a way that makes it important to draw up preventative strategies for this problem. Identified in the population was a sub group with nutritional problems who showed a high risk of developing eating disorders by the presence

Table 2. Health course students body perception, food habits and nutritional state . Students from a private university in Monte Claros, MG, 2012

| Variable | N | % |
|-------------------------------|-----|------|
| Body perception | | |
| Underweight | 17 | 8.5 |
| Normal weight | 125 | 62.5 |
| Overweight | 58 | 29.0 |
| Practice of diets | | |
| Yes | 55 | 27.5 |
| No | 145 | 72.5 |
| Take breakfast in the morning | | |
| Yes | 142 | 71.0 |
| No | 58 | 29.0 |
| Have snacks between meals | | |
| Yes | 139 | 69.5 |
| No | 61 | 30.5 |
| Nutritional state | | |
| Underweight | 19 | 9.5 |
| Eutrophic | 107 | 53.5 |
| Overweight | 74 | 37.5 |

Source: Research data.

Table 3. Analysis of the association between variables studied and the risk of eating disorders in health course students from a private university in Montes Claros, MG, 2012.

| Variables | Category EAT – 26 | | | | | | |
|-------------------------------|-------------------|------|------|------|---------------------|-----------|---------|
| | No risk | | Risk | | OR _{gross} | IC 95% | P Value |
| | n | % | n | % | | | |
| Gender | | | | | | | |
| Female | 112 | 72.7 | 42 | 27.3 | 2.09 | 0.87-5.03 | 0.095 |
| Male | 39 | 84.8 | 07 | 15.2 | | | |
| Age | | | | | | | |
| ≤ 25 years | 107 | 73.8 | 38 | 26.2 | 1.42 | 0.67-3.03 | 0.467 |
| > 25 years | 43 | 79.6 | 11 | 29.4 | | | |
| Body perception | | | | | | | |
| Inadequate weight | 42 | 56.8 | 32 | 43.2 | 4.88 | 2.46-9.72 | 0.000 |
| Adequate weight | 109 | 86.5 | 17 | 13.5 | | | |
| Practice diets | | | | | | | |
| Yes | 32 | 57.1 | 24 | 42.9 | 3.57 | 1.81-7.07 | 0.000 |
| No | 119 | 82.6 | 25 | 17.4 | | | |
| Take breakfast in the morning | | | | | | | |
| No | 34 | 58.6 | 24 | 41.4 | 3.30 | 1.68-6.50 | 0.001 |
| Yes | 117 | 82.4 | 25 | 17.6 | | | |
| Have snack between meals | | | | | | | |
| No | 39 | 63.9 | 22 | 36.1 | 2.34 | 1.20-4.58 | 0.019 |
| Yes | 112 | 80.6 | 27 | 19.4 | | | |
| Nutritional State | | | | | | | |
| Inadequate | 61 | 65.6 | 32 | 34.4 | 2.77 | 1.42-5.44 | 0.004 |
| Adequate | 89 | 84.0 | 17 | 16.0 | | | |

Source: Researched data.

*Difference between no risk and risk for getting eating disorders (Chi-squared test). OR= reason of chances (Gross) and IC = confidence intervals.

of behavioural risk and therefore preventative measures are required.

The rate of prevalence was 4% for high risk of eating disorder, as per scale EAT-26 and taking into account that a cut off point equal or above 21 points, similar results were found in other studies made in Brazilian students in the area of health using the same instrument⁽⁷⁾. However another research found 23.7% to 30.1% of occurrences of behavioural risk for eating disorders among academics exclusively of the female gender in the five regions of the country⁽⁶⁾. These numbers are more expressive than the frequency found in this study. Other research that evaluated only nutritional students observed a prevalence of 21.7% of high risk for eating

disorders⁽⁸⁾, also a very expressive number compared to the one found in this work. These differences can be explained by the assessment of specific student groups within the Health Field.

EAT-26 is an instrument that can be used as a severity index of typical concerns for patients with eating disorders, especially the intention of getting slimmer and the fear of putting on weight. International studies have been using this instrument to identify behavioural risk for eating disorders including in university students^(9,15). The prevalence of high risk of eating disorders greater than 20% is worrying, especially among professionals in the area of health who present a greater risk of developing eating disorders⁽¹⁶⁾.

Considering that eating behaviour disorder has increased among the population, this study opted to assess the factors associated with situations of risk for food disorder with scores above 10 points. This way early diagnosis of these cases could point to the necessity for collective intervention or, in the most symptomatic cases, direct them to the care of specialized professionals⁽¹⁷⁾.

Among the proposed variables in this study exploring the associated risks of eating disorder, it was observed that university students who present inadequate body perception are at the greatest risk. This distorted perception of the body also can cause abnormal food attitudes with the resulting risk of eating disorders, and so should be used as a screening parameter for individuals susceptible to developing eating disorders⁽⁸⁾. Some authors^(3,16) observed that the presence of behavioural risk for eating disorders amongst university students were associated with distortions of body image. Actually the general media dictate what the ideal body should be, principally, slim, well formed and with no fat, This standard of beauty set up by the media directly influences the life of society and to achieve it people submit their bodies to diets, physical exercise, surgical interventions amongst other things⁽¹⁸⁾.

Manifestations of eating disorders are generally first seen as eating restrictions of the diet. The progression is an exclusion of food associated with weight gain (simple carbohydrates and lipids) and a reduction in the number of daily meals⁽²⁻³⁾. This study observed an association between eating disorder and the presence of inadequate eating habits among the students.

