

A cross sectional study on eating disorders among college students in Bagalkot city

Vetri Selvan T, Lalitha D. Hiremath, CH Ghattargi, Jambaiah B.

Department of Community Medicine, S. Nijalingappa Medical College, Bagalkot.

Abstract

Introduction: Young adulthood is a stressful transition period that may increase the risk for disturbed eating, especially for college students. The prevalence of eating disorders (ED) in this part of the world (South East Asia) is lower than that of Western countries but appears to be increasing. There are very limited studies on Eating Disorders in India. So, we conducted this study to determine the prevalence of eating disorders.

Aim: To find out the prevalence of eating disorders among college students of Bagalkot city.

Methodology: A Cross sectional study was conducted among 489 students from eight colleges in Bagalkot city. A pre tested, semi structured questionnaires were used and BMI were noted. Results were tabulated using Microsoft excel 2007 and chi square tests used to find the association.

Results: In the present study 65.85% were girls and 34.15% were boys. Majority (31.09%) belong to class III socio-economic class (SEC) and 89.78% reside at hostel. The prevalence of study participants with disturbed eating attitude and serious ED was 12.68% and 2.86% respectively. Among ED, two third (78.57%) were more than 21yrs old ($p<0.001$), maximum among female(92.86%) ($p=0.03$), more than one fifth (28.57%) are medical college students and majority (71.43%) were from urban background($p<0.001$). ED was more prevalent (64.29%) among class I SEC ($p< 0.001$). The risk of ED was for female (OR=0.14, 95%CL-0.01-1.10), urban background (OR=2.3, 95%CL-0.71-7.46) and statistically significant for students staying away from home (OR=13.7, 95%CL-4.5-41.4)

Conclusions: Eating disorder is strongly correlated with the urban background and higher socio economic status. Awareness regarding eating disorders should be emphasized among youth, parents and public.

Key words: Eating Disorders, College students, EAT-26 questionnaire.

Introduction

Eating Disorders (ED) classically refers to a morbid state involving food refusal or relentless reduction of food intake and of gorging followed by vomiting being mentioned in literature as far back as ancient Greek and Rome [1]. ED includes the following Anorexia Nervosa, Bulimia Nervosa and Eating disorders not otherwise specified [2]. Various biological

and physical factors appear to be associated with eating disorders. Negative body image of the individual's body shape is the ideal contribution to ED. Criticism, teasing and bullying focused on food, body weight, and shape issues increase the risk of developing eating disorders. In addition food related and weight related

Address for Correspondence:

Dr. Vetri Selvan T.

Post graduate in Dept. of Community Medicine,

S. Nijalingappa Medical College,

Navanagar, Bagalkot-587102.

E-mail: tnil009@gmail.com

harmful experiences also increase the risk of developing eating disorders [3].

Young adults who are college students face many challenges as they navigate which transitional life stage. This period known as “emerging adulthood”, is characterized by self-focus, identity exploration and major changes in home life and education situation [4]. Sociocultural expectations heavily influence body image perceptions, by promoting a degree of thinness attainable by few. These expectations are transmitted via media and exchanges with friends. The pressure to avoid obesity and conform to certain ‘standards’ for ‘beauty’ (i.e. thinness) may prompt disturbed eating behaviours directly and/or cause distorted body image perceptions. Body image distortion is an inaccurate internalised representation of one’s weight, shape and appearance that can lead to body dissatisfaction [3,4].

There are limited published literatures on eating disorders from non-western settings. In fact, it has been argued that eating disorders are culture-bound disorders specific to western societies. Consequently these conditions remain understudied in India. However with increased globalization and consequent westernization, it becomes imperative to study about it. In fact preliminary studies from Asian countries have found high rates of body shape dissatisfaction and eating attitude distortions [5]. This study is aimed to find the prevalence of eating disorders among college students.

Materials and Methods

This study was conducted among college students in Bagalkot city. College students were selected because of age group, as ED is common among adolescent.

A cross sectional study was conducted between December 2014 - May 2014 among eight colleges in Bagalkot. All colleges in Bagalkot city were considered and eight colleges were selected randomly. Six professional (One medical, one dental, one Ayurveda, one pharmacy, one nursing, one polytechnic college) and two nonprofessional colleges (One arts and one science college) were selected randomly, only undergraduate students were considered to keep the age limit to the minimum. For calculating sample size the most recent data available in India were taken. Based on study done by Upadhyah A et al [6] taking prevalence of ED, p as 26.67 and relative precision of 15% the sample size was calculated as 489 student using the formula $4pq/l^2$. Students from each college were selected randomly based on probability proportion to size.

