

The Relationship between Eating Disorder Symptoms and Social Anxiety Disorder in Students in Isfahan

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Abstract

Introduction

Eating disorder symptoms and social anxiety can be occurring in the same time. Also social anxiety is one of the important factors predicting eating disorder symptoms which vary among different cultures and countries. The aim of this study was to determine the relationship between eating disorder symptoms and social anxiety in school students.

Materials and Methods

This was a cross-sectional study on 361 high school boys in Isfahan, who were selected through two-step random sampling. The students completed a questionnaire concerning demographic characteristics, eating disorder questionnaire and social anxiety. Data were analyzed by the statistical tests of Pearson correlation coefficient, Student's t-test, one-way analysis of variance (ANOVA), and regression through SPSS version 14.

Results

Based on the findings, the mean and SD value for age was (14.14 ±1.2) years and for Body mass index (BMI) was (23.25± 0.3). Result showed 35.2% had eating disorder and 17.5% bulimia and 30% had anorexia nervosa symptoms. Also there was a positive correlation between the rate of eating disorder symptoms, bulimia and anorexia nervosa and social anxiety (P = 0.004, r = 0.287, P= 0.001, r= 0.257, P= 0.020, r = 0.242).

Conclusions

There was correlation between the eating disorder symptoms and social anxiety in students. So educating people like caregivers by community health midwives regarding nutritional problems in during adolescence can be effective in early diagnosing and identifying such disorders.

Key words: Eating disorder, Isfahan, Social anxiety disorder, Students.

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Introduction

To be extremely obsessed with weight, physical shape, and food are known as the feature of "Eating Disorder". This kind of disorder as well as its probable problems is recognized as the third common cause of illness, after fatness and asthma, in the word (1). In spite of fact that such a disorder has been extensively studied about in the western society, this issue seems to be very common in non-western society, too (2). This disorder has been highly noticed, since 30 years ago, and many efforts, also, have been done to cure it (3). Eating disorder is a kind of psychological disorder and Bulimia nervosa and anorexia nervosa are the most common specific forms of it. Considering the western countries, 6% of people are involved with anorexia, and 1% with polyphagia, which these numbers are more in the cities than the villages (4).

Based on the Bas's studies (2007), it has been found that, once answering to the "Eat-26" questioner, 38.7% of the girls and 26.4% of the boys had an abnormal outlook toward eating (5). Statically, countries are different considering the issue of eating disorder: Saudi Arabia 19.6%, Japan 5.4%, America 22%, Canada 16%, England 4.92%, and Spain 12.3%.

In Iran however, limited studies have been done. The result of one study in Tabriz showed that 16.7% of female students are at the high risk of developing this disorder (6). Though early symptoms of this disorder would occur, simply, as showing reluctance toward food and eating, severe clinical consequences like bulimia and anorexia nervosa are probable to happen. Therefore, recognizing the people being prone to developing this disorder as well as the precise cause of the problem should be highly noticed (7).

As a matter of fact, eating disorder is a type of psychological, social, and biological illness which would be caused

due to different cultural, social, and psychological factors. Psychologically, depression and different anxiety disorders, mainly social-anxiety disorder, would pave the way for the occurrence of this disorder (8-14). Many theories, considering the cause of this very disorder, have put a great emphasis on the psychological disorders. Many epidemiological and clinical studies suggest that majority of the people, with eating disorder, are suffering from, at least, one sort of anxiety disorder (7). Anxiety is known as the key and precise cause of eating disorder (15). Walter (2004), in his study showed that 50% of people, having eating disorder problem, were challenging with, at least, one sort of anxiety-disorder, amongst whom 20% with social anxiety (16). To be concern about being negatively judged by the people is the first feature of "anxiety stress". Once being in different situations and feeling to be judged negatively, these people refuse to take part to any social circumstances and to have any social interaction with people. An estimated 1-10% of people with eating disorder have been reported as children and teens; comparing the boys and girls, this range changes to 1 to 1.5.

