PREVALENCE OF EATING DISORDERS IN FEMALE ATHLETES

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ABSTRACT:

Eating habits and routine of athletes are directly affected by the Sports. The present study examined the prevalence of eating disorders in female athletes. For this purpose a sample of 60 female athletes was selected using purposive sampling from University of Lahore, age ranging from18-22years. The EAT-26 Garner et al. (1982) was used to measure the prevalence of eating disorders. The reliability analysis of the scale was found to be 0.74 indicating EAT 26 as reliable scale to measure the eating disorders. The results of the study show that 37 athletes out of 60 i-e, 61.6% were having symptoms of eating disorders where prevalence is highest among the age group of 20-21 years. Furthermore, dieting had positive correlation with oral control subscale of EAT-26.

Keywords: *Eating Disorders, EAT-26, Female Athletes, Dieting, women health*

Introduction

Eating disorder is referred as instances of irregular eating routines, involving too little or too much food consumption causing devastating impact on physiological and psychological wellbeing of a person.

The most common types of eating disorders are Anorexia nervosa, bulimia nervosa and Binge eating disorder. a person People with anorexia have an extreme fear of gaining weight, which propels them to maintain a weight far less than normal whereas in Bulimia an individual attempts to purge himself of the surplus calories after a phase of binge eating. individuals with being eating disorder develop a habit of People with binge eating disorders develops an irresistible urge of eating large amounts of food often term as binging.

Eating disorder is considered as one of the most predominant psychiatric illness epitomized by psychological effects of obsessions of body image, diet and weight. Eating disorders have comorbidity with other psychiatric illnesses including depression, anxiety and substance misuse (Hudson, Hiripi , Pope , &Kessler, 2007).

Disordered eating is a psychiatric condition that has annihilating effects both the on the physical and mental well-being of an athlete that in turn has devastating impact on the performance (Joy, Kussman, & Nattiv; 2016).

The meticulous reason of eating disorder is still unidentified though it is mostly assumed to be the amalgamation of genetics, mental and social factors (Olden & White, 2009).

Stress to attain a slender body structure for optimizing performance put players on bigger danger for developing eating disorders (Smink, Hoeken & Hoek; 2012).

The risk factor of developing eating disorder is same in both genders but females are found to be affected more commonly than males' nearly 9:1 ratio (Borgen & Torstveit, 2004; Borgen, 1993).

Eating Disorders are categorized by dreads of increased body weight, figure which leads to irregular eating patterns like starvation, skipping meals, fasting, binge-eating or over eating leading to purging.

Athletes in eating disorders also use laxatives, diuretics, and diet pills (Nattiv et.al, 2007). According to recent studies it is estimated that 95% of eating disorders occur in females where the incidence is high under the age of 25 (Deering, 2001; Coelho, Gomes, Riberio & Soares, 2014).

Athletes are at the same risk of developing eating disorders as non-athletes where the occurrence of eating disorders varies from 0% to 27 % (Coelho, Soares, Ribeiro, 2010).

In athletic population eating disorder is mostly regarded as "anorexia athletica" in which athletes might limit diet ingestion and is not considered under the category of full blown anorexia

Nervosa. Hence, "anorexia athletic" can be perceived as a condition of high physical performance in spite of reduced body mass and energy intake.

As it does not meet the benchmarks of eating disorders it is mostly called as subclinical disorder **(**Sudi, 2004**).** Disordered eating is also considered as a part of the "female athlete triad" (FAT) where it can also lead to amenorrhea and bone demineralization.

The clinical course of the disorder can be reduced by the early detection of the problem. The present paper is an endeavor to study the prevalence of eating disorders in female athletes as it is most frequent condition in the female athletes and most of the times go under noticed.

Physical activity creates positive effects on physiological and psychological well-being and can be taken as a medium to enhance self-esteem so; it is equally important to identify risk factors and correlates to stop the commencement of signs of eating disorders in female athletes.

Outcomes of this research can aid in devising and implementing suitable prevention and intervention strategies for female University athletes with eating-disorders.

