

## Level of anxiety and disordered eating behavior among young female athletes

Sahar Fatima, Rabiya Noor, Iqra Khan, Muhammad Salman Bashir, Mehreen Fatima

University Institute of Physical Therapy, University of Lahore, Pakistan

**Objective:** To find level of anxiety and disordered eating behavior among young female athletes.

**Methodology:** A questionnaire based survey was undertaken among 71 athletes (15-25 years old) athletes from University of Lahore and Lahore College for Women University. Then the level of anxiety and disordered eating behavior calculated. Data were statistically analyzed by SPSS version 16.

**Results:** Out of 71 athletes, 56 (78.87%) had

anxiety due to eating disorder and 15 (21.12%) had no eating disorder. And 67 (94.3%) athletes had raised anxiety levels while 3 (4.2%) had no anxiety.

**Conclusion:** Dieting behavior and binge eating that prompted eating disorder are the main cause of anxiety among young female athletes. (Rawal Med J 201;43:45-47).

**Keywords:** Eating disorders, anorexia nervosa, bulimia nervosa, binge eating disorder.

### INTRODUCTION

Eating is a fundamental need that is ignored by most athletes. Nonetheless, diseases of eating are serious mental diseases that are present as most common chronic disorders in youth, and are mostly linked with high personal, familial and social costs. In anorexia nervosa, the death rate is more than the other severe diseases of adolescence, such as asthma, type 1 diabetes or any other mental disorder.<sup>1</sup> Eating disorders are characterized as a "clinically significant behavioral or mental pattern associated with eating or weight problems which results in depression, anxiety and inability with considerably increased risk of morbidity and mortality."<sup>2</sup> Binge eating disorder<sup>3</sup> and bulimia nervosa can lead to electrolyte imbalances.<sup>4</sup>

Eating issue and disordered dietary patterns are more predominant among young college females who take part in sports than their non-athlete counter parts. The female athlete triad involves three aspects, such as disordered eating, amenorrhea and osteoporosis.<sup>5</sup> Martinsen, et al found that 50.7% athletes were at risk of eating disorders.<sup>6</sup> Kalista et al in college level softball players showed that mostly athletes had low EAT-26 score which leads to dieting, fasting and disordered eating behaviors.<sup>7</sup> Gulliver et al in a sample of 224 elite Australian athletes in which

118 were females and 106 were males concluded that 46.4% were suffering from the symptoms of one of the mental disorders including depression (27.2%), eating disorder (22.8%), general psychological anxiety, social illness (14.7%), generalized anxiety disorder (7.1%) and panic disorder (4.5%).<sup>8</sup> The aim of this study was to determine level of anxiety and disordered eating behavior among young female athletes.

### METHODOLOGY

It was a cross sectional conducted at University of Lahore and Lahore College for Women University from December 2016 to January 2017. The calculated sample size was 71 by the following formula.

$$n = \frac{z^2 \times p(1-p)}{d^2}$$

Using purposive sampling, patients having eating disorders, depression and anxiety, athletes from different games including Running, Swimming, Basketball, Volleyball, Tennis and Football with age 15-25 years were recruited. Athletes associated with other morbidities causing eating disorders those with disc herniation, hyper laxity, ankylosing spondylitis and rheumatoid arthritis were excluded. State-Trait Anxiety Inventory for Adults and Eating attitudes tests were used. Questionnaires were filled

directly by the athletes and encoded according to the analysis. SPSS 16.0 software was used for data analysis.

## RESULTS

Mean State trait score in athletes with anxiety was  $43.40 \pm 4.70$  and athletes without anxiety had mean  $56.00 \pm 3.36$ , while the P-value is significant. Athletes without Eating disorders had mean  $9.6 \pm 6.14$  and athletes with eating disorders had mean  $36.71 \pm 7.33$ . Scores more than 20 were considered to be in eating disorder. 56 athletes who have anxiety or depression due to eating disorder were 78.87%. And 67 athletes had raised anxiety levels (94.3%) while 3 athletes have no anxiety (4.2%).

**Table 1. State trait anxiety.**

	31-53	54-61	P-Value
Age	$20.37 \pm 2.189$	$19.00 \pm 0.816$	0.030 S
Weight	$53.24 \pm 7.67$	$54.75 \pm 8.016$	0.704 NS
Height	$5.45 \pm 0.20$	$5.1 \pm 0.60$	0.425 NS

**Table 2. Eat 26 score.**

	1-20	21-55	P-Value
Age	$21.0 \pm 2.07$	$20.11 \pm 2.15$	0.155 NS
Weight	$55.13 \pm 6.44$	$52.84 \pm 7.913$	0.305 NS
Height	$5.41 \pm 0.36$	$5.44 \pm 0.21$	0.650 NS

Table 1 shows age, weight and height have P-values. Age is significant while weight and height are non-significant. In Table 2 Eat 26 score, age, weight and height all are non-significant p values.

## DISCUSSION

Previous studies have shown that there is high state of anxiety related to disorder eating in female athletes and females without any sign of anorexia or bulimia nervosa had lowest levels of stress and anxiety.<sup>9</sup> The current study also correlates with the results of the previous literature, that there is a strong association between the disordered eating behaviors and anxiety levels. Also, there is depression and stress resulting with the intention of giving good performance in sport activities. Rate of disordered eating in athletic females is almost

same or greater than the non-athletic population and there was high rate of psychiatric comorbidities with the bad eating habits.<sup>10</sup>

According to a study, overweight college students had unhealthy eating practices. Intervention strategies ought to be applied equally in men and women and the screening for the risk factors should be done to manage the consequences of disordered eating behaviors.<sup>11</sup> Our study included the female athletes to highlight the correlation between the depression, anxiety and disordered eating practices. The females had high level of anxiety and rapid weight loss due to disordered eating, dietary pills, laxatives and intensive exercise regimes.

Several sports demand low body fat and lean physique, and the participants taking part in such activities are at higher risk of getting eating disorders. Dancers and gymnasts are at increased risk of developing psychiatric pathologies.<sup>12</sup> Our study showed that most of the respondents made themselves sick to control weight, they had decreased self-esteem, body discontentment and the fear of failure led them to maladaptive eating habits. Other studies have shown that young women are at the increased risk of having these mental disorders, and most of the cases remain unaddressed.<sup>13</sup>

The females with the negative image of their physique, psychiatric disorders, suicidal intentions and unhealthy eating disorders burdened the health sectors.<sup>1</sup> So the current study high lightened the burden of eating disorders and anxiety levels in the form of prevalence. The eating disorders progress towards hormonal changes and later increased anxiety levels.

## CONCLUSION

The prevalence of disordered eating behaviors among young female athletes of University of Lahore and Lahore College for Women University was 78.87%, as dieting behavior, fasting and binge eating are associated with eating disorders. The prevalence rate of anxiety was 94.3%. There are significant results on eating disorders, females athletes are more affected due to irregular and bad behavior of eating.

**Author Contributions:**

Conception and design: Rabiya Noor  
 Collection and assembly of data: Sahar Fatima  
 Analysis and interpretation of the data: Mehreen Fatima  
 Drafting of the article: Sahar Fatima  
 Critical revision of the article for important intellectual content: Iqra Khan  
 Statistical expertise: Mehreen Fatima  
 Final approval and guarantor of the article: Rabiya Noor  
**Corresponding author email:** Rabiya Noor:  
 rabiya.noor@yahoo.com  
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