

# Association of Eating Disorder and Body Image Concern Among Female Students 16-21 year of Age in Government Home Economics College, Lahore, Pakistan

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## ABSTRACT

**Background:** Eating disorders are more common in women, especially in teen age girls and young women are at greater risk as they are more preoccupied with their body shape and diet. **Objectives:** 1) To identify the presence of eating disorder risk among young females of 16-21 year of age 2) To determine association between eating disorder risk and body image concerns among females of 16-21 year of age. **Methods:** A descriptive cross sectional study conducted among young female students; in a period of four months. Sample size was 1200 female students 16-21 year of age. Non-probability sampling technique was applied, and purposive sampling was done to recruit the study subjects. Data collection was done on two standard questionnaires: EAT 26 for eating disorder and Body Shape Questionnaire (BSQ-8) for body image concerns. Data analysis plan was: descriptive statistics calculated, frequency trends noted for eating disorder, behavior problem, and body image concerns, Bivariate analysis applied to identify association between EAT 26 scores and body image concerns. **Results:** 58% of the students were found to be at risk of having eating disorder, whereas 42% were not. Behavioral problem was present in 72% of the respondents; whereas absent in 27%. **Conclusion:** Highly significant association (P-value 0.001) was found between eating disorder and body image concerns, in the study population.

**Keywords:** : eating disorder, behavioral problem, body image concern, young girls

DOI:10.21276/iabcr.2018.4.4.06

Received: 20.09.18

Accepted: 10.11.18

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## INTRODUCTION

Body image is the dynamic perception of a person about his/her own body; how it looks, feels and moves. This phenomenon is shaped up by individual's own perception, emotion, and physical sensations; and it's not a static phenomenon. It definitely changes in relation to mood, physical experience, and environment around the individual. As adolescents experience significant physical changes in their bodies during puberty, hence they are likely to experience highly dynamic perceptions of their body image.<sup>[1]</sup> Adolescent eating behavior is a function of individual like psychological and biological influences; and environmental

influences like family, friends, peer network, and other miscellaneous factors. In addition, social system or the macro system (including mass media, advertising, social and cultural norms of society) is another very important influencing factor.<sup>[2]</sup> Adolescents' development of their closely linked body image and self-concept can be particularly challenging on account of the diverse, rapid, and significant changes that are heightened during this period as part of development into adulthood.<sup>[3]</sup> Eating disorders are more common in women, especially teen age girls and young women are at greater risk of having eating disorders on

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DOI: 10.21276/iabcr.2018.4.4.06	

**How to cite this article:** Shahzad S, Iftikhar A, Sultana H. F, Batool H, Maryam I, Asif R, Azhar S. Association of Eating Disorder and Body Image Concern Among Female Students 16-21 year of Age in Government Home Economics College, Lahore, Pakistan. Int Arch BioMed Clin Res. 2018;4(4):22-25.

**Source of Support:** Nil, **Conflict of Interest:** None

account of their too much preoccupation with their body shape, weight and diet.<sup>[4]</sup> Adolescent girls in particular, because of their excessive concern with body weight or obsession with thinness, are frequently reported with moderate level of disordered eating behaviors.<sup>[5]</sup> Literature shows that adolescent girls are more prone to adopt various forms of eating behaviors than boys because they are more preoccupied with and are more sensitive towards their changing body size, shape, and physical appearance.<sup>[6]</sup> This growing concern has led many to adopt dietary modifications that are potentially a serious threat to their nutritional status, development of eating disorder, and psychosocial development.<sup>[7]</sup>

Prevalence of abnormal eating attitudes among young girls, as defined by the Eating Attitudes Test-26 (EAT-26) ranges from 5%-30% in various studies performed in different countries. Thus, it has become a serious public health concern as health of a nation and especially of younger age people is of paramount importance for a nation and country.<sup>[8]</sup> Adolescent girls are interested in losing weight and more than 40% have even tried to lose weight due to concerns over their body image and weight.<sup>[7]</sup> The development of eating disorder is considered to be the result of combination of biological, psychological, and social factors.<sup>[9]</sup> Strong social and cultural forces influence body image in young girls. From childhood to adulthood; all means of social media print and electronic convey images of ideal attractiveness to be a reed thin person.<sup>[10]</sup> Hence eating disorder influences the body image among young girls without any question as soon as puberty sets in and young teen age molds the girls to be more conscious of their body image. This over sensitivity towards their image is greatly influenced by peer pressure, social media fashion alerts that back up size zero models to the hilt, and observations and comments from their near and dear ones too. Problem becomes markedly severe when this awareness of being reed thin on superficial level is combined with lack of knowledge about the importance of balanced diet; thus leading to the development of eating disorders.