Literature Review:

Several studies have stated the incidence of eating disorders that are among highest mortality rates of psychiatric illnesses. The assessments conducted on general population sample and clinical sample in western countries have stated the incidence of anorexia nervosa ranging from 0.1% to 5.7%, whereas bulimia nervosa ranging from 0.3% to 7.3% in females (Makino, Tsuboi , & Dennerstein, 2004).

Results of the work done on collegiate students stated that 3.8% of females were bulimics whereas 0.2% of males were bulimics. In another research conducted at the college level found 4.7% females were diagnosed with symptoms of eating disorders (Pyle, Neuman , Halvorson , Mitchell, 1991; Striegel-Moore , Silberstein , Frensch , Rodin, 1998).

In Pakistan, a study conducted on 369 school girls of Lahore and the other one conducted on 271

school girls of Mirpur reported single case of bulimia whereas no case of anorexia, while from Lahore 5 girls reported with symptoms of partial syndrome bulimia nervosa (Choudry, Mumford, 1992; Mumford, Whitehouse, Choudry, 1992).

Since 1990s, there has been found an increase in the occurrence of eating disorders in females both in athletics and non-athletics community. During the period of their college sports, sportswomen went through a number of conflicts and lot of pressure making them more susceptible to the emergence of eating disorders or involving in unhealthy activities for controlling their weight (Sundgot-Borgen & Torstviet, 2010).

Eating disorders has been found to be highly prevalent at clinical and subclinical level among female athletes than non-athletes. A study conducted by Greenleaf, Petrie, Carter, & Reel in 2010 reveal that female athletes at the university level undergo symptoms of eating disorders mostly at the subclinical level but problematic. The lifespan incidence of anorexia nervosa & bulimia nervosa was reported 0.5% to 3.7% & from 1.1% to 4.2% respectively in female athletes **(**Borgen, 1994)**.**

In another study, lifetime occurrence of eating disorder in female athletes varies from 0% to 27% (Coelho, Soares, & Ribeiro, 2010). The incidence among female can be as high as 62% in the absence of standard tools of assessment and stable criterion for identifying eating disorders **(**Bonci et.al, 2008).

It was found out that in order to achieve weight targets, around 94 % of athletes participating in elite weight related challenges either go on diet or use weight control measures before their competition (Sundgot-Borgen & Garthe, 2012).

It was estimated that in female aesthetic sports disordered eating was present 40% approximately and 30% approximately in female weight related games whereas, it is 15% in team sports of elite female athletes (Sundgot-Borgen et. al, 2013).

It is more possible that athletes with eating disorders may cultivate nutritional deficiency, prolonged exhaustion, low energy and bigger threat to suppression of immunity that may consequently leading to recurrent infections and diseases. Consequently, not only have adverse effects on health but also on performance which is the greatest fear of most of the athletes.

Moreover, dehydration and electrolyte imbalance results because of use of weight control drugs or purging by vomiting, diuretics, or laxative misuse affecting the performance (Coelho, Gomes, Ribero, & Soares, 2014).

Objective of the Study

Objective of the study was to find out the incidence of eating disorders in female athletes.

Hypothesis

H_0: There is no prevalence of eating disorders in female athletes.

H_A: There is prevalence of eating disorders in female athletes.

Materials and Methods

Sample

The study design was survey in nature. Sample of the study included 60 female athletes from the University of Lahore. The age ranges from 18 to 22 years. The sample was selected through purposive sampling.

EAT-26

In order to measure prevalence of eating disorders in athletes a valid and reliable scale; EAT- 26 by Garner et al. (1982) has been used. It consists of 26 items where each item is scored on a scale where never is 0, rarely is 0, sometimes is 0, often is 1, usually is 2, and always is 3, except for item 25 which is reverse scored.

