



ORIGINALES

Analysis of the Risk of Suffering Eating Disorders in young student university of Extremadura (Spain)

Análisis del Riesgo de sufrir Trastornos Alimentarios en jóvenes universitarios de Extremadura (España)

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ABSTRACT:

Eating disorders (ED), anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder are disorders of great concern in western world countries. Their rising tendencies have led researchers to try to explain the factors involved, their causes, and their effects, as a way of contributing to the efforts to stop the growing trends. Our research project focuses on the study of the risk of suffering ED amongst a sample of 600 students from the University of Extremadura (Spain). Said students are enrolled in twelve of the degrees offered by the University. The assessment tools used for the purposes of this research are the Eating Disorder Inventory-3 RF (EDI-3 RF) and the Spanish questionnaire, *IMAGEN* (Evaluation of Dissatisfaction with Body Image). The most significant results show the existence of a high percentage of students at risk of suffering ED. Young female students evidence higher rates of body dissatisfaction and drive for thinness than their male classmates who, conversely, demonstrate more characteristics of bulimia. Those studying education present higher rates of risk factors for suffering ED, such as the drive for thinness and their own body dissatisfaction, in the opposite situation are the health degrees in particular the nursing students, as a result of a greater bio health knowledge caused.

Key words: Eating disorders, body dissatisfaction, university population.

RESUMEN:

Los Trastornos de la Alimentación (TA), la Anorexia Nerviosa (AN), Bulimia nerviosa (BN) y trastorno por atracón son trastornos de gran preocupación en el mundo occidental. Sus tendencias crecientes han llevado a los investigadores a tratar de explicar los factores implicados, sus causas y sus efectos, como una forma de contribuir a los esfuerzos para detener las tendencias de crecimiento.

Nuestro proyecto de investigación se centra en el estudio del riesgo de padecer TA entre una muestra de 600 estudiantes de la Universidad de Extremadura (España). Dichos estudiantes están matriculados en doce de los grados ofertados por dicha Universidad.

Los instrumentos de evaluación utilizados para los fines de esta investigación están el inventario-3 trastorno del RF (RF de EDI-3) y el cuestionario en español, IMAGEN (evaluación de la insatisfacción con la imagen corporal).

Los resultados más significativos demuestran la existencia de un alto porcentaje de estudiantes en riesgo de sufrir TA. En las jóvenes alumnas se evidencia mayores tasas de insatisfacción corporal y de delgadez que sus compañeros masculinos que, por el contrario, demuestran más características de bulimia. Además quienes estudian grados de educación presentan tasas más altas de los factores de riesgo para sufrir tales como TC, la unidad de la delgadez y la insatisfacción de su propio cuerpo, en la situación opuesta se encuentran los grados de ciencias de la salud en particular los estudiantes de enfermería, probablemente como consecuencia de un mayor conocimiento biosanitario.

Palabras clave: Trastornos de alimentación; insatisfacción corporal; universitarios.

INTRODUCTION

Eating disorders (ED) are a group of severe disorders related to eating behaviour, caused by excessive concern over body image and the acute fear of weight gain due to an understood correlation between certain body types and social and professional success. The consequences of these disorders are manifested as physical, psychological, and social imbalances in the those who suffer from said disorders.

The etiology of these disorders is multifactorial; several factors interact and cause a significant functional and structural complexity. Amongst these factors are genetic factors, body changes, social pressure, vulnerability, body dissatisfaction, diets, depression, low self-esteem, and so on. This is to say, several biogenetic factors, vulnerability factors, psychological characteristics, socio-cultural aspects, stressors, etc. ^(1,2).

ED normally begins during adolescence, although observations indicate a rising trend in the frequency of ED onset during adult or childhood years ⁽³⁾.

There is a large amount of fluctuation with the data regarding ED prevalence. The data for Spain is considered to be similar to that of other industrialized nations, in which anorexia nervosa reaches levels between 0.1% and 1.5%, bulimia nervosa between 1% and 3%, and Eating Disorders Not Otherwise Specified (EDNOS) reach between 1.6% and 5% ^(4,1).

The highest percentage of these disorders is found amongst young adults, the age group including university student population. Regarding sex, the ratio of female to male students is higher, although the percentage of male students is progressively increasing.