Objectives of the current study are: 1) to identify the presence of eating disorder risk among young females of 16-21 year of age 2) to determine association between eating disorder risk and body image concerns among females of 16-21 year of age.

Research question developed for this study: Is there any eating disorder risk present among young females; with association between eating disorder risk and body image concerns?

## METHODS

Present study was conducted upon young female students 16-21 year of age studying in Government Home Economics College, Lahore. Descriptive cross-sectional study design was applied, and study time was four months (Sept-Dec 2017). Sample size was 1200 female students. In order to have representation from all years of students in the college; strata were developed for all six-year classes and equal representation of students from each class was taken. Non-Probability purposive sampling technique was applied to recruit the study subjects after informed written consent. Inclusion criteria were: 1) willingness of the respondent 2) female student of 16-21 year of age. Exclusion criteria were: 1) unwillingness of the respondent 2) age of the student below 16 year or above 21 years 3) if the respondent had

taken part in a research of the same nature in the previous six months. Study variables included: 1) socio demographic variables 2) variables for EAT- 26 3) variables for Body shape questionnaire. Data collection instrument was a standardized EAT-26 questionnaire which is widely used to assess eating disorder risk.<sup>[11]</sup> It has been validated and widely used in several countries. A score  $\geq 20$  showed risk of disordered eating; and a score  $< 20$  meant no eating disorder risk. Second questionnaire used in this study was Body Shape Questionnaire (BSQ 8) with 8 items;<sup>[12]</sup> which is a smaller version of original BSQ 34 item questionnaire. Cut off scores for BSQ 8 was made using the cut off percentages of the original 34 item BSQ showing:  $< 18$  no dissatisfaction, 18-27 slight dissatisfaction, 28-36 moderate dissatisfaction, and  $> 37$  severe dissatisfactions. Data collection was done by the researchers' team themselves; each researcher was responsible to collect data from one allotted class. A day earlier to data collection researchers' team had gone to each class and had sensitized the students about the idea of study. On the day of data collection convenient sampling technique was applied; respondents were enrolled in the study after informed verbal consent was taken from them. Questionnaires were administered to the respondents and were filled in by the respondents themselves. Researchers stayed with the class throughout the time of data collection and responded to the queries of the study participants. Ethical considerations were fully observed, and participants were ensured about the confidentiality of the data collected. Data was entered on SPSS 20 and analyzed. Data analysis plan was: descriptive statistics calculated, mean  $\pm$ SD; frequency trends noted for disordered eating, behavior, and Body Shape image; Bivariate analysis applied to identify association between eating disorder and body image concern.

## RESULTS

Data of 1200 female students was entered and analyzed. Age range was 16-21 years, mean age  $18.6 \pm 1.66$ . Body Mass Index (BMI) of the study population was calculated and categorized according to WHO Guidelines 2004 and result was found as: underweight 25.5%, normal 52.5%, overweight 15.5%, and obese 6.5%.

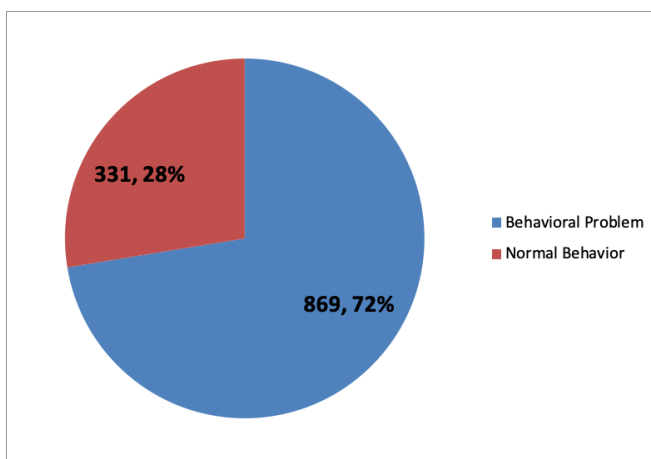
**Table 1: Association between Eating Disorder and Body Image Concerns**