The EAT-26 items form three subscales; Dieting, Bulimia and Food Preoccupation and Oral Control (Dieting scale items: 1, 6, 7, 10, 11, 12, 14, 16, 17, 22, 23, 24, 25; Bulimia & Food Preoccupation scale items: 3, 4, 9, 18, 21, 26; Oral Control subscale items: 2, 5, 8, 13, 19, 20). If the total score is above 20 there are clear tendencies of eating disorders.

Procedure

The questionnaire was circulated among the subjects, after taking the ethical approval from ethical committee of the University. The questionnaires were filled after taking the consent by the female athletes and in the absence of their coach so that there is no pressure on the participants. The subjects were assured regarding the confidentiality of information.

Data Analysis

Analysis of Data was done using SPSS version 23. Reliability analysis, Descriptive analysis and Correlational analysis was used to draw the results from the data.

Results

Table 1: Reliability Analysis of the subscales of Eat-26(N=60)

S.no	Scale	Items	Alpha
1.	EAT-26	26	0.744
2.	Dieting	13	0.68
3.	Bulimia & Food Preoccupation	6	0.61
4.	Oral control	6	0.66

Table 1 shows the Alpha reliability for EAT-26, subscales of EAT-26. The results indicate that it is a reliable for the measurement of eating disorders in female athletes

Table 2: Prevalence of Eating Disorders in female athletes (N=60)

S. No	Scale	Feq.	%
1.	Eating Disorders	37	61.6 %
2.	Dieting	40	66.6%
3.	Bulimia & Food Preoccupation	31	51.6%
4.	Oral control	25	41.6%

Table 2 shows the frequency and percentages of eating disorders in female athletes. Among 60 athletes, 37 scored higher than 20 (61.6%). Where on dieting subscale 40 athletes scored higher than 10(66.6%), 31 female athletes scored higher than 5 on Bulimia & Food preoccupation subscale (51.6%) and 25 female athletes scored higher than 5 (41.6%) on oral control subscale

Table 3: Inter-correlations on the subscales of EAT-26(N=60)

S. No	*Measures*	*1*	*2*	*3*
1.	Dieting	1	1.40	0.285*
2.	Bulimia & Food Preoccupation	1.40	1	0.11
3.	Oral control	0.285*	0.11	1

***p<.05**

Table 3 show the Inter-correlations of the scores on the subscales of EAT-26 shows that dieting has a positive correlation with oral control which means that athletes who are preoccupied with symptoms of dieting have oral control habits i.e. dieting leads to control in food intake.

Table 4: One Way Analysis of Variance of Scores of EAT-26 (N=60)

	19-20 years		**21-22 years**		**23-24 years**			
	28		**15**		**17**			
Scale	***M***	***SD***	***M***	***SD***	***M***	***SD***	***F***	***P***
Dieting	10.75	4.90	13.07	4.36	12.06	4.95	1.20	0.30
Bulimia & Food Preoccupation	5.39	2.88	4.80	1.56	6.53	3.35	1.64	0.20
Oral control	4.68	2.51	4.87	2.10	6.94	3.28	4.16	0.02

Table 4 shows the one way ANOVA of the scores on EAT-26. The results of the oral control subscale are significant ($p<0.05$) as compared to other subscales. The differences in the mean scores of female athletes belonging to different age group 21-20 shows highest scores on dieting subscale as compared to other subscales indicating that female athletes ranging between the ages of 21-20 have more symptoms of dieting as compared to bulimia and oral control.

Discussion

The results of the present study indicated that out of 60 female athletes 37 scored higher than 20 showing that 61.6% of the female athletes are at greater threat of having eating disorders where the highest prevalence is the symptoms of dieting (66.6%).

These findings are consistent with the study by Cooley & Toray (2001), which concluded that dissatisfaction of body image strongly predicts eating disorder. The reason behind the high pervasiveness of eating disorders in female athletes is because of pressures to maintain weight and body image.

Another research done by Kerr et al. (2006) reported that family, peers, and trainers can have a major impact on female athletes.

There is found to be a positive correlation between dieting and oral control habits. Athletes are more inclined to use dieting and restricting their food consumption

to meet the body weight demands, leading to low energy availability.