In reference to ED amongst the Spanish university students, we highlight some data from the research carried out by García, Solbes, Expósito, and Navarro ⁽⁵⁾:

- In Catalonia, an epidemiological study carried out by the Association Against Anorexia and Bulimia (ACAB for its Spanish initials) and Adeslas ⁽⁶⁾ amongst university students aged 18 to 25 confirms that 11.48% of them present high risks of suffering an ED, while 6.38% could already be suffering from them.

- The results of the study carried out by Sepúlveda, Gandarillas, and Carrobes (2004)⁽⁷⁾, amongst students at the Autonomous University of Madrid shows that 14.9% of men and 20.8% of women presented high risks of suffering ED.
- A study carried out by the Autonomous Community of Galicia obtained results demonstrating a higher preoccupation with weight gain and body image in women, presenting cognitivist and behaviourist variables of risk of ED onset⁽⁸⁾. Girls present greater body dissatisfaction with their body image and greater fear of being fat, or even gaining weight. 70% of the girls and 52.8% of the boys wanted to weigh less, results which must be put in relation to body mass index (BMI).

After analyzing these results, the authors urge the importance of creating prevention programs aimed at university students.

Within this group, certain studies whose results reveal high rates of problems related to eating disorders and body image amongst students preparing for careers in education must be highlighted^(9,10).

Research in this field underscores the necessity for this group of future teachers to increase their knowledge and develop positive attitudes regarding weight, personal image, and diet, since they will be teaching future citizens⁽¹¹⁾.

Our objective is to contribute data concerning the prevalence of risks of suffering eating disorders amongst a significant group of students from the University of Extremadura in Spain.

METHODOLOGY

Sample

The sample, selected at our convenience, includes 600 students from twelve of the degrees offered at the University of Extremadura, aged 18 to 26. Of those evaluated, there are 357 women and 243 men. The volunteers were in good health and did not take any medications that might have influenced or masked the result of the study.

Research Design

It is a cross-sectional descriptive epidemiological study.

Procedure

We asked several professors for their permission to hand out questionnaires amongst their students in order to facilitate our data collection.

Once in contact with the aforementioned group of students, the objective of the study was explained to the students, emphasizing voluntary and anonymous nature of the questionnaire.

Instructions to properly complete the form were given thereafter.

The ethical principles established by the Declaration of Helsinki (World Medical Association, 2013)⁽¹²⁾ were met. And the study was reviewed by BioEthics Committee of University of Extremadura.

Assessment Tools

Data collection was carried out using, firstly, the Eating Disorder Inventory-3 Referral Form (EDI-3 RF), and subsequently, with the Spanish questionnaire, *IMAGEN*.

The EDI-3 RF⁽¹³⁾ is a brief version of the EDI-3 that evaluates the risk of developing eating disorders by means of 25 items across the 3 main scales, Drive for Thinness, Bulimia, and Body Dissatisfaction. They are the following:

1. **Drive for Thinness:** measures the drive to be thinner or a high fear of being fat.
2. **Bulimia:** evaluates the tendency to have thoughts about eating outrageously or binge eating.
3. **Body Dissatisfaction:** assesses the individual's dissatisfaction with their own body shape or with about the areas that most worry people suffering from ED: the stomach, the hips, the thighs, the buttocks, etc.

In addition to these three scales, the EDI-3 RF includes questions about sociodemographic aspects, weight history, and questions related to ED symptoms. It is a referral questionnaire that includes three types of criteria to indicate if the individual should be referred to specialist health services for a more rigorous study. These criteria are:

- Referral based on Body Mass Index (BMI), compared to the values shown in the reference tables.
- Referral based on BMI and the presence of excessive concerns about weight and regarding diet that are measured using the DT and B scales.
- Referral based on the presence of behavior that is symptomatic of ED.

The referral would be recommended if at least one of the cutoff points were to be exceeded.

Therefore, the EDI-3 RF is a screening tool for the early identification of ED as it enables the necessary attention and preventative measures to palliate possible problems to be put in place as soon as possible. The Spanish adaptation was conducted by Elosua, López-Jáuregui and Sánchez⁽¹³⁾, by utilising a numerous sample of individuals suffering from ED and another control sample not suffering from ED from different educational centres from several Spanish provinces.

