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EATING DISORDER –SCREENING USING SCOFF SCALE AND ITS ASSOCIATED RISK FACTORS AMONG FEMALE MEDICAL STUDENTS

Clinical Research

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ABSTRACT

BACKGROUND: Eating disorders are among the most common psychiatric disorders in young women .The fact that media portrays celebrities and models as being stick-thin makes situation even worse leading to unhealthy eating behavior.

OBJECTIVES:

1. To estimate the prevalence of eating disorder among female medical students.
2. To find out the association between eating disorder with body image , BMI, depression , laxative abuse and reading fitness magazines.

MATERIALS AND METHODS: A cross sectional survey was undertaken from 176 Female undergraduates using SCOFF questionnaire and depression self assessment tool .Additional questions pertaining to eating disorders were also included. Height and weight were recorded and BMI was calculated.

RESULTS: 27.3 % were positive using SCOFF scale. Significant associations were observed with body image, body mass index, depression and laxative abuse.

CONCLUSION: Nearly 1/3rd of the children were screened positives for eating disorder. There is an urgent need to develop healthy eating behaviors in children.

KEYWORDS

Eating disorder, body image, SCOFF, depression, laxative abuse.

INTRODUCTION

Eating disorders are among the most common psychiatric disorders that affect young women[1] and associated with serious medical illness affecting cardiovascular, endocrine and gastro intestinal systems. Unfortunately, the diagnosis of eating disorders can be elusive, and more than one half of all cases go undetected.[2] Eating disorders have among the highest mortality rates of all mental disorders, killing up to 10 percent of their victims. Individuals with eating disorders who use drugs to stimulate vomiting, bowel movement, or urination are in the most danger, as this practice increases the risk of heart failure.[3]

Westernization and urbanization has increased the prevalence of eating disorders in developing countries also .Cultural factors emphasize thinness as part of the ideal appearance of women, an image which is reinforced by mass media. Although these messages permeate the whole of society, girls are often targeted by media and social body image ideals and are more likely to suffer negative health outcomes associated with body dissatisfaction[4]. A distorted body image is one of the leading causes of eating disorder among young women[5].

On one hand, magazines and televisions are filled with advertisements for fast food and junk food. On the other hand, those same magazines and televisions inundate us with images of the "super-thin" model and movie star. Consequently, girls often have an unhealthy or inaccurate opinion about their bodies. While regular exercise and healthy eating habits are great ways to stay fit, some people may take dieting and exercising to the extreme[6]. This may lead to the development of an eating disorder, which can be very dangerous. This study makes an attempt to screen for eating disorder among young girls and take preventive measures at the beginning stage itself to avoid future complications.

MATERIALS AND METHODS

A cross sectional study was carried out among undergraduate female medical students of Navodaya Medical College, Raichur.Out of the total 201 girls, 176 students were willing to participate in the study. Informed consent was taken from those students after explaining the purpose of the study. The SCOFF questionnaire is a brief and memorable tool designed to detect eating disorder. It showed excellent validity in a clinical population and reliability in a student population.[7,8]

The questionnaire had 5 questions pertaining to eating disorder. For every question a score of one point was allotted and a total score of 2 or more was taken as an indicator of eating disorder (anorexia nervosa or bulimia). Depression was assessed using depression self assessment tool which has a set of 9 questions. Information on body image, laxative abuse and fitness magazines were also obtained. Height was measured to the nearest 0.5 cm and weight to the nearest 0.5 kg and body mass index was calculated.

STATISTICAL METHODS

Data was entered in excel and analyzed using SPSS v17.0. Prevalence was expressed in proportions and chi-square test was used to find the association between the variables.

RESULTS

Table 1-Distribution of participants according to SCOFF score

Scoff score	Frequency	Percentage
0	58	32.9
1	70	39.8
2	13	7.4
3	21	11.9
4	10	5.7
5	4	2.3
Total	176	100.0

Table 2-Age Distribution of the study subjects

Age (years)	Frequency	Percent
17-19	58	33.0
19-21	69	**39.2**
21-23	38	21.6
23-25	11	6.2
Total	176	100.0

Among 176 students, 48 students were screened positives, giving a prevalence of 27.3% .It was observed that prevalence of eating disorder was more in the age groups 19-21years(39.2%) followed by 17-19 years(33%). Mean age was found to be 19.56 with SD =1.71

Table 3-Association of eating disorder with risk factors

Risk factor variables	Screened negative	Screened positive	Total	Chi square value	p value
BMI				13.496	**0.004**
Underweight	8 (88.9%)	1 (11.1%)	9		
Normal	81(81.8%)	18(18.2%)	99		
Over weight	23(56.1%)	18(43.9%)	41		
Obese	16(59.3%)	11(40.7%)	27		

Body image					
Satisfied	103 (83.1%)	21(16.9%)	124	22.611	**<0.001**
Dis –satisfied	25(48.1%)	27(51.9%)	52		
Depression					
Present	22(45.8%)	26(54.2%)	48	11.463	**0.001**
Absent	26(20.3%)	102 (79.7%)	128		
Reading fitness magazines					
Yes	16 (30.8%)	36 (69.2%)	52	0.455	**0.309**
No	32 (25.8%)	92 (74.2%)	124		
Laxative abuse					
Present	13 (76.5%)	4 (23.5%)	17	22.963	**<0.001**
Absent	35 (22%)	124 (78%)	159		

Among those who were screened positives, 52% were not satisfied with their body image. Significant association was found between body image and eating disorder (p <0.001).

