

“Eating Disorders among MBA Students in a Business School of Karachi”

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Abstract

Eating Disorders are crucial and multifaceted distressing and substantial habits distinguished by critical disruptions in eating attitudes. If not treated, eating disorders result in physical problems, psychiatric illnesses and possible mortality. Anorexia nervosa and bulimia nervosa are the two renowned eating disorders around the world. Eating disorders are prevalent in both the genders and all the age groups with females and younger age group more prone towards the development of the disease. Prognosis and treatment of these disorders is critical. A descriptive cross sectional study was designed to evaluate the MBA students in a business school for eating disorders using EAT-26 and SCOFF questionnaires. Data was collected from 150 MBA students during university timings using the non-probability convenient sampling. Written informed consent was obtained from each and every participant and confidentiality and anonymity of data was ensured. SPSS-17 was used for statistical analysis. It was found that out of 150 students, 35 (23.33%) and 16 (10.67%) were at high risk to suffer from eating disorders on EAT-26 and SCOFF scales respectively. Moreover females (41.77%) and younger (31.58%) age group were found to be more vulnerable to eating disorders. It has been concluded that a considerable number of students are susceptible to development of eating disorders, females being more vulnerable than males. It has also been suggested that strategies should be planned to avert incidence of such ailments among students.

Keywords: Eating disorders; EAT-26, SCOFF; Business Students

Introduction

Eating Disorders are crucial and multifaceted distressing and substantial habits distinguished by critical disruptions in eating attitudes. If not treated, eating disorders result in physical problems, psychiatric illnesses and possible mortality. Eating disorders adversely affect a person's wellbeing, relations and routine activities because of the obsession with food, increased or decreased body weight and body image distortions. Psychiatric illnesses coupled with eating disorders include low self-esteem, depression, feelings of loss of control and worthlessness, personality concerns, relationship miscommunication issues and a failure to manage emotions.

Anorexia nervosa is a self-imposed starvation with one's own will. It is a critical, life-threatening ailment, which is an outcome of fundamental emotional source. Individuals suffering from anorexia are worried of being over-weight which compels them to maintain a body weight at least 15% below individual's ideal weight as per their height and age. Bulimia nervosa is yet another serious, life-threatening eating anarchy characterized by intermittent events of binge eating and compensatory efforts, such as self-induced vomiting, which are meant to balance the effects of binge eating.

Eating disorders are prevalent and can affect people of all age groups and gender. Eating disorders leading to bulimia, anorexia, and binge eating are more common in women and it is a significant source of morbidity and mortality. In a nationally representative survey in US, it has been found that women are three times more liable to suffer bulimia and anorexia [1].

The frequency of eating disorders in Western countries is much greater than many of the non-Western countries. Recent studies have shown that eating disorders are on the rise and emerging in non-western countries also [2]. A prevalence rate of 21.7% has been reported for anorexia nervosa in female nursing and medical students in Karachi, which is higher than other Asian countries [3]. In a study among female school and college students, it was found that 64.9% students scored two or higher on SCOFF scale, among these 62.6% were

aged between 16 to 18 and 37.4% were 19 to 20 years old [4]. Another study reported that 68.8% of female university students have potential eating disorders and needed clinical assessment [5]. A considerable proportion of undergraduate medical students in Karachi are at high risk of developing eating disorders, with female students being more vulnerable than males [6]. A case reported 13 year adolescent girl suffering from severe anorexia nervosa in Lahore and five school girls suffering from partial syndrome of bulimia nervosa in Lahore [7].

Several risk factors are involved in development of disturbed eating behaviors. Among these media, friends, family and social environment play a vital role [8]. These risk factors may be different for men and women. For women, disordered eating behaviors are thought to emerge from media, self-esteem, and diligence, whereas for men, these are related to diligence and media only [9]. A study concluded that disruptive eating attitudes are a function of greater exposure to Western culture and dissatisfied unrealistic body shape perceptions that leads to depression [10].

The objective of the present study was to evaluate the eating disorders among the students of a business school in Karachi, Pakistan in relation to age and gender using SCOFF and Eat-26 Scores.

Methodology

It was a descriptive cross sectional study, carried out in a renowned business school of Karachi; Pakistan named Institute of Business

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Management (IoBM) between 1st March and 30th April, 2014. College of business management (CBM) was selected for data collection. Non-probability convenient sampling technique was used to collect the data. The sample consisted of MBA students of all specialties like health and hospital management, marketing, finance, media and advertising management etc. come to attend their business courses in the college so there was a probability of giving equal chance to all the students to participate in the study.

