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## The Prevalence of eating disorder among young girls and boys by using eating attitude Test (Eat-26)

**Saurabh Kumar, Anand Kumar Singh, Manpreet Kaur and Ankush Sharma**

### Abstract

**Background:** Eating disorder (ED) is a serious psychiatric disorder which progressively increasing in the young generation, which alters cognitive function, judgment, emotional stability, and restrict the life activities of an individual. The purpose of the present study was to find out the risk of eating disorder in young university going boys and girls.

**Methods:** A survey study, total sample size was of 140 patients (age between 17-30years) in which 70 are girls and 70 are boys. To find out desired result the EAT-26 screening instrument was administered.

**Result:** The prevalence rate of eating disorder is more in girls (41.42%) than the boys (28.57%). The Pearson's Correlation Coefficient Used to establish relationship of mean of BMI and EAT-26 score. There was a significant correlation of BMI and EAT-26 score in total sample. ( $r=0.445, 0.001$ ).

**Conclusion:** From the results we concluded that girls have more eating disorder risk than the boys. It is also concluded that eating disorder risk or symptoms has significantly correlated with BMI (body mass index).

**Keywords:** Eating disorder (ED), psychiatric, cognitive, BMI, EAT-26

### Introduction

Now a days Eating disorder (ED) is a serious psychiatric disorder which progressively increasing in the young generation, which alters cognitive function, judgment, emotional stability, and restrict the life activities of an individual. The Diagnostic and Statistical Manual of Mental Disorders (DSM), (American Psychiatric Association, 2000) introduce the three main types of eating disorders: anorexia nervosa (AN), bulimia nervosa (BN), [1] and the system also includes a residual category, eating disorder not otherwise specified (EDNOS), which includes sub threshold diagnoses of anorexia and bulimia nervosa, as well as a controversial new category called binge eating disorder (BED). These are the deadliest psychiatric disorders [1, 2]. An eating disorder (ED) is a compulsive behavior that consumes all aspects of a person's life. Each eating disorder has psychological, behavioral and physical complications. The NEDA research (2006) suggests that though a person may experience one of these disorders, he/she may also exhibit characteristics related to the other disorders. If not treated, these physical and emotional complications can become very serious and may result in death [3].

### Bulimia nervosa

People with bulimia nervosa have recurrent and frequent episodes of eating unusually large amounts of food and feel a lack of control over these episodes. Unlike anorexia nervosa, people with bulimia nervosa usually maintain what is considered a healthy or normal weight, while some are slightly overweight. But like people with anorexia nervosa, they often fear gaining weight, want desperately to lose weight, and are intensely unhappy with their body size and shape. Usually, bulimic behavior is done secretly because it is often accompanied by feelings of disgust or shame. Other symptoms of bulimia nervosa include: electrolyte imbalance, sore throat, severe dehydration etc [4].

### **Anorexia nervosa**

Most of the people with anorexia nervosa see themselves as overweight, even when they are clearly underweight. Eating food and weight control become obsessions for them. They typically weigh themselves repeatedly, portion food carefully, and eat very small quantities of only certain foods. Some people with anorexia nervosa also may engage in binge eating followed by extreme dieting, excessive exercise, self-induced vomiting, or misuse of laxatives, diuretics, or enemas. Symptoms of anorexia nervosa include: Extremely low body weight, severe food restriction, Intense fear of gaining weight and Lack of menstruation in girls and women. Other symptoms and medical complications may develop over time, including: thinning of bones, brittle hair, mild anemia, muscle wasting, weakness, severe constipation, lethargy, infertility etc.

### **Binge Eating**

People with Binge eating disorder have recurrent episodes of binge eating without the compensatory weight loss behaviors of bulimia nervosa or anorexia nervosa. It occurs in 1.5%-2% of the general population. One way in which binge eating disorder differs from bulimia nervosa and anorexia nervosa is in its association with obesity. Binge eating disorder is common among obese individuals seeking weight management, occurring in approximately 8%-19% of obese patients in weight loss programs, 70% of individuals in Overeaters Anonymous, and 25% of bariatric surgery patients [5].