Variable	No-Slight dissatisfaction	Moderate-severe dissatisfaction	Total
EAT 26 score $< 20$ (no risk of eating disorder)	426(85%)	78(15%)	505(100%)
EAT 26 score $> 20$ (at risk of eating disorder)	466(67%)	230(33%)	696(100%)
Total	892	308	1200

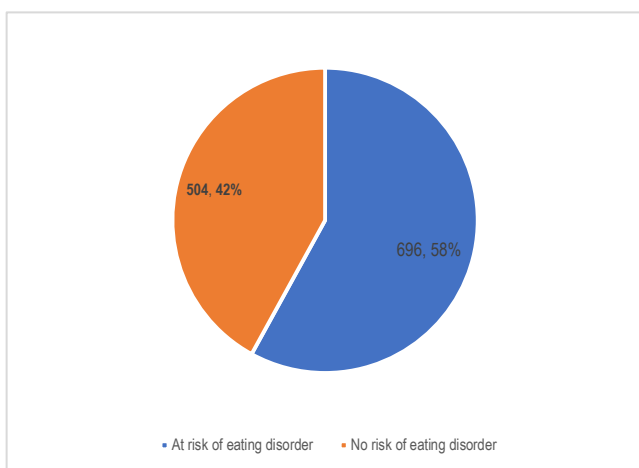
Chi square value=131.89, P-value = 0.001\*\*  
(P-value  $< 0.05$  is significant)

**Table 2: Correlation values for the two variables**

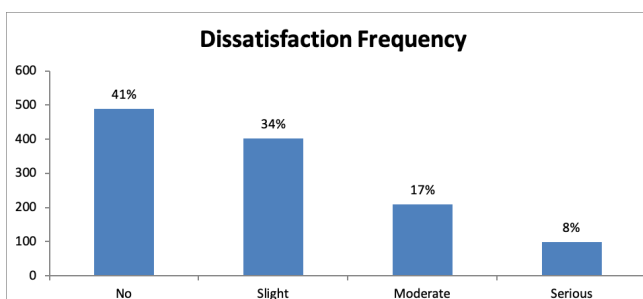
Variable	Pearson correlation (r)	Coefficient of Determination ( $r^2$ )
Eating disorder	.312	.097
Body Image Concern	.312	.097



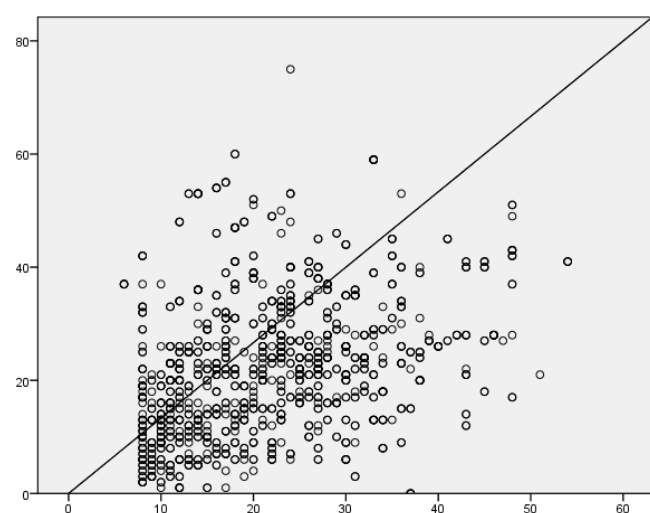
**Fig 1: Distribution of Behavioral problems among study participants**



**Fig 2: Distribution of Eating Disorder among participants on EAT 26**



**Fig 3: Body Image Concern in study participants**



**Fig. 4: Scatter plot showing Correlation between Eating Disorder and Body Image Concerns in young girls**

## DISCUSSION

Prevalence of disordered eating behaviors is on the rise all over the world. In most of the cases such disorder is also associated with many other harmful behaviors and habits among the affected young population like smoking, alcohol consumption, drug use, suicidal tendencies, depressive symptoms, weight gain and obesity, and finally the onset of pathological eating disorder.<sup>[13]</sup> In a previous study the prevalence of extreme weight control behaviors increased from 14.5% to 23.9% among female participants during a five-year period as they progressed from middle to late adolescent age.<sup>[14]</sup>

