Anxiety of young female athletes with disordered eating behaviors

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Abstract

The aim of this study was to investigate the prevalence rate of disordered eating behaviors in young female athletes and to compare the anxiety levels of the athletes with or without disordered eating behaviors. Female athletes (n=243) of 15 to 25 years old from the city, Edirne, in Turkey participated our study. Disordered eating behaviors and anxiety levels of participants were evaluated by the Eating Attitudes Test (EAT-40) and State-Trait Anxiety Inventory. Disordered eating behaviors was reported as 40 (16.7%) among all athletes. Both state and trait anxiety scores were higher in athletes with disordered eating behaviors than the athletes without disordered eating behaviors (p=0.01). The athletes who engage in leanness and nonleanness sports were reported as having similar EAT-40 scores and anxiety scores. In conclusion, athletes with disordered eating behaviors have higher state and trait anxiety scores.

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1. Introduction

Unhealthy weight control practices and other abnormal eating habits are prevalent among athletes particularly in female athletes (Sudi et al., 2004). It is generally accepted that the factors such as pressure of reducing weight, fear of failing, injury or overtraining may cause disordered eating behaviors among the female athletes.

The term “disordered eating” can be considered as a spectrum of unhealthy weight control attitudes and behaviors ranging from serious eating restrictions as witnessed in anorexia–bulimia to eating behaviors which help to lose weight or maintain a thin physique. (Hobart & Smucker, 2000). Generally, disordered eating behaviors are accepted as a non-clinical concept and originate from self reported scales.

Physiological, genetic and psycho-social factors may produce disordered eating behaviors and/or lead to the clinical spectrum of eating disorders. Recent studies suggest that disordered eating behaviors among male and female gender, and also people from eastern culture show an increase in terms of prevalence (Eapen, Mabrouk, & Bin-Othman, 2006; Jones, Bennett, Olmsted, Lawson, & Rodin, 2001; Jonat & Birmingham, 2004; Yannakoulia et al., 2004).
The connection between anxiety traits and eating disorders is widely recognized by many investigations (Kaye, Bulik, Thornton, Barbarich, & Masters, 2004). Comorbidity of eating and anxiety may be explained in five different models (Bulik, 2002). Model one suggests that eating disorders is caused by anxiety symptoms. Model two puts forward the idea that the converse of model one anxiety precedes eating disorders. Model three says that eating disorders are expressions of underlying anxiety disorders. Model four points out that eating and anxiety disorders are different expressions of the same underlying causal factors. According to model five, anxiety and eating disorders are unique sets of conditions, and they may share some etiological factors (Bulik, 2002). Comorbidity of eating disorders and anxiety are complex conditions in clinical setting. Obsessive compulsive disorder and social anxiety disorder are the most common anxiety disorders among eating disorders patients who seek for a treatment. Anxiety disorder and symptoms of anxiety have been reported to precede the development of eating disorders in most subjects (Kaye et al., 2004; Zaider, Jhonson, & Cockell, 2002). Anxiety symptoms may be vulnerable factors for developing eating disorders.

Studies on eating disorder have shown that individuals with AN, BN and ENDOS are likely to have anxiety symptoms (Becker, DeViva, & Zayfert, 2004; Kaye et al., 2004; Thompson & Chad, 2002). However, no study examined the relationship between disordered eating and anxiety in female athletes. We hypothesized that high anxiety levels may be a risk factor for developing disordered eating behaviors in female athletes. Our aim in this study was to investigate the prevalence of disordered eating behaviors in young Turkish female athletes and to compare the state and trait anxiety levels of the athletes with or without disordered eating behaviors.

2. Method

2.1. Participants

The female athletes \((n=243)\) from the city of Edirne in Turkey participated in our study. All subjects’ age ranged from 15 to 25. Participants were consisted of competition athletes from regional sport clubs, high schools, and university sports teams of different branches. The athletes in our sample were from 10 different sports: basketball \((n=80, 32.9\%)\), handball \((n=49, 20.2\%)\), running \((n=24, 9.9\%)\), swimming \((n=23, 9.5\%)\), rhythmic gymnastics \((n=1, 0.4\%)\), wrestling \((n=5, 2.1\%)\), tennis \((n=3, 0.8\%)\), volleyball \((n=39, 16.0\%)\), taekwondo \((n=15, 6.2\%)\), and dancing \((n=5, 2.1\%)\). Age, height, weight, and body mass index (BMI) averaged 19.59± 2.52 (±SD) years, 168.07 ± 6.79 cm, 57.55± 7.11 kg and 20.34± 2.10 kg/m² respectively.

2.2. Measures

A self-administered questionnaire was used to assess age, weight, height, with their beginning age to sports and amount of training in a week. BMI was calculated as weight in kilograms per height in square meter.

2.2.1. Eating Attitudes Test (EAT-40)

Disordered eating behaviors were assessed by the EAT-40 (Garner & Garfinkle, 1979). A Turkish translation, reliability and validity of the EAT-40 were performed in a Turkish sample (Erol & Savasir, 1989). EAT-40 is a widely used, standardized, self-report questionnaire designed to assess pathological eating behaviors, attitudes, and thoughts.

2.2.2. State and trait anxiety inventory (STAI)

State and trait anxiety was assessed by the 40 item state portion of the STAI of Spielberger, Gorsuch, and Lushene (1970). STAI measures the subjective level of anxiety both in special and in general stations. Each of the state and trait portions of the inventory consists of 20 items in Likert format statements. Higher STAI results indicating higher level of anxiety. The inventory has been validated by Oner and Lecompte (1985) in Turkish sample.

2.3. Procedure

Disordered eating group \((n=40)\) was constituted of the athletes who have EAT-40 results above the 30 points. Also, participants were divided into two groups as leanness sports \((n=72)\) and nonleanness sports \((n=168)\) to compare the
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