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Eating disorders in athletes

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Abstract

Eating disorders are a significant health problem among athletes, affecting both physical performance and mental well-being. This article provides a comprehensive overview of the existing scientific literature on the prevalence, risk factors, and consequences of eating disorders in athletes. By synthesizing the results of the research, this article aims to show the unique challenges that athletes face in terms of eating behavior and to propose directions for future research and intervention strategies.

Methodes

This article is based on the available literature found in the Google Scholar, PubMed database with the use of key words such as “eating disorder”, “athletes”, “anorexia”, “bulimia”, “psychotherapy”, “adipose tissue”.

Results

Research shows that athletes are a group particularly vulnerable to eating disorders due to their focus on their performance, body appearance, diet and social pressure.

Key word: eating disorder athletes anorexia bulimia psychotherapy adipose tissue.

Introduction

Eating disorders are a significant public health problem, and their prevalence is particularly worrying in the context of athletes, whose pressure to perform at a high level often leads to unhealthy eating habits. In particular, athletes who practice weight-management disciplines such as gymnastics, long-distance running, and bodybuilding are at risk of developing anorexia, bulimia, and other forms of eating disorders. This paper aims to investigate the etiology, diagnosis, treatment and prevention strategies of eating disorders among athletes, with particular emphasis on the specificity of various sports.

Sports psychiatry and sports psychology are two fields that support the mental health and performance of athletes, but they focus on different aspects. Sports psychiatry is a specialty in psychiatry that deals with the diagnosis, treatment, and prevention of mental problems among athletes. Although all mental disorders can in principle also occur in (elite) athletes, there are also sport-specific mental disorders such as sports anorexia and other eating disorders, chronic traumatic encephalopathy, abuse and dependence on performance-enhancing substances (doping) and muscle dysmorphia [1]. The relationship between physical activity and mental health is bidirectional. Physical activity is an important public health tool used in the treatment and prevention of various physical illnesses, as well as in the treatment of certain mental illnesses, such as depressive and anxiety disorders. However, studies have shown that in addition to beneficial effects, physical activity may also be associated with a decline in mental health, which is associated with disorders such as "excessive exercise" and "overtraining syndrome" [2].

Eating disorders are defined as mental disorders characterized by abnormal eating patterns and a strong fear of gaining weight. According to the DSM-5 (American Psychiatric Association, 2013), the most common eating disorders include anorexia nervosa, bulimia nervosa, and binge eating disorder. Studies on eating disorders in athletes indicate higher rates of these disorders than in the general population, especially in disciplines where a low percentage of body fat is desirable [3].

Characteristics of eating disorders among athletes

Athletes often experience pressure to maintain a certain body weight or body aesthetics, which can lead to unhealthy eating behaviors [4]. Studies have shown that the prevalence of eating disorders is higher among athletes compared to non-athletes. A meta-analysis by Bratland-Sanda and Sundgot-Borgen (2013) found that the prevalence of ED among athletes ranges from 6% to 45%, depending on the sport and level of competition. Female athletes are particularly vulnerable, as the incidence of ED is much higher in aesthetic sports such as gymnastics, figure skating or ballet, where the emphasis is on thinness [3].

Risk factors

The literature indicates several risk factors that contribute to the development of eating disorders in athletes.

Genetic predispositions, related to appetite regulation and metabolism, play a significant role in the development of eating disorders. Athletes may be genetically more likely to develop eating disorders due to inherited traits such as perfectionism or obsessive-compulsive tendencies [5].

Athletes in disciplines that emphasize weight, appearance, or performance (e.g., endurance sports, aesthetic sports, weight sports) are more prone to ED [6]. Female athletes are generally more likely to develop ED, although men who participate in certain sports (e.g., wrestling, bodybuilding) are also at significant risk [7].

Consequences of eating disorders in athletes

The consequences of ED in athletes are severe, affecting both health and performance. Physically, ED can lead to a range of problems, including electrolyte imbalances, cardiovascular problems, gastrointestinal disorders, and impaired bone health, which significantly increases the risk of stress fractures [8]. Mentally, athletes with Syndrome may experience depression, anxiety and cognitive impairment, which may further reduce their performance [9].

Eating disorders can lead to serious health problems, such as hormonal disorders, weakened bones, cardiovascular problems, and immune system disorders [10]. Women may miss menstruation, which is associated with the risk of osteoporosis.

In addition, EDs can disrupt an athlete's career, leading to burnout, a decrease in motivation, and in extreme cases, resignation from the sport. The Women's Sports Triad—which includes eating disorders, amenorrhea, and osteoporosis—is of particular concern because it can lead to long-term health consequences if not treated properly [11].

Eating disorders often co-occur with mental disorders such as depression, anxiety, and obsessive-compulsive disorder. They can also lead to social isolation and difficulties in interpersonal relationships [12].

Nutritional deficiencies and weakness associated with eating disorders can negatively affect sports performance, leading to a decrease in the ability to train and compete [13].

Diagnosis of eating disorders in athletes

The diagnosis of eating disorders in athletes is complicated due to the normalization of extreme eating behaviors in some sports. Athletes may see these behaviors as part of training, making it difficult to detect the disorder early [14].

Eating disorders often co-occur with mental disorders such as depression, anxiety, and obsessive-compulsive disorder. They can also lead to social isolation and difficulties in interpersonal relationships [12].

Strategies for the treatment and prevention of eating disorders in athletes

Sports nutritionists play a vital role in creating balanced nutrition plans that meet the athlete's needs while counteracting unhealthy eating patterns [15].

The involvement of a team of medical professionals, including physicians, psychologists, nutritionists, and sports nutritionists, is crucial for successfully managing the complex nature of ED in athletes [16].

Education about healthy eating and the risks associated with eating disorders is crucial in preventing these disorders among athletes. Prevention programs should be implemented at an early stage of sports training [17]. Athletes, coaches and parents should be advised that menstrual loss is not a positive adaptation to high-intensity training and participation in sports and is a condition of low energy availability resulting from intentional or unintentional dietary restriction. [18] Studies have shown that educational programs aimed at coaches are effective in increasing their knowledge of eating disorders in athletes, including recognizing and managing them [19].

Pharmacotherapy for the treatment of eating disorders is used with caution, especially in the case of athletes, where possible side effects can affect their performance. The most commonly

used medications are selective serotonin reuptake inhibitors (SSRIs), which are prescribed to treat co-occurring symptoms of depression and anxiety [20].

Athletes may be concerned that weight gain or a change in eating habits will negatively affect their performance, which often leads to resistance to treatment [21].

The Importance of Body Fat in Sports

