

## Original Article

# Assessment of the Eating Disorders in Female Students of Shahid Sadoughi University of Medical Sciences, Yazd, Iran, 2011

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### Abstract

**Introduction:** Up to now, the number of epidemiological studies about eating disorders (ED) in Iran is still limited. This study determined the prevalence of eating disorders in female students of Shahid Sadoughi University of Medical Sciences.

**Materials & Methods:** A randomly selected group of 400 female students studied at Shahid Sadoughi University of Medical Sciences had been assessed. After measuring height and weight, participants were invited to complete the Eating Attitude Questionnaire (EAT-26).

**Results:** Questionnaire was completed by 366 students (91.5%). An average prevalence of anorexia (13.11%) was found for female students. Current dieting for losing weight was reported by 20% of participants. 11.5% of participants were thin and 88% of them were not satisfied with their own weight. Frequency of eating disorders was significantly higher among overweight/obese students ( $p < 0.001$ ).

**Conclusion:** Eating disorders were present in over 13 percent of female university students. Preventive programs in order to decrease the progression of these disorders should be addressed.

**Keywords:** Eating Disorders; Anorexia Nervosa; Bulimia Nervosa; Students; Female

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## Introduction

Anorexia nervosa and bulimia nervosa can cause significant morbidity. Co-morbidity of medical conditions such as osteoporosis, gastrointestinal and endocrine disorders are associated with eating disorders, as if the prevalence of eating disorders has been increased in recent decades<sup>[1]</sup>. Some studies have estimated a range from 8% to 17% of eating disorders among college students<sup>[2, 3]</sup>. In addition, a large proportion of the students with significant eating disorders-related pathology may not be identified or treated as well<sup>[4]</sup>. Protein-energy malnutrition and micronutrient deficiencies are some of the consequences of eating problems. So, early identification and intervention for eating disorders could reduce the risk of progression of the illness and smaller diseases that exist primarily due to a larger one<sup>[5]</sup>. Traditionally, eating disorders were more prevalent in western countries, where body shape and size are so important especially for young girls<sup>[6]</sup>. However, the existence of anorexia and bulimia in non-western countries have also been addressed as well<sup>[7,8]</sup>.

In a study that was conducted among high school girls in Tehran, Iran, the prevalence rate of anorexia and bulimia nervosa were estimated to be 0.9% and 3.23%, respectively<sup>[9]</sup>. Despite the increasing importance of this subject, studies among the university students are rarely conducted, especially in developing countries. Eating disorders among university students may be related to dietary fads, skipping meals, and emotional disturbances due to environmental changes<sup>[10]</sup>. There are limited publications regarding eating disorders in this group of people

in Iran. The current study aimed to determine the prevalence of eating disorders among female university students in Yazd, Iran.

## Materials & Methods

We conducted a representative, cross-sectional survey among 400 female university students. All under-graduate and post-graduate students who enrolled in Shahid Sadoughi University of Medical Sciences in the time of the study (fall 2011) constituted the sampling frame. Those who were non-pregnant and consented to participate in the study were included. They were informed about the voluntary and anonymous nature of the survey. No information that would be used to identify the study participants was collected. Student signed informed consent to participate in the study. The study protocol was approved by ethics committee when reviewed as the institutional review board of Shahid Sadoughi University of Medical Sciences (Yazd, Iran). A random sampling technique was utilized in this study. The study population was divided into seven strata according to their schools. The subjects were systemically selected from an alphabetical list. The questionnaire included demographic information and eating attitude questions. Eating disorders were identified through the eating attitudes test (EAT-26). It is the most widely used measurement tool for evaluating anorexia and bulimia nervosa<sup>[11]</sup>. The questionnaire consists of 26 questions relating to eating attitudes and was used to calculate the score by the addition of the values of the responses. Questions assessed different aspects of eating behavior, including body image perception,

bulimic tendencies, and degree of willful control over eating behavior. The conventional cutoff score of 20 and above was considered as eating disorders. The authors should provide the statistical criteria of their questionnaire at first.

Body mass index (BMI) was calculated from height (m) and weight (kg) measurements as kg/m<sup>2</sup>. Body mass index less than 18.5 kg/m<sup>2</sup> was considered as extreme thinness according to the World Health Organization definition <sup>[12]</sup>.

The data were analysed using the statistical package for social sciences (SPSS) version 12.

Relevant frequency and percentages were calculated for qualitative variables whereas mean± standard deviations were calculated for quantitative ones. Values were also obtained by Pearson's chi-square test to determine the significance of the results.

## Results

Of the 400 eligible students consented to take part in the study, 366 (91.5%) completed and returned the questionnaire. Their mean age was 20.28 years (SD=2.9).

The mean BMI in this group was 22.29±3.64 Kg/m<sup>2</sup>. Forty two participants (11.5%) were thin according to the WHO classification. 88% of participant were not satisfied with their own weight and wish to lose weight. Twenty percent of the students reported current dieting for losing weight. Thirty six students (9.83%) had bulimia nervosa and repeated vomiting to control their weight. Four persons from all participants had anorexia nervosa. Nobody reported that she has received an evaluation or treatment for eating disorders.