43.9% were overweight and 40.7% were obese among those who were positively screened. . A significant association between BMI and eating disorder was found in our study. (p=0.004).

17 students reported laxative abuse, out of which 4 were screened positives. Significant association exists between laxative abuse and eating disorder (p<0.001). 52 students were reading fitness magazines frequently and 36 of them were positive for eating disorder (69.2%).

48 students were found to have depression and 52% of them were screened positive for eating disorder. Significant association has been observed between depression and development of eating disorder(0.001).

DISCUSSION

Among 176 students screened, 48 students were postives, giving a prevalence of 27.3% which shows that nearly one-third of the young girls are at risk of developing an eating disorder. Findings observed in a study by Mary- Anne et al showed that 9.3% were found to be having eating disorder[9].

Body image and eating disorder: Body-image disturbances are now regarded as a key element in Eating Disorders.[10-12] Eating disorder patients showed overestimation of their body size. Patients with Eating disorder showed higher levels of body-image distortion and body-image dissatisfaction than controls[13].Our study also had shown a significant association between body image and eating disorder (p <0.001). Further research is needed to identify the specific aspects which trigger body-image disturbances in patients with eating disorder.

Body mass index and eating disorder: Adolescent obesity is one of the risk factors for the development and maintenance of eating disorder symptoms. One possible reason for this may be that overweight adolescents show greater concern about body image and a greater tendency to perform dietary restraint than their counterparts with normal weight. BMI and weight control concerns and practices may each have a direct or indirect association with eating disorder symptoms. Studies done by Yiou Fan, Yanping Li et al. identified a significant positive association between BMI and score of drive for thinness, body dissatisfaction, bulimia, low self-esteem, interceptive deficits, and maturity fears, and perceived body weight status as well. BMI was associated significantly with eating disorder symptoms among all adolescents[14].Study done by John F Morgan et al showed the Mean body mass index for controls, bulimic cases, and anorectic cases was 22.3, 24.4 and 15.1 respectively[15]. Recently conducted research suggested that weight and shape concerns may play a particularly key role in the cognitive models of anorexia nervosa and bulimia nervosa[16]

Our study also observed a significant association between BMI and eating disorder (p=0.004)

Depression and eating disorder: Eating disorders frequently coexist with other illnesses such as depression, substance abuse, or anxiety disorders. Studies confirm the prominence of depressive symptoms and depressive disorders in eating disorders. [17-19] .A Study by researchers at the University Of Pittsburgh Medical Center, in 2008 identified that 24% of bipolar patients met the criteria for eating disorders. Studies show that anorexics are 50 times more likely than the general population to die as a result of suicide[20]. Our study also found a significant association between depression and eating disorder (p<0.001)

Laxative abuse and eating disorders: Laxative abuse occurs when a person attempts to get rid of unwanted calories, lose weight, "feel thin" or "feel empty" through the repeated, frequent use of laxatives. Often laxatives are misused following eating binges, when the individual mistakenly believes that laxatives will work to rush food and calories through the gut and bowel before they can be absorbed. Unfortunately, laxative abuse is serious and dangerous- often resulting in a variety of health complications and sometimes causing life-threatening conditions.[21]

This is most commonly seen in the purging type of anorexia nervosa and among individuals with a history of Anorexia Nervosa and bulimia nervosa. In recent studies, laxative abuse has been associated with worse eating disorder pathology[22].Our study also revealed a significant association between laxative abuse and eating disorder(p <0.001).

Impact of fitness magazines on eating disorder: Several cross-sectional studies have reported a positive association between exposure to beauty and fashion magazines and an increased level of weight concerns or eating disorder symptoms in girls. Field et al [23]found that the importance of thinness and trying to look like women on television, in movies or in magazines were predictive of young girls (9 to 14 years) beginning to purge at least monthly. In another prospective study the same group has found that both boys and girls who were making an effort to look like the figures in the media, were more likely to develop weight concerns and become constant dieters than their peers [24]. On the contrary, our study did not show any significant association between reading fitness magazines and eating disorder (p=0.3)

CONCLUSION: Nearly one-third of the young girls are at risk of developing an eating disorder and it was significantly associated with depression, laxative abuse, body image and BMI

Table 4:Logistic regression for risk factors of eating disorder

Risk factors	Adjusted odds ratio	95% Confidence interval	p value
Body image dissatisfaction	4.014	1.817 -8.867	**0.001**
Reading fitness magazine	1.138	0.487-2.660	0.765
Laxative abuse	8.171	2.255-29.610	**0.001**
Depression	2.468	1.090-5.591	**0.030**
BMI	1.167	1.005-1.355	**0.043**

(p <0.05 significant)

RECOMMENDATION

Prevention of eating disorders should begin at home. The child who is raised with healthy eating behaviors is bound to develop into an adolescent and young adult with positive attitudes towards food and the self[6]. This is the best measure to prevent eating disorders

The SCOFF questionnaire seems to be a simple, memorable and a highly effective screening tool for detecting eating disorders. So we recommend the use of SCOFF by healthcare professionals in primary care setting.