Eating Attitude Test-26 (EAT-26) questionnaires [7] were used. EAT-26 has three criteria for determining the risk of having eating disorder. First, score on actual EAT test items, second, low body Mass Index (BMI) when compared to age-matched norms and third, behavioral questions indicating possible eating disorder symptoms or recent significant weight loss. Actual EAT test item consists of 26 questions, it is to be answered as always, usually, often, sometimes, rarely or never which was graded as 3,2,1,0,0,0 respectively for first 25 questions and 0,0,0,1,2,3 for 26th question. The EAT-26 score of greater than or equal to 20

indicate a tendency to develop eating disorder. BMI was computed using formula weight in kilogram divided by height in meter square. The BMI of less than 18.5 was considered as underweight. Behavioral questions were in yes or no format. If the answer was yes to any one or more questions, it is considered as behavioral criteria are met. If one or more of these criteria is met, they are at high risk of having eating disorders and should be evaluated by a specialist.

After being approved by institutional ethical committee, a predesigned, structured Eating Attitude Test-26 (EAT-26) questionnaires were used to collect the data. Students less than 18yrs were excluded. After obtaining written consent data were collected and BMI was noted.

Results were tabulated using Microsoft excel 2007. All analysis were performed using OpenEpi, version 2.3.1. Significance was tested using chi-square and p value <0.05 was considered as significant.

Results

There were 489 students in this study. The mean age of the study participants was 21.19 ± 1.22 yrs. Majority were females 65.85%. Most of the study participants were from urban (52.56%) background and were staying away from home (89.78%) (Table-1). The mean BMI of study participants was 21.51 ± 3.92 .

In this study, the mean EAT-26 score was 10.46 ± 7.49 . The proportion of study participants with disturbed eating attitude was 12.68%. The study participants who were underweight in this study was 12.88%. If EAT-26 score is 20 or more and BMI of less than 18.5 were important risk factor for serious eating disorder. In our study the proportion of serious eating disorder was 2.86%.

Using EAT-26 questionnaire as a screening tool for defining the population at high risk for ED, participants were divided into two non-overlapping groups. Group-I was risk group and group-II was no risk group. Majority of study participants with serious eating disorder were more than 21yrs (78.57%) which is statistically significant ($p < 0.001$) and more common in female (92.86%) ($p = 0.03$). More than one fifth (28.57%) were from medical college (Figure 1) and majority (71.43%) were from urban background ($p < 0.001$). It was more prevalent (64.29%) among class I SEC ($p < 0.001$) (Table 2). The risk of ED was statistically significant for students staying away from home (OR=13.7, 95%CL-4.5-41.4) followed by students from urban background (OR=2.3, 95%CL-0.71-7.46) and for female students (OR=0.14, 95%CL-0.01-1.10) which is not statistically significant (Table 1).

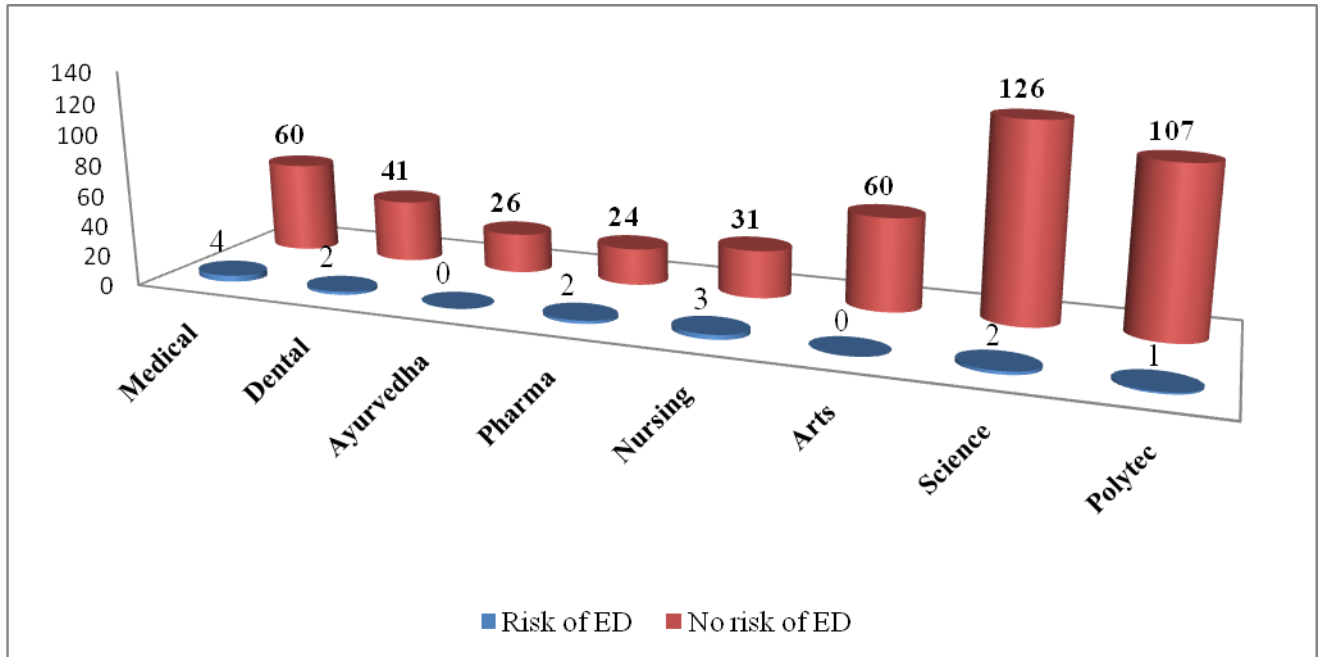
Table-1: Distribution of study subjects according to gender, native place and current place of residence.