The *IMAGEN* questionnaire⁽¹⁴⁾, a Spanish creation, is used to evaluate an individual's dissatisfaction with their own body image, which is connected to the malaise they feel regarding their bodies. There is no doubt about the importance of this variable regarding ED⁽¹⁵⁻¹⁷⁾, and its value for the prevention or early detection of these disorders. There are enough studies supporting the reliability and validity of the test.

The *IMAGEN* questionnaire allows us to break down how dissatisfaction with one's own body is evaluated into distinct components: cognitive-emotional dissatisfaction (ICE for its Spanish initials), perfective dissatisfaction (IPE for its Spanish initials), and

behavioural dissatisfaction (ICL for its Spanish initials). Furthermore, we are able to obtain a total score (PT for its Spanish initials).

This questionnaire is utilised in both clinical and educational settings for people 11 years of age and older, either individually or in groups.

Statistical Analysis

Once the data had been obtained through the aforementioned procedures and tools, we started the descriptive and inferential analysis using the SPSS 21 statistical package.

Averages, percentages, and standard deviations were calculated for the descriptive statistics. Regarding the inferential analysis, several tests were carried out according to the corresponding assumptions that needed to be met in order to decide if the tests to be applied would be parametric or non-parametric. The Kolmogorov-Smirnov Test (K-S) was used for the assumption of normality, the runs test for the assumption of randomness, while Levene's test was used for the assumption of homoscedasticity.

Since applying parametric tests was ruled out because of their not meeting one of the aforementioned assumptions, non-parametric tests were utilised: the Mann-Whitney U test, to compare the averages of two groups; the Kruskal-Wallis H test, to compare the averages of more than two groups; and a post-hoc test, based on Dunnett's T3, to determine which combinations do or do not produce significant differences.

RESULTS

1. They highlight the high percentages of Drive for Thinness and Body Dissatisfaction in women compared to the percentages in men, and the high percentage of characteristics of bulimia in both sexes, being higher in men. Table 1.
2. There are differences with respect to the sex of the university students in the sample concerning Drive for Thinness (DT), Bulimia (B), and Body Dissatisfaction (BD).

The descriptive analysis shows us the differences of these risk factors for EDs by sex (Graphic 1, Table 2).

Graphic 1. Average scores across the three scales (DT, B, BD) by sex amongst university students in Extremadura.