Sample size was calculated using the confidence interval approach taking $p=22.75\%$ and 17% for Eating Attitude Test-26 and SCOFF respectively. With this sample size of 271 was obtained for EAT and 217 for SCOFF test. A total of 275 questionnaires (containing both scales and demographics section) were distributed out of which 190 were returned. Thus, the total response rate was 69% . 40 questionnaires were not included as they were found incomplete. Students from first to final semester of all weekend MBA programs at CBM were approached directly within the college timings on Saturdays and Sundays.

The SCOFF questionnaire is a very effective self-administered 5-question screening tool for raising suspicion and further assessment for the possibility of eating disorders particularly anorexia nervosa and bulimia nervosa. The scoring for SCOFF is done on a 2-point scale; either Yes or No and is used to select individuals for further clinical assessment [11].

The Eating Attitude Test-26 is also an authenticated self-administered questionnaire which is used to determine eating disorders. It consists of 26 questions for which scoring were done on a 6-point likert scale from always to never. The Total sum of EAT-26 scores ranges from 0 to 78 [12]. According to methodology, individuals who score more than 20 should consult a skilled medical practitioner for evaluation of a possible eating disorder.

After taking informed consent, the participants were asked to fill the questionnaire. English versions of both the questionnaires were used. Confidentiality and anonymity of the data was ensured.

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 20. For qualitative variables, relative frequencies and percentages were calculated while means \pm SD were calculated for quantitative variables. Pearson Chi Square Test was used to determine the significance of the results.

Results

The mean age of the population was found to be 28.33 ± 2.31 years. The descriptive analysis of entire population of both questionnaires is given in Table 1.

Out of 150 individuals, 79 (52.66%) were females while 71 (47.33%) were males. Mean age of male participants was 28.92 ± 2.35 years, whereas 27.80 ± 2.16 years was the mean age in females. Descriptive analysis of male and female groups is given in Table 2.

Two new derivatives were calculated by using the 75th percentile of the data named as the empirically derived cut-off. Hence, the cut-off value for EAT-26 was set up to be more than 22, whereas cut-off for SCOFF was found to be more than 3.

Thus, out of 150 individuals who were screened through the two questionnaires, EAT-26 questionnaire detected 35 (23.33%) individuals with high risk of eating disorders, while SCOFF questionnaire detected 16 (10.67%) at high risk.

EAT-26 findings

According to EAT-Attitude test, out of 79 females 42 (53.16%) were

found to be at high risk. Among these 27 (64.28%) were from age group 24-28 and 17 (40.47%) were from age group 29-32. Thus, younger age group was more at risk on EAT scale ($p=0.008$). No male participant scored 22 or more.

SCOFF findings

Out of reported 16 high-risk individuals, 12 (75%) were females, 4 (25%) were males indicating that females are at higher risk of developing eating disorders as compared to males [$p=0.029$]. 6 (37.5%) were from age group 23-28 years, while 10 (62.5%) were from age group 29-33 years [$p=0.133$].

Discussion

Our findings demonstrate that a considerable proportion of MBA students were found to be at high risk to develop eating disorders with 35 (23.33%) participants scoring above the threshold for EAT-26 questionnaire (threshold was calculated as 75th percentile i.e. above 22) while 16 (10%) scoring above the threshold for SCOFF questionnaire (threshold for SCOFF was calculated as 75th percentile i.e. above 3). These figures are very similar to a study that was conducted among the undergraduate students of three medical colleges in Karachi, Pakistan. The study reported that 22.75% and 17% students scored above threshold for EAT-26 and SCOFF respectively [6]. However, these figures are comparatively much higher when compared to eating disorder symptoms in 9.59% among Latino college students. An American national survey showed the prevalence estimates of 0.3%, 0.9%, and 1.6% for anorexia nervosa, bulimia nervosa, and binge-eating disorder, respectively [13]. This supports the fact that eating disorders are a contemporary escalating apprehension in our region in comparison to other parts of the world.

Our study also found that females are more prone to development of eating disorders as compared to males (Table 3). Similar results

	Eat score	SCOFF score
N	150	150
Mean	15.72	1.84
Median	14.00	2.00
Std. Deviation	10.872	1.326
Range	47	5
Minimum	0	0
Maximum	47	5

Table 1: Showing statistics of the EAT and SCOFF scores.

Gender	Age Mean \pm SD	EAT score Mean \pm SD	SCOFF score Mean \pm SD
Males	28.92 ± 2.35	9.07 ± 6.58	2.15 ± 1.29
Females	27.80 ± 2.16	21.70 ± 10.52	1.49 ± 1.29

Table 2: Showing mean \pm SD of Age, Eat and SCOFF scores of males and females.