Data supplied referring to body weight and height for the BMI evaluation have been used in researches of this nature due to the great agreement between information of this type given and actual measurements⁽¹⁹⁾ and so were used in this study. The presence was observed of deviations of the nutritional state which were associated with risk factors for eating disorder, confirming the literature data⁽²⁰⁾. There is also some evidence that students with positive EAT-26 show higher averages of related anthropometric parameters, even with values on borderline of normality for nutritional state classification⁽⁸⁾.

The results obtained in this study for the risk of eating disorders among university students are expressive, particularly since these behaviours can progress to total eating disorder syndromes. The prevention of eating disorders, including through the early identification of risk factors, should be reconsidered, moreover since there is an increase of incidences, as well as the danger to health.

■ CONCLUSION

The results shows that 4.0% of the population present a high risk of developing an eating disorder, but this percentage rises to 21.0% if including the lower risk ones. In addition 34.4% of the population presented nutritional deviations which might cause a high risk of developing the disorder. Dissatisfaction of body image, diets and inadequate nutritional state could be predictors of possible eating disorders. Some limitations in this study should be considered, especially the prevalence of women in the sample and the lack of a physical nutritional exam. Further investigations are suggested among university students in the area of health in multicentre studies which could lead to preventative proposals, such as approaching this subject during their professional education.

■ REFERENCES

1. American Dietetic Association (ADA). Position of the American Dietetic Association: nutrition intervention in the treatment of anorexia nervosa, bulimia nervosa, and other eating disorders. *J Am Diet Assoc.* 2006;106:2073-82.
2. Miller CA, Golden MD. An introduction to eating disorders: clinical presentation, epidemiology, and prognosis. *Nutr Clin Pract.* 2010;25(2):110-5.
3. Costa LC, Vasconcelos FA, Peres KG. Influence of biological, social and psychological factors on abnormal eating attitudes among female university students in Brazil. *J Health Popul Nutr.* 2010;28(2):173-81.
4. Smink FR, van Hoeken D, Hoek HW. Epidemiology of eating disorders: incidence, prevalence and mortality rates. *Curr Psychiatry Rep.* 2012;14(4):406-14.
5. Tirico PP, Stefano SC, Blay SL. Qualidade de vida e transtornos alimentares: uma revisão sistemática. *Cad Saúde Pública.* 2010; 26(3):431-49.
6. Alvarenga MS, Scagliusi FB, Philippi ST. Comportamento de risco para transtorno alimentar em universitárias brasileiras. *Rev Psiq Clín.* 2011;38(1):3-7.
7. Pires R, Pinto J, Santos G, Santos S, Zraik H, Torres L, Ramos M. Rastreamento da frequência de comportamentos sugestivos de transtornos alimentares na Universidade Positivo. *Rev Med.* 2010;89(2):115-23.
8. Silva JD, Silva ABJ, Oliveira AVK, Nemer ASA. Influência do estado nutricional no risco para transtornos alimentares em estudantes de nutrição. *Ciênc Saúde Coletiva.* 2012;17(12): 3399-406.
9. Liao Y, Liu T, Cheng Y, Wang J, Deng Y, Hao W, Chen X, Xu Y, Wang X, Tang J. Changes in eating attitudes, eating disorders and body weight in Chinese medical university students. *Int J Soc Psychiatry.* 2013;59(6):578-85.
10. Carvalho PHB, Filgueiras JF, Neves CM, Coelho FD, Ferreira MEC. Checagem corporal, atitude alimentar inadequada e insatisfação com a imagem corporal de jovens universitários. *J Bras Psiquiatr.* 2013;62(2):108-14.
11. Voderholzer U, Cuntz U, Schlegl S. Eating disorders: state of the art research and future challenges. *Nervenarzt.* 2012;83(11):1458-67.
12. Reis JA, Silva Júnior CRR. Transtornos alimentares entre os acadêmicos da Faculdade de Saúde Ibituruna, FASI, Montes Claros. [monografia]. Montes Claros (MG): Faculdade de Saúde Ibituruna; 2012.
13. World Health Organization. Obesity: preventing and managing the global epidemic of a WHO consultation on obesity. Geneva; 1998.

14. Bighetti F, Santos CB, Santos JE, Ribeiro RPP. Tradução e validação do eating attitudes test em adolescentes do sexo feminino de Ribeirão Preto, São Paulo. *J Bras Psiquiatr.* 2004;53(6):339-46.
15. Balhara YP, Mathur S, Kataria DK. Body shape and eating attitudes among female nursing students in India. *East Asian Arch Psychiatry.* 2012;22(2):70-4.
16. Laus MF, Moreira RCM, Costas TMB. Diferenças na percepção da imagem corporal, no comportamento alimentar e no estado nutricional de universitárias das áreas de saúde e humanas. *Rev Psiquiatr RS.* 2009;31(3):192-6.
17. Kirsten VR, Fratton F, Porta NBD. Transtornos alimentares em alunas de nutrição do Rio Grande do Sul. *Rev Nutr.* 2009;22(2):219-27.
18. Ribeiro RG, Silva KS, Kruse MHL. O corpo ideal: a pedagogia da mídia. *Rev Gaúcha Enferm.* 2009;30(1):71-6.
19. Garcia CA, Castro TG, Soares RM. Comportamento alimentar e imagem corporal entre estudantes de Nutrição de uma universidade pública de Porto Alegre-RS. *Rev HCPA* 2010; 30(3):219-24.
20. Memon AA, Adil SE, Siddiqui EU, Naeem SS, Ali SA, Mehmood K. Eating disorders in medical students of Karachi, Pakistan-a cross-sectional study. *BMC Res Notes.* 2012;5:84.

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