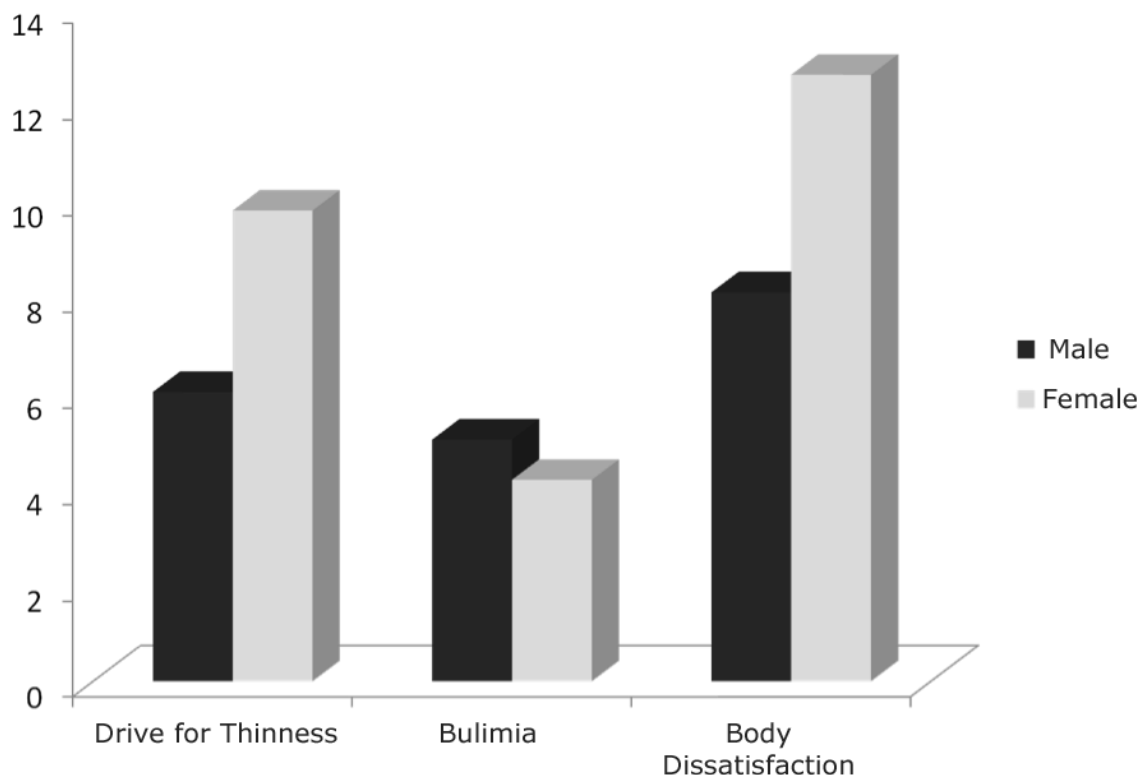


Table 1. Percentages across the three scales of the EDI-3RF, by sex, amongst university students from Extremadura.

	Females	Males
Drive for Thinness	40%	17%
Body Dissatisfaction	48%	27%
Bulimia	32%	48%

The inferential analysis is carried out thereafter. In this case, the non-parametric Mann–Whitney U test is used.

A $p < 0.05$ is obtained on the three scales from said non-parametric analysis.

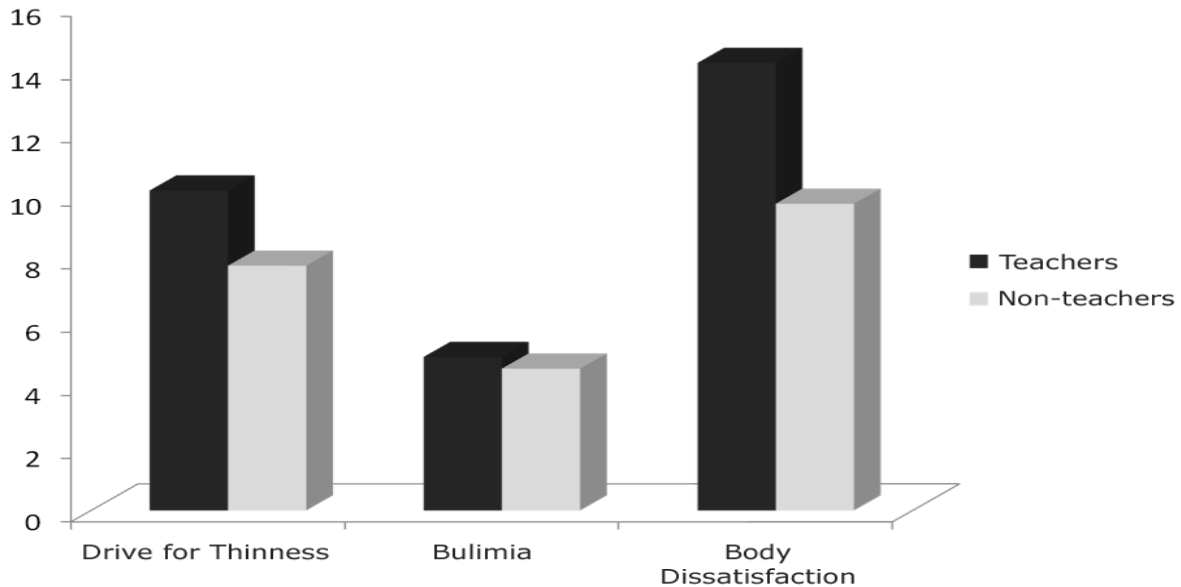
This indicates to us that with a 95% confidence level, there are statistically significant differences between male and female university students from Extremadura in the three dimensions of the EDI-3 RF.

Drive for Thinness and Body Dissatisfaction are significantly higher in females, and Bulimia is significantly higher in the males of our sample.

3. In our sample, there are significant differences in DT, B, and BD between students studying university degrees related to education (Preschool, Primary Education), and those who are not preparing for teaching.

Graphic 2 and Table 3 show the results of the average scores across the three dimensions of the EDI-3 RF. The students whose degrees are related to education show higher scores in Drive for Thinness, Bulimia, and in Body Dissatisfaction.