Eating Disorder also refers to a spectrum of attitudes and behaviors like a preoccupation with body weight and shape, food restriction, and dieting as well as bingeing, vomiting, and the abuse of diuretics, laxatives and diet pills. People with ED also have a body image problem, i.e. an inability to acknowledge their change in body weight (American Psychiatric Association, 1994). They often continuously feel "fat" and their behaviors may become more intensified. Conceptually and clinically, EDs may be described as a continuum ranging from milder forms (i.e. ED) to subclinical and finally to serious anorexia nervosa (AN) or bulimia nervosa (BN) [6]. People with ED cause serious disturbances in eating behavior and weight regulation. They are associated with a wide range of adverse psychological, physical, and social consequences. A person with an eating disorder may start out just eating smaller or larger amounts of food, but at some point, their urge to eat less or more spirals out of control. Severe distress or concern about body weight or shape, or extreme efforts to manage weight or food intake, also may characterize an eating disorder. Eating disorders are treatable medical illnesses. They frequently coexist with other illnesses such as depression, substance abuse, or anxiety disorders. Other symptoms can become life-threatening if a person does not receive treatment, which is reflected by anorexia being associated with the highest mortality rate of any psychiatric disorder. Eating disorders affect both genders, although rates among women and girls are 2½ times greater than among men and boys. Eating disorders frequently appear during the teen years or young adulthood but also may develop during childhood or later in life [4].

Many Researches suggests that the incidence of eating disorders have increased over the last 30 years [3]. Anorexia and bulimia nervosa the common occurring types of ED are strongly associated with the female gender (American Psychiatric Association, 1994). Males account for approximately 10% of cases diagnosed with an eating disorder (Anderson, 1992), and homosexual males account for approximately 30% of the males who are diagnosed with an

eating disorder [7]. In the general population, eating disorders have a lifetime prevalence of roughly 0.6% for anorexia nervosa, 1% for bulimia nervosa, and 3% for binge eating disorder. Little is known about the distribution of eating disorder not-otherwise-specified (NOS) in the community, although 40% to 70% of eating disorder patients seeking treatment are diagnosed as having this condition. Eating disorders are more prevalent among athletes than in general population. Indeed, the latest, largest and best-designed study on top athletes found an overall prevalence of eating disorders of 13.5%, far higher than figures reported for the general population. Eating disorders carry an increased risk of death and are often associated with significant physical health complications. These complications arise through three main mechanisms, which often operate in concert: undereating, purging, and low body weight. As well as physical manifestations, eating disorders also have a negative effect on psychosocial functioning. For example, the overvaluation of shape, weight, and eating control (i.e., self-assessment based predominantly or exclusively on these factors) and its expressions, considered the core psychopathology of eating disorders has a negative effect on the ability to be around others and have intimate relationships (interpersonal functioning). Extreme concern about eating control and its expressions also negatively affects mood and cognition, in severe cases damaging education and vocational performance, with up to 20% being no longer able to function independently 10-20 years after the onset of the illness [8]. Prevalence of ED in United States have reported figures ranging from 0.9 to 2.2% for women and from 0.1 to 0.3% for men [9]. Many claim that eating disorders are on the rise but few studies have been published to verify this [10].

The alarming increase in the number of teenagers with eating disorders underscores the need to promote research on the prevalence, underlying causes, and to identify high-risk subpopulations in need of effective targeted treatment. EAT is the most used scale to measure eating disorders in a variety of cultures [11]. This study is being done, to assess the prevalence of eating disorder among young girls and boys by using EAT-26.

### **Method**

Nature of the present study is survey. A total of 140 individuals from a university voluntarily participated in the study. The method of sampling was random sampling. The participants (N=140) consisted of two groups: 70 girls and 70 boys. People with age in between the 17-30 years, boys and girls both were entered in the study from general population. Exclusion criteria consisted of a history of GIT, neurological disorders, age less than 17 years and more than 30 years, athletes and any previous history of eating disorders. Individuals were invited to participate voluntarily in this study after attaining their interest. After complete description (purpose, procedure and implications) of the study to the subjects, written informed consent was obtained.

### **Procedures and Measures**

All participants completed written informed consent prior to participation. The Eating Attitude Test questionnaire has been shown to be a valid objective and economical index of behaviour and attitude frequently observed in anorexia nervosa and it has proved useful in identifying eating disturbance in nonclinical sample. EAT is the most used scale to measure eating disorders in a variety of cultures.