The term energy availability refers to the amount of dietary energy intake minus exercise-induced energy expenditure normalized to the fat-free mass (Nattive et.al, 2007).

Hence, athletes having low energy availability restrict their dietary intake, vegetarian, prolonged exercise, and limit the type of food intake. The disposal of low energy appears to be a triggering factor for starting the eating disorder, so it should be considered as an underlying automatic cause of the onset the eating disorder (Coelho, Gomes, Ribeiro, & Soares, 2014).

The reason behind the use of dieting and extreme weight loss methods is still unknown, however there has been found to have certain connection with the kind of sport and athlete's age.

Athlete's playing games in which maintain lean mass are more susceptible to develop eating disorders as compared other games where lean body is not a strict requirement (Sundgot-Borgen & Torstveit, 2010).

Athlete's age is also considered to be a contributing reason in progression of eating disorders especially in females. Female athletes during time period of adolescence undergo a number of biological changes. The physique of a female young athlete often grows in a pattern which is incompatible with the inclinations of the type of sport, in turn choosing a sport that is no appropriate for their body type.

Consequently, adolescents might attempt to inhibit these alterations through the practice of maladaptive eating patterns. (Malina , Bouchard , Bar-Or O, 1993; Bratland-Sanda & Sundgot-Borgen, 2013).

The result of present study also support this notion as dieting symptoms are found to be most prevalent in the age ranging from 20-21 years.

Furthermore, other factors contributing the psychopathology of eating disorders are interpersonal difficulties, coaching styles, body image, anxiety and fear of

gaining. Female athletes especially involved in aesthetic sports are more probable to develop eating disorders.

Female athletic triad is another evident factor; Signs that contribute female athlete triad consist of obsession with food, weight and body image and eating habits, extreme weight variations, depression or low self-esteem, tenacious exercise despite of illness or injury, continuous tiredness, and more (Biesecker & Martz, 1999).

Hence, female young athletes, particularly involved in aesthetic sports, are the individuals at greater threat of developing eating disorders and would be taken seriously. For this reason the trainer should be carefully trained and qualified to recognize and deal with such conditions at the early stage. Prevention strategies for eating disorders include early detection. For this purpose awareness should be created among coaches and athletes regarding the eating disorder.

The initiation and application of awareness and instructive programs that encourage self-acceptance, healthy eating habits, and sound training in athletes are likely to be effective in prevention of eating disorders.

To date, very few researches have been done on the subject of eating disorders in females especially in Pakistan. It is recommended that future researchers should explore the susceptibility of eating disorders with reference to specific sports.

The relationship of eating disorders with performance, body image, self-esteem and other psychological disorders like anxiety, depression and suicidal thoughts.

Further exploration needs to be done on prevention programs and management resources of eating disorders with special reference to sports setup in Pakistan.

Conclusion

Eating disorder is one of the major concerns in the field of sports. This study revealed the presence of eating disorders in female athletes where incidence is

high in the age group of 20-21 years. Signs of dieting habits and control of dietary intake are more prevalent as compared to bulimia or binge eating.

This study will make an important contribution to highlight the fact that eating disorders should be screened among female athletes and some individualized intervention and training programs should be devised to address this particular issue. This knowledge will help to build awareness which in turn will provide support for the physical and mental wellbeing of female athletes.

Limitations of the Study

Following limitations must be taken into account for further researches in the similar field.

1. Data was collected through purposive sampling instead of random sampling.
2. The sample size of the study was not large enough; a large sample size may yield more fruitful findings. The sample was also not nationally representative as it was just collected from the areas of Lahore, which was too short to be generalized on the whole population of Pakistan.
3. Another limitation of the study is that the relationship of eating disorders with performance was not studied.
4. Results of the research would be more interesting if segregation between male and female athletes were made.
5. Research was quantitative in nature as structured questions were used and it does not allow the detailed exploration of the reasons of development of eating disorders in female athletes. Explanatory power of the study is limited by its quantitative nature.

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