	Positive (n=35)	Negative (n=115)	Total (n=150)	p-values*
Gender:				
Male	2 (2.81)	69 (97.18%)	71 (100%)	0.000
Female	33 (41.77%)	46 (58.23%)	79 (100%)	
Age group:				
23-28 years	24 (31.58%)	52 (68.42%)	76 (100%)	0.008
29-33 years	11 (14.86%)	63 (85.13%)	74 (100%)	

*p value < 0.05 is significant

Table 3: Showing EAT-26 results in relation to Gender and Age group.

were reported by Kelly Weeder where female students were found more likely to exhibit skipping meals, fasting, use of diet medications, laxatives, and self-induced vomiting [14]. Another study by Pope et al., also reported a high proportion of female subjects suffering from eating disorders as compared to male subjects [15]. In a study conducted in female university students in Karachi, it was found that there is a misperception of body weight and one third of female students misclassified themselves as normal while they were actually underweight [16]. Various studies have tried to explain the reason behind this misperception as the impact of media on psychology of females which has lead them to eating disorders [17,18]. It has also been reported that greater exposure to western culture and urbanization has been a strong influence and predictor of defective eating attitudes, and impractical body shape insights which could eventually contribute to depression [7,19] (Tables 4 and 5).

According to SCOFF, 10.66% individuals were suffering from eating disorder. Among these 75% were females. These results are lower as compared to those reported by Sheikh et al., [5]. The reason for this difference might be due to the difference in cut-off values for the SCOFF scores.

Eating disorders are associated with several medical complications as metabolic, nutritional, gastrointestinal and electrolyte dysfunctions and cardiac, endocrine and hematologic complications [20,21]. In another study, mortality rate of 5% has been reported for anorexia nervosa. There is a need to share this information to the individuals who are engaged in unhealthy dieting habits and suffering from or are at high risk of developing these eating disorders as early diagnosis can improve the prognosis of eating disorders [22].

Further studies conducted on a larger sample size correlating socio-economic, ethnic, educational background, media impact, peer

Questions from EAT-26	Frequency of response of 35 High-Risk (Positive) Individuals (YES/NO)	Frequency of response of 115 Low-risk (Negative) Individuals (YES/NO)	p values †
Am terrified of being overweight. *sss	35/0	61/54	0.000
Avoid eating when I am hungry. ***	12/23	21/94	0.045
Find myself preoccupied with food. **	20/15	43/72	0.038
Have gone on eating binges where I feel that I may not be able to stop. **	18/17	38/77	0.049
Cut my food into small pieces. ***	16/19	34/51	0.076
Aware of the calorie content of the food that I eat. *	25/10	21/94	0.000
Particularly avoid food with high carbohydrate content (i.e. bread, rice, potatoes, etc.) *	18/17	10/105	0.000
Feel that others would prefer if I ate more. ***	10/25	24/91	0.341
Vomit after I have eaten. **	7/28	1/114	0.000
Feel extremely guilty after eating. *	16/19	7/108	0.000
Am preoccupied with a desire to be thinner. *	33/2	44/71	0.000
Think about burning up calories when I exercise. *	31/4	49/66	0.000
Other people think I am too thin. ***	13/22	30/85	0.205
Am preoccupied with the thought of having fat on my body. *	29/6	50/65	0.000
Take longer than others to eat my meals. ***	19/16	40/75	0.039
Avoid foods with sugar in them. *	19/16	28/86	0.001
Eat diet foods. *	22/13	9/106	0.000
Feel that food controls my life. **	23/12	30/85	0.000
Display self-control around food. ***	22/13	31/84	0.000
Feel that others pressure me to eat. ***	22/13	31/84	0.000
Give too much time and thought to food. **	29/6	22/93	0.000
Feel uncomfortable after eating sweets. *	23/12	26/89	0.000
Engage in dieting behavior. *	29/6	21/94	0.000
Like my stomach to be empty. *	20/15	8/107	0.000
Have the impulse to vomit after meals. **	11/24	19/96	0.054
Enjoy trying new rich foods. *	17/18	60/55	0.709

† p value < 0.05 is significant

Table 4: Showing Questions from EAT-26 Questionnaire, where * represents questions from Dieting subscale, ** represents questions from Bulimia and Food preoccupation subscale and *** represents questions from Oral control subscale.

	Positive (n=35)	Negative (n=115)	Total (n=150)	p-values*
Gender:				
Male	4 (5.64%)	67 (94.37%)	71 (100%)	0.029
Female	12 (15.19%)	67 (84.81%)	79 (100%)	
Age group:				
23-28 years	6 (7.89%)	70 (92.11%)	76 (100%)	0.133
29-33 years	10 (13.51%)	64 (86.48%)	74 (100%)	

*p value < 0.05 is significant

Table 5: Showing SCOFF results in relation to Gender and Age group.

and family contribution, occupation and relationship status with the development and type of the disorders would help further explore this topic.

Conclusion

It has been concluded that a considerable number of students particularly females and individuals from lower age groups are more susceptible to develop eating disorders. It has been suggested that strategies should be planned to avert incidence of such ailments among students.

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