Such a disorder may start from adolescence and develop by being inactive at school, quitting the school, not having suitable social skills, and, consequently, having no or few friends (17).

Comparing to the other types of psychological disorder, anxiety disorder may start sooner. Based on an international study, the average age of this disorder has been reported as 13 years old (13.3-15.5). This age, however, in Canada, while a study had been done, decreased to 12.7. Amongst both girls and boys, such a disorder starts once being dissatisfied about one's body and having abnormal outlook toward food and eating.

Angel's study (2002) showed that the girls being more concern about getting old or,

even, tall showed more dissatisfaction about their body and, hence, were more involved with eating disorder (19).

Adolescence has been considered as one of the most important period of human's life because during this period many changes in the appearance, social behaviors, and psychological state of people would occur (21). There are more teens nowadays in the world than the past, 21.8% of the population of Iran, on 2006, had been reported as being the teens. Therefore, Because of the importance of this period and, also, due to having no report of such study in Isfahan, this study is conducted to determine the relationship between eating disorder symptoms and social anxiety disorder in school students in Isfahan at 2013 to 2014.

Materials and Methods

This was a correlational study conducted on 361 governmental school boys in the school year 2013. The researcher got research approval from Ethical Considerations Committee of the University and obtained a letter of introduction from Isfahan University of Medical Science. She delivered the letter to the authorities of schools, and after explaining about the research aims and obtaining students' written informed consent with respect to ethical codes and making the necessary co-ordination concerning the time of questionnaire distribution, she conducted sampling and performed the study. After a pilot study on 40 students, the sample size was calculated as 348 based on correlation index formula:

$$n = (z_1 + z_2)^2(1 - r^2) / r^2 + 2.$$

The total number of subjects was estimated to be 361 with respect to 5% increase as a result of random sampling ($Z_1 = 1.96$ with regard to confidence coefficient of 95%, $Z_2 = 84\%$ with regard to test power of 80%, and r based on the correlation coefficient between eating disorder and

social anxiety symptom estimated as 0.15 in the pilot study).

The method of sampling was such that a high school or vocational school was randomly selected from each of the five educational districts of Isfahan Province using a random number table.

Then, with regard to the population of each district, a certain number of students in various courses and grades were selected from the related high school. Finally, the expected number of subjects was selected through convenience sampling. Data collection tool included a questionnaire of demographic characteristics, social anxiety symptom, and eating disorder questionnaire. Social anxiety symptom questionnaire is scored a five-point Likert scale (not at all = 0, extreme = 4) and contains 17 questions. Total score is 0-68 and A score of ≤ 19 is given for social anxiety signs. Questionnaire of social anxiety and is valid and reliable tools that have been used in the studies of Mohamadirizi (2011) (22). Eating disorder questionnaire contains 31 questions measuring anorexia (22 questions) and bulimia (9 questions). The questions are scored by a two-point Likert scale: (Right = 1 and false = zero). Questionnaire of eating disorder is valid and reliable tools which have been adopted in various studies such as Valizadeh (2009) and confirmed with Cronbach's α values of 80% (23).

Inclusion criteria were giving an informed consent to attend the study, Iranian nationality, residing in Isfahan, being student of grades 1-4 of high school or vocational school, BMI < 30 . Exclusion criteria were experiencing an awful or stressful major event within the recent 6 months of study (death of immediate relatives, acute familial conflicts, financial problems, and a major change in life), taking antipsychotic medication, being on a special diet, the history of psychiatric diseases during the recent year (a psychotic disease diagnosed by a

psychiatrist or taking antipsychotic medications), and presence of any medical disease .

After the researcher referred to research environment and distributed informed consent forms among the students, the goal of study was explained to them. If the subjects agreed to attend and were qualified based on the inclusion and exclusion criteria, the demographic and

social anxiety and eating disorder questionnaires was given to them to fill up.

After the data of 361 subjects were collected, they were analyzed by the statistical tests of student's t-test, mann-whitney's, one-way analysis of variance (ANOVA), chi square, pearson correlation coefficient, and linear regression tests through SPSS version 14.