**Instrumentation**

The Eating Attitude Test (EAT-26) was developed by Garner and Garfinkel in 1982. The EAT-26 has been particularly useful a screening tool to assess "eating disorder risk". It is a 26 item multidimensional self-report scale designed to assess the attitudes, behavior related to eating and eating disorder symptoms. Responses are rated on a 1 (Always) to 6 (Never) spectrum.

- Items 1-25 are scored as follows: Always= 3; Usually = 2; Often = 1; Other answers = 0.
- Item 26 is scored in the opposite direction. (Never=3 etc.)

According to this methodology, individuals who score 20 or more on the test should be interviewed by a qualified professional to determine if they meet the diagnostic criteria for an eating disorder.

The interpretation of the Eating Attitudes Test (EAT-26) is based on the following "referral criteria" that determine if the respondent should seek further evaluation of the risk of having an eating disorder. These are:

1. The total score based on the answers to the EAT-26 questions;
2. The individual's body mass index (BMI) calculated from their height and weight. (Underweight = <18.5, Normal weight = 18.5–24.9, Overweight = 25–29.9, Obesity = BMI of 30 or greater)

**Analysis**

The data was analysed using the SPSS version 20.0 (SPSS Inc., Chicago, IL, USA) for Windows 7 Professional.

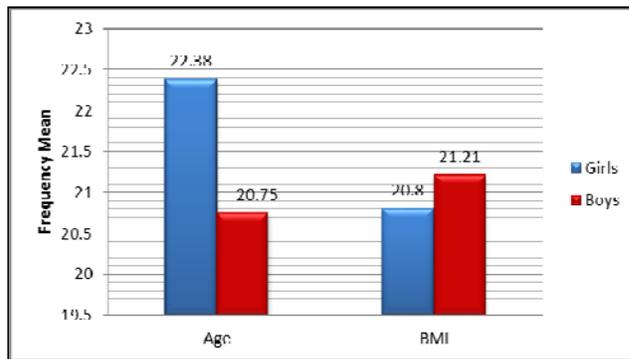
**Result**

Data was analysed with appropriate statistical tool using the SPSS version 20.0. The Pearson's Correlation Coefficient Used to establish relationship of mean of BMI and EAT-26 score among Girls and Boys. A total of 140 young girls and boys (girls, n=70; boys, n=70) age between 17-30 years participated in the study. After measuring height in centimeter (cm) and weight in kilogram (kg) BMI was calculated. After collecting the self reported EAT-26 questionnaire total score was calculated. Score more than 20 meet the diagnostic criteria for an eating disorder. The data shows that maximum girls score more than 20 on EAT-26 than boys.

**Table 1:** Comparison of Mean and Standard Deviation (SD) of Age and BMI among Girls and Boys

Parameters	Mean	Standard Deviation
Age	Girls 22.38	3.94
	Boys 20.75	2.44
BMI	Girls 20.80	3.02
	Boys 21.21	3.59

Table 1 shows demographic details of the subjects. Mean Age and BMI of the Girls is 22.38±3.94 and 20.80±3.02 respectively. Mean age and BMI of the Boys is 20.75±2.44 and 21.21± 3.59respectively. Data graphically presented in figure 1.

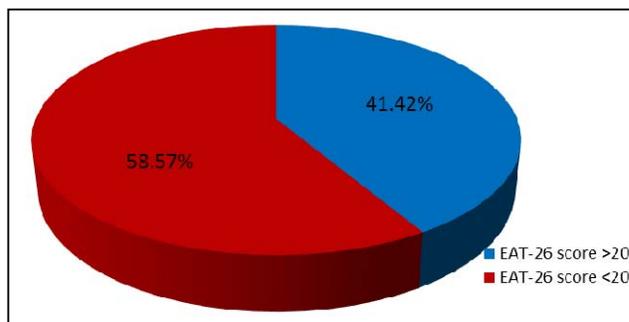


**Fig 1:** Frequency mean of Age and BMI of Girls and Boys

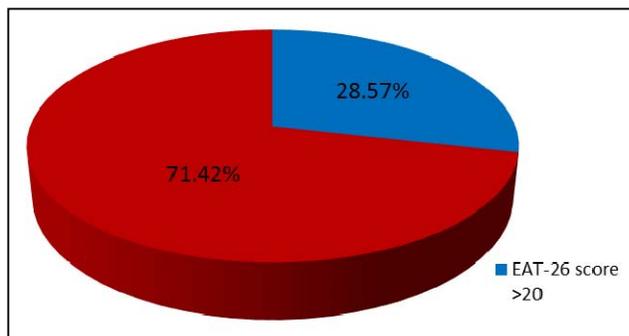
**Table 2:** Distribution of total sample according to EAT-26 score among Girls and Boys