Present study found that majority participants 58% were at the risk of having eating disorder according to EAT 26; whereas only 42% girls were not at the risk of having an eating disorder. This finding is similar to a past study conducted in five regions of Brazil and found eating disorder prevalence as 23.7% to 30.1%.<sup>[15]</sup> This trend is much higher than many other researches in the past; one such study stated an eating disorder prevalence of 24.7%,<sup>[16]</sup> Another study conducted upon risky eating behavior among 15-19-year-old adolescents found prevalence of 37%.<sup>[17]</sup> Past researches show that eating disorder has a higher incidence in the intermediate and final phases of adolescence i.e. 15-19 year of age; but the symptoms can be easily detected in early adolescent phase.<sup>[18]</sup>

Present study also assessed behavioral problems indicating towards eating disorder as it is a part of EAT 26 data collection instruments; and found that such indicating behavior problem is present in 72% of the girls and absent only in 28% girls. This is a significant finding and is supported by a previous study that states: early development for girls and late development for boy's present greatest challenges to healthy body image.<sup>[17]</sup> Body dissatisfaction and low self-esteem are considered to be predictors of eating disorder; and body image perception has been a subject of interest in studies since the 1980s due to its relation to public health problems such as obesity, sedentary life style, and eating disorder.<sup>[19]</sup> This finding is also supported by another study conducted in past that stated: adolescent eating pattern, coupled with corporal modifications characteristic of this age can result in unhealthy behaviors such as fad diets, omission of meals, ingestion of appetite moderators, prolonged fasting, and use of diuretics and laxatives; in an attempt "to be healthier," which may result in the development of an eating disorder.<sup>[20]</sup> This finding is also strengthened by another study that found: effects of body dissatisfaction on eating disorder was completely mediated by significant mediators like self-esteem and depression; whereas the effect of body image importance was partially mediated by the same mediators. The result of this comparative study also suggested that women have more tendency to turn to binge eating and restrained eating (dieting); in order to escape awareness of negative emotions.<sup>[21]</sup>

Present study also found very highly significant association between eating disorder and body image concerns, upon application of Bivariate analysis (P-value 0.001). This finding is similar and is supported by previous study that stated: there is association of eating disorder with many factors including unrealistic body image.<sup>[20]</sup>

Present study finding of positive correlation between the two variables at P-value <.05 between the two variables is strength of the study. Pearson correlation  $r = .312$  in present study is interpreted as 31% linear positive correlation



between the outcome (eating disorder) and influencing factor (body image concern). Whereas coefficient of determination  $r^2$  shows that only 9.7% of changes in these two variables are associated and 90.3% of changes are due to other factors.

## CONCLUSION

Present study concludes that body image perception carries significant weightage in public health on account of its being major contributor towards development of eating disorders in young girls. Despite adequate knowledge about nutrition (as the sample subjects are all girls from the degree college where they are taught about nutrition in majority of their course work); girls are more concerned about their body image and defying the importance of balanced diet intake. Nutritionally inadequate diet has been found to be the most common factor along with peer pressure, and media influence; as contributing factors towards development of eating disorder. Comprehensive health education plan should be developed by health care professionals and expert nutritionists in order to do counseling of young girls and their families; executing it on large as well as smaller scale.

### Limitations of the study:

Though topic of present study is important in nature on account of the impact it can have upon health of young girls; still the researcher had few limitations while doing it. Time at hand for this study was limited as it was requisite for an examination, so sample was taken from one college only. Otherwise sample size could have been larger and from various colleges. Non-representativeness of the sample is another limitation.

### Significance of the study:

According to WHO, eating disorders like binge eating and anorexia nervosa are very significant contributors towards causation of mental health problems that begin from very young age. Present study finding upon association between eating disorder and body image concerns ( $P$ -value= 0.001); is an eye opener for us, as the young girls in our sample have high level of distorted body image perception and excessive dieting leads to severe weight loss. In other words, it can be safely stated that the disorder revolves around a person's pathological fear of gaining weight; plus, it also signifies that lack of balanced diet in young girls is definitely going to expose them to poor physical health for their oncoming years of enhanced physical responsibility. Another important aspect of these findings is that poor physical health and unhealthy nutritional status will expose the females towards higher risk of extreme ill health during pregnancy; leading to many other consequences. This study also opens an avenue for further research in this area with a representative

sample in the metropolitan city of Lahore. Another very important fact is that literature search showed no study in our local set up had been conducted so far upon this topic of interest.

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