**Table 1.** Means and percentages of sociodemographic variables according to eating disorder score

Variables	High EAT-26 Scores(n=48)	Low EAT-26 Scores(n=318)	P-value
<b>BMI(Kg/m<sup>2</sup>)</b>	24.21±0.5	22.01±0.2	<0.001*
<b>Inhabitation</b>			
Dormitory	37(77.1%)	166(52.2%)	<b>0.2**</b>
With family	3(6.2%)	89(28%)	
Single	8(16.7%)	63(19.8%)	
<b>Parents' marital status</b>			
Married	14(22.2%)	118(37.1%)	<b>0.4**</b>
Divorced/death	34(70.8%)	200(62.9%)	
<b>Father's education</b>			
Illiterate	0(0%)	11(3.45%)	<b>0.2**</b>
Primary	5(10.4%)	66(20.75)	
Secondary/high school	6(12.5)	39(12.3)	
Diploma/university	37(77.1)	202(63.5)	
<b>Mother's education</b>			
Illiterate	2(4.2)	14(4.4)	<b>0.7**</b>
Primary	15(31.2)	87(27.3)	
Secondary/high school	6(12.5)	55(17.3)	
Diploma/university	25(52.1)	162(51)	
<b>Smoking history</b>			
Yes	25(52.1)	195(61.3)	<b>0.6**</b>
No	23(47.9)	123(38.7)	

\*Independent t-test

\*\*chi-square

The mean EAT-26 score was 14.82 (SD=4. 8). Forty –eight respondents (13.11%) had an EAT-

26 score over 20 marks, indicating the disturbed eating behaviour. Table 1 shows mean BMI and

percentages of some sociodemographic variables according to eating disorder status. Only BMI was different between two groups. In other words, heavier students had higher scores than thinner ones ( $p < 0.001$ ). There was no significant relationship among the students positively identified with abnormal eating attitudes in terms of inhabitation, parents' marital status and education, or whether the subject did or did not smoke.

## Discussion

The results of the present study are based on a random representative sample of students studying at the university in the first semester of 2011. Three hundred and sixty six students at SSU were evaluated about their probable eating disorders. This adopted method to calculate and select participants, has increased internal validity of the study.

Anorexic and bulimic behaviors, which precede anorexia and bulimia nervosa, respectively, have been studied in different surveys to recognize these disorders in their preliminary stages.

The findings of this study show that the prevalence of eating disorders among female university students in Iran is comparable to the prevalence rates reported in western countries. According to our results, 13.11% of female university students screened as positive for eating disorders. It is within the range reported in another study of the university students that carried out in Taiwan, which used the EAT-26 to identify abnormal eating attitudes<sup>[10]</sup>. It is also similar to the results of a national screening among American high school students that showed a 15% prevalence of eating disorders<sup>[6]</sup>.

Sepulveda et al. showed the prevalence rate of unhealthy eating pattern which is associated with eating disorders of 14.8% for males and 20.8% for females in Spanish students<sup>[13]</sup>. However, studies conducted in Tehran and Karachi showed higher prevalence (approximately 20%) of eating disorders among female students<sup>[14, 15]</sup>. Moreover, Thomas et al. found that the prevalence of eating disorders among female university students in the United Arab Emirates was 22%<sup>[16]</sup>.

Our results showed a higher prevalence compared to a survey conducted in Turkey. Based on their results, 5.9% of Turkish university students had abnormal eating attitudes and behaviors<sup>[17]</sup>.

Iran has a young population and that is likely to affect the overall number of people with eating disorders. The preliminary results of this study constitute a challenge to mental health services in the university.

The prevalence of thinness was 11% in our study that was less than the study conducted among Tehran University students<sup>[14]</sup>.

The higher prevalence of bulimia compared to anorexia nervosa identified in the current study is in accordance with most of the other Iranian trials<sup>[9]</sup>.

The prevalence of 1.1% for anorexia nervosa found in this study is similar to the rate among women in Tehran<sup>[9]</sup>. In our study, BMI was strongly related to eating disorders in students, as noted in previous studies<sup>[9, 14]</sup>. Thus, the major determinant of eating disorders is the individual's actual level of obesity.

One of the limitations of this study was the cross-sectional design of the study, which makes causal interferences difficult. This study was

conducted among female students in medical university in Yazd. Thus generalizing the results of the study to other groups in Iran should be done cautiously. The screening tool (EAT-26) has been developed in western countries and we should introduce a culturally suitable measuring tool for assessing eating disorders. However, this questionnaire has been used in other Iranian studies<sup>[9]</sup> before.

The strengths of the current study were random

sampling and high participation rate.

## Conclusion

This study showed that the prevalence of eating disorders among female university students is comparable to its rates in western countries. It can be suggested that girls should be screened for eating disorders and targeted for primary and secondary preventive interventions.

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