		No risk of ED	Risk of ED	Total	x2	p value	Odds Ratio	95% CL
Gender	Male	166	1	167	4.67	0.03	0.14	0.01-1.1.
	Female	309	13	322				
	Total	475	14	489				
Native Place	Urban	247	10	257	2.05	0.15	2.3	0.71-7.46
	Rural	228	4	232				
	Total	475	14	489				
Current place of residence	Home	42	8	50	34.56	0.00	13.7	4.5-41.4
	Away	433	6	439				
	Total	475	14	489				

Table-2: Distribution of study subjects according to age and socio economic status.

		Risk of ED	No risk of ED	Total
Age	≤19	36	0	36
	20	110	3	113
	21	153	0	153
	22	108	5	113
	23	57	6	63
	24	7	0	7
	≥25	4	0	4
	Total	475	14	489
Socio economic status	Class I	103	9	112
	Class II	83	3	86
	Class III	154	2	156
	Class IV	49	0	49
	Class V	86	0	86
	Total	475	14	489

Fig-1: Distribution of study subjects according to college and risk of ED



Discussion

EAT-26 questionnaire is increasingly being utilized internationally for the assessment of eating disorders. Our study showed that the overall prevalence of eating disorders was lower than western data that has focused on anorexia and bulimia nervosa [8,9]. In our study the prevalence of eating disorders came out to be 12.68%. However, it was lower when compared to western countries, who used EAT-26 questionnaire and reported prevalence between 16.5 to 27% [10-17].

When compared with Asian countries, the rate of disturbed eating attitude and behaviour, measured by EAT-26 was 10.4% in Taiwan [2], 10.3% in Korea [18] and 11.2% in Japan [19], which was comparable with our study result of 12.68%. When compared to Indian

studies, the results were comparable with the study done by Srinivasan TN et al (14.7%) in 1995 [1], its contradictory when compared with study done by Upadhyah A et al [6] (26.67%) and Vaida N in Srinagar [20] in 2013 where none of the study participants show disturbed eating attitude and behaviour.

Socio economic status, staying away from home shows significant association with disturbed eating attitude and behaviour which is supported by other studies too [12-17]. Place of residence also has strong association as urban background has shown positive association to disturbed eating attitude and behaviour [16-18]. Interestingly, majority of serious eating disorder were present in more than 21yrs of age group (78.57%) which is contradictory with other studies

as the risk of ED is more toward lesser age group of 18-20yrs [12-16].

As majority of studies concentrated more on adolescent girls where excluding boys from their study, made it difficult to compare the results of our study with others. Even though females are more prone for ED, in this new era males are also concerned about their body image, excluding them may not give the complete image about the problem so both males and females were included in this study.

Limitation:

One of the major limitation of the study is the data were collected by questionnaires, i.e., self-reporting, the possibility of recall/memory bias and masking of information is always there. We tried to solve this by hiding the identity of the participants but still the possibility of bias is inevitable. Second, the students were from different part of India, who came here for studying, not all belong to this part of the country. So the results cannot be generalized. Third, risk factors for ED were not studied; further studies are need for better understanding of ED.

Conclusion:

Adolescent health has been gaining importance now days. Changing lifestyle and social stigma have made physical appearance a priority issue among adolescents. This has made them to take extreme measures to reduce or maintain body weight at the cost of their own health. Staying away from home for study purpose, who are not under of parental monitoring may also favors them to do and eat what they wish. Awareness regarding eating disorders should be

emphasized among youth, parents and public. Further prospective and interventional studies are need for better understanding of ED.

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