Results

Demographic/family characteristics of students showed in (Table.1).

Table 1: Distribution of Demographic/family characteristics in Students

Demographic/family characteristics	Distribution	Number	Percentage
Age (year)	14-16	151	41.8
	17-19	210	58.2
BMI(kg/m2)	< 18.5	93	25.8
	18.5-24.99	222	61.1
	25<	46	12.7
Economic statues	moderate	296	82.0
	poor	29	8.0
	good	36	10.0
Mother occupation	household	316	87.5
	employment	45	12.5
Mother education	without university education	260	69.0
	university education	101	31.0
Father education	without university education	242	67.0
	university education	119	33.0

The findings showed that mean± SD scores of eating disorders, anorexia, bulimia and social anxiety were:

12.12±3.6; 9.1±2.6; 3±1.1 and 14.98±1.0 respectively. In addition, 127(35.2%) of

subjects had eating disorders, 63(17.5%) anorexia and 110 (30.5%) had bulimia.

Based on Pearson's correlation test, a significant direct correlation was found between eating disorder, anorexia, bulimia and social anxiety (Table2 and Figures1-3)

Table 2: The correlation between total score of eating disorder, anorexia, bulimia and social anxiety

Variables		Eating disorder	Bulimia	Anorexia
Social anxiety	Correlation coefficient	.287**	.257**	.242**
	P value	.004	.001	.020
	Number	361	361	361