Graphic 2. Average scores for DT, B, and BD for future teacher and non-teacher university students in Extremadura.



Subsequently, to confirm this hypothesis we again utilise the non-parametric Mann-Whitney U test.

The results indicate a $p > 0.05$ value for Bulimia (B) with a 95% confidence level. This means that the scores are statistically similar in both groups in this case (Table 4).

Table 4. Mann-Whitney U Test for future teachers, future non-teachers / DT, B, BD.

	Drive for Thinness	Bulimia	Body Dissatisfaction
Mann-Whitney U	25806.500	31006.500	22066.500
Wilcoxon W	105207.500	43726.500	101467.500
Z	-3.407	-.372	-5.587
Asymptotic Significance (bilateral)	.001	.710	.000

Conversely, in regards to Drive for Thinness and Body Dissatisfaction, there are statistically significant differences obtained between the averages of the data across these two dimensions when comparing future teachers and those not studying education.

DISCUSSION

A higher rate of Drive for Thinness (DT) is exhibited in women. This was already stated by Lameiras, Calado, Rodríguez, and Fernández ⁽⁸⁾ in a study conducted with university students from Galicia, Spain, in which they observed a greater concern for weight and body image amongst women.

In our study, 40% of women score above the cutoff point on the DT scale at which point their Drive for Thinness must be considered a risk factor for ED. Less than half of the men manifest these characteristics (17%). This is a high percentage when compared to the results obtained by García et al. ⁽⁵⁾, who used the same instrument (EDI-3 RF) with Psychology and Education students from the Complutense University of Madrid. Their results stated that 11.9% of men and 29.9% of women were included in this “high risk” group on the first scale (DT).

Likewise, women show a higher rate of Body Dissatisfaction (BD), with 48% of them beyond the cutoff point, compared to 27% of men. Other authors ^(8,18) have already stated that women express a higher dissatisfaction with their physique than men. García et al. ⁽⁵⁾ also affirms that: “girls show more negative attitudes towards their body image (on the emotional, behavioural and perceptive levels), greater body dissatisfaction, and a higher drive for thinness than their male counterparts” (translated from p. 42).

In regards to the Bulimia scale, the rates are worse for men. 42% of them, compared to 32% of women, are past the cutoff point at which point it is considered necessary to refer them to a more in-depth study in order to determine if there is a risk of an eating disorder. This confirms the results obtained by García et al. ⁽⁵⁾ regarding the higher rates of characteristics of bulimia amongst men, whereas previous studies had shown that rates of bulimia were higher in women ^(8,18). We then ask ourselves the same question already put forth by these authors: Are the nutritional habits of our young university students changing, or is it due to varying methods of evaluation?

We encountered significant differences regarding Drive for Thinness and Body Dissatisfaction between the students whose degrees prepare them for teaching and those whose degrees do not. This affirmation can be explained by the high rates of females that study education degrees at the University of Extremadura. The higher rates of women compared to men who score above the cutoff points on these two scales have been previously mentioned above. This result also confirms the non-significant differences regarding characteristics of bulimia that, on the other hand, we indicated being higher amongst men. We find it necessary to continue doing research along these lines in order to better determine risk factors for university students, especially future teachers, and to ensure the development of attitudes and behaviours that encourage healthy lifestyles ⁽¹⁹⁾, knowing that training and caring for citizens in the near future rests in their hands ^(5,20).

CONCLUSIONS

There is a high percentage of university students from Extremadura at risk for ED. The risk factors for these disorders are higher amongst female students in the sample, who show more Drive for Thinness, and a greater Body Dissatisfaction than male students. Male students, however, display greater risks of Bulimia. The three

dimensions of Body Dissatisfaction that were studied are higher in women. Those dimensions consist of the emotional, the behavioral, and the perceptive.

Those students who are enrolled in degrees related to education exhibit more risk factors for ED than the students enrolled in other type of degrees. In the opposite situation are the health degrees in particular the nursing students, possibly as a result of a greater bio health knowledge caused.

Consequently, the students with degrees related to education show higher levels of Drive for Thinness and Body Dissatisfaction than the students whose degrees are not related to education, with no differences in reference to Bulimia

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