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REFERENCES

1. Kreipe RE, Birndorf SA. Eating disorders in adolescents and young adults. Med Clin North Am 2000; 84:1027-49.
2. Becker AE, Grinspoon SK, Klibanski A, Herzog DB. Eating disorders N Engl J Med 1999; 340: 1092-8.
3. James T Webb and Diane Latimer, Eating disorders, National Institute of Mental Health; Decade of the Brain NIH Publication No. 93-3477 January 1993
4. Adolescent health, Adolescent girls and Body image Practice Update from the National Association of Social Workers Volume 2, Number 4, November 2001
5. Eating disorders available from eating%20Disorders%20Body%20Image%20-%20Teen%20Eating%20Disorder%20Treatment.htm accessed on 11-10-2010.

6. Healthy place.com staff writer, Eating disorder: common in young females; Dec 28,2008 , Last updated(Mar 14, 2009) available from Eating%20Disorders% 20%20Common%20in%20Young%20Girls%20-%20HealthyPlace.htm accessed on 11.10.2010.
7. Amy J Luck et al, The SCOFF questionnaire and clinical interview for eating disorders in general practice: comparative study, BMJ: VOLUME 325: 5:755-6
8. Perry L, Morgan J, Reid F, O'Brien A, Brunton J, Luck a, et al. Oral versus written administration of the SCOFF. International J Eating Disorders; 2002: 755-6.
9. Mary-Anne et al, Four simple questions can help screen for eating disorder, Journal of General Internal Medicine, Volume 18, Issue 1, and January-2013: 53-56.
10. Gleaves DH, Eberenz K. The psychopathology of anorexia nervosa: A factor analytic investigation. Journal of Psychopathology& Behavioral Assessment 1993, 15:141–52.
11. Striegel -Moore RH, Franko DL, Thompson D, et al. Changes in weight and body image over time in women with eating disorders. International Journal of Eating Disorders 2004; 36:315–27.
12. Vanardo PJ, Williamson DA, Netemeyer SB. Confirmatory factor analysis of eating disorder symptoms in college women. Journal of Psychopathology & Behavioral Assessment 1995; 17:69–79
13. Jose Gutierrez, Maldonado, Marta Ferrier -Garcia, Alejandra Caqueo-Urızar et al "Body Image in Eating Disorders: The Influence of Exposure to Virtual-Reality Environments" CYBERPSYCHOLOGY, BEHAVIOR, AND SOCIAL NETWORKING, Vol 13, No 5, 2010.
14. Yiou Fan, Yanping Li, Ailing Liu, Xiaoqi Hu , Guansheng Ma and Guifa X "Associations between body mass index, weight control concerns and behaviors, and eating disorder symptoms among non-clinical Chinese adolescents" Fan et al. BMC Public Health 2010, 10:314
15. Morgan JF, Reid F, Lacey JH. The SCOFF questionnaire: assessment of a new screening tool for eating disorders. BMJ 1999; 319: 14678.
16. WHO: International Classification of Diseases and Related Disorders (ICD-10). Geneva: WHO; 1992.
17. http://www.anad.org/get-information/about-eating-disorders/eating-disorders-statistics/ accessed on 26.07.2014
18. http://www.nimh.nih.gov/health/publications/eating-disorders/index.shtml accessed on 26.07.2014.
19. Casper RC, Depression and eating disorders. Depress Anxiety. 1998;8 Suppl 1:96-104.
20. Peter Jaret , Eating Disorders and Depression, Eating Disorders Health Center available at http://www.webmd.com/mental-health/eating-disorders/features/eating-disorders accessed on 26.07.2014
21. Laxative abuse: some basic facts available at https://www.nationaleatingdisorders.org/laxative-abuse-some-basic-facts accessed on 28.07.2014
22. More Highlights from the International Conference in Montreal,A Dangerous Comorbidity: Eating Disorders and Substance Abuse Reprinted from Eating Disorders Review, July/August 2005 Volume 16, Number 4 available at http:// eating disordersreview.com/nl/nl_edr_16_4_4.html accessed on 28.07.2014.
23. Field AE, Camargo CA, Taylor CB, Berkey CS, Colditz GA. Relation of peer and media influences to the development of purging behaviors among preadolescent and adolescent girls. Arch Pediatr Adolesc Med.1999; 153:1184–9.
24. Field AE, Camargo CAJ, Taylor CB, Berkey CS, Roberts SB, Colditz GA. Peer, parent, and media influences on the development of weight concerns and frequent dieting among preadolescent and adolescent girls and boys. Pediatrics. 2001;107: 54–60.