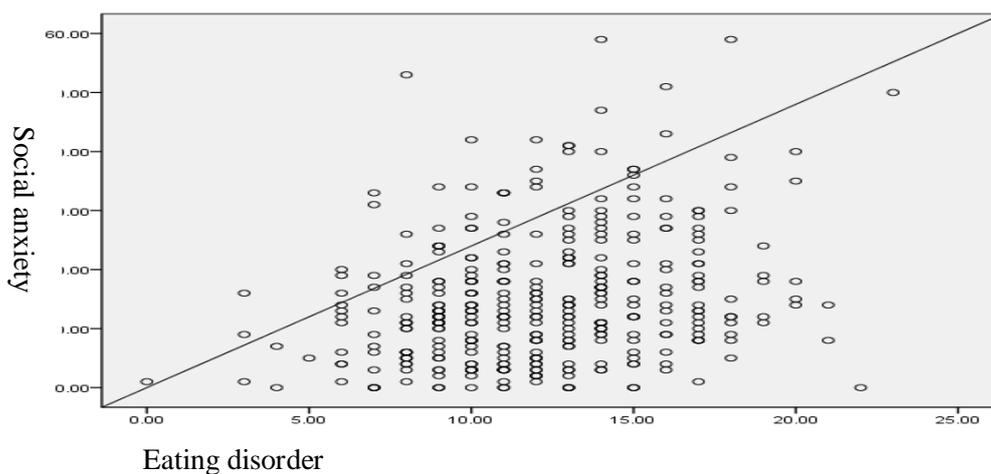


Figure 1: Scatter diagram of eating disorder and social anxiety

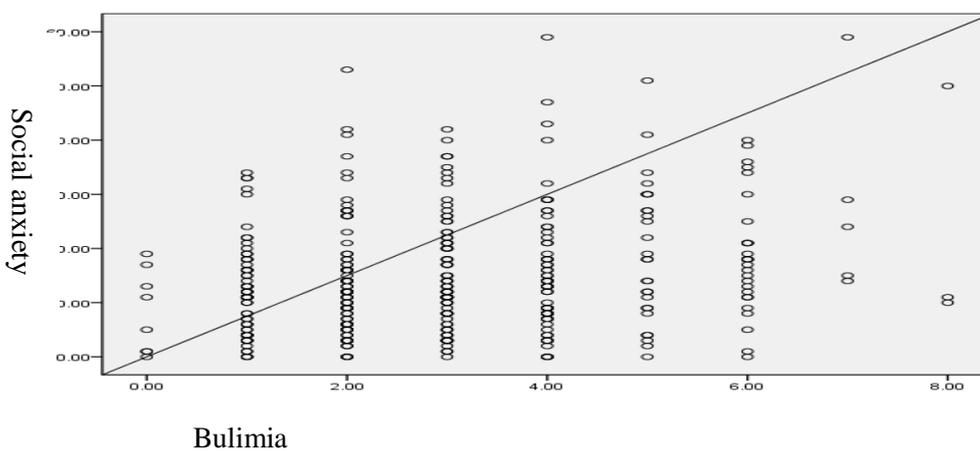


Figure 2: Scatter diagram of Bulimia and social anxiety

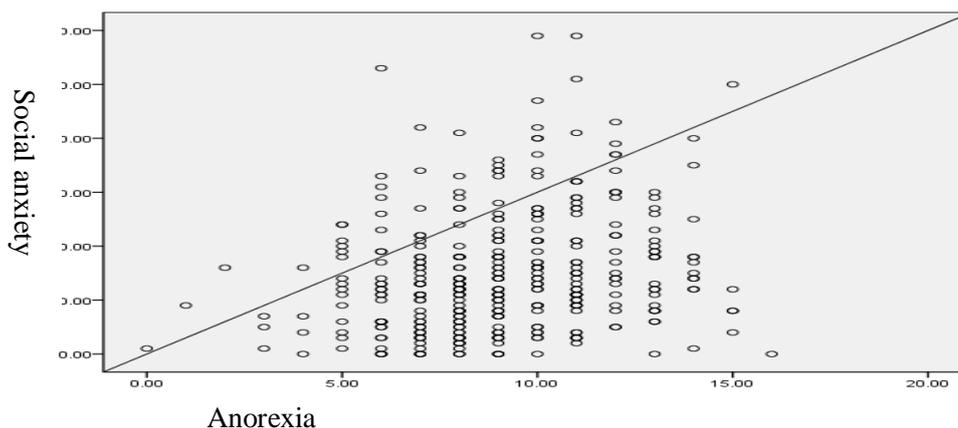


Figure 3: Scatter diagram of anorexia and social anxiety

Discussion

Based on the findings, it is concluded that 35% of the boy students showed the symptoms of eating disorder. It can be said that eating disorder is so much connected with the cultural and social factors since thinness and being on a diet are the concern of all social classes, races, and even the families. This point is very evident in Iran, too. Being a young country, Iran is prone to developing this disorder because, totally, during this period, adolescence show more tendency toward accepting the foreign cultural (24).

Concerning the aim of this research, to study about the relationship between the eating disorder and social anxiety, it is concluded that these two variables are significantly related. Levinson, also in his study (2011), proved that these two factors are correlated (6).

The Celikel's study (2008) showed that 12% of students were, at the same time, challenging with social anxiety and eating disorder. He found that these two factors are positively correlated (25). However, in Bas's study (2007), no specific relationship was found between the positive attitude toward eating and social anxiety (5).

What being found in Wonderlich's study (2010) was that, generally, social anxiety disorder had no specific relationship with eating disorder; however, it, as the only element of anxiety disorders, had connection with eating disorder (18). Because of the fact that eating disorder is recognized once Bulimia Nervosa and Anorexia Nervosa happen, such people would be very concern about these decreases and increases. As these concerns increases, the psychological problems would increase as well. This is what this research brought about (26).

Other possible factors effecting on the eating disorders are as the family attitude toward eating habits and illnesses as well as their background in having any sort of eating disorder which, due to the great number of questions, time limitation, and tiredness of the students, were not taken into consideration in this research. It is, therefore, recommended to other researchers make a new research about eating disorder, while considering these possible factors.

Conclusion

With regard to high prevalence of eating disorders as well as high incidence of anxiety disorders signs among the

students, investigation, prevention, and treatment of these disorders by the authorities in education and training and the Ministry of Health are essential, and educational programs and counseling services should be conducted to tackle these problems.

Conflict of Interest: None

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