	Eating Attitude Test			
	Girls		Boys	
	N	%	N	%
EAT-26 score >20	29	41.42	20	28.57
EAT-26 score <20	41	58.57	50	71.42

Table 2 Shows that 29 (41.42%) girls and 20 (28.57%) boys have score more than 20 on EAT-26. 41 (58.57%) girls and 50 (71.42%) boys scored less than 20 on EAT-26. It concluded that girls having eating disorder more than boys. Data is graphically presented in the below Figures 2 and 3.



**Fig 2:** Show Distribution of total sample of Girls according to EAT-26 score in percentage



**Fig 3:** Show Distribution of total sample of Boys according to EAT-26 score in percentage

**Table 3:** Correlation of BMI and Eating attitude test score among Girls and Boys

	EAT-26 SCORE	
	r value	P value
BMI	0.445	0.001

Table 3. Show correlation between BMI and EAT-26 score of girls and boys. Analysis of coefficient of correlation suggests that there was significant correlation between BMI and EAT-26 score ( $r=0.445$ ) among Girls and Boys. The data is graphically presented as below in figure 4.

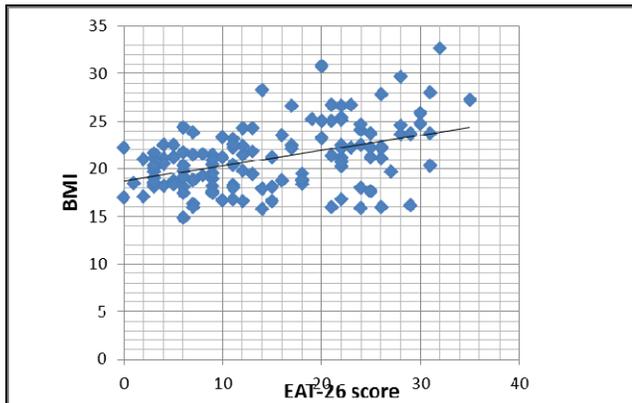


Fig 4: Correlation of BMI and EAT-26 score among Girls and Boys

### Discussion

Eating disorder (ED) is a serious psychiatric disorder which progressively increasing in the young generation, which alters cognitive function, judgment, emotional stability, and restrict the life activities. People affected with ED also have a body image problem, i.e. an inability to acknowledge their change in body weight. Girls and boys have different thoughts about their body image or body weight. The results of the current study suggest that the mean of age of total sample ( $N=140$ ) was 21.57 (Girls= 22.38 and Boys =20.75). The findings shows that 41.42% girls were scored more than 20 on EAT-26 while the other hand only 28.57% were scored more than 20 on EAT-26. It shows that girls have more risk of eating disorder than the boys. By the analysis there is a significant correlation between BMI and EAT-26 score for the total sample ( $r=0.445$ , 0.001). If the BMI increased the symptoms of eating disorder also increased. From the result of present study shows that girls have more symptoms of eating disorder than the boys.

Trautman *et al.*, in 2007 from the review of literature suggests that college students are at risk for developing eating disorders. Shelton and Valkyrie in their study found the Correlations between gender and stress to predictive factor for eating disorder [3]. Thorsteinsdottir and Ulfarsdottir in 2008 reported that a high prevalence of ED in college students in Iceland with an overall prevalence of 9.8%, 15.2% of the females received some ED diagnoses and 1.8% of the males [10].

Birli *et al* in 2012 in their study also indicated that body image is a significant factor in the development of an eating disorder. Self-esteem, androgyny, and body image alone were not found to be determining factors in the development of eating disorders. It was the combination factors that contributed to the greatest risk of males developing eating disorders [12].

The entire above factors shows the higher risk of eating disorder in young females than the males in current study. In addition the observations of the present study explain the findings, by relating eating attitude with the body mass index among the studied population.

### Conclusion

From the results it is concluded that girls have more risk of eating disorder than the boys. There was significant correlation

among body mass index (BMI) and eating attitude test (EAT-26) score. Thus from the result it is observed that girls are more concerned about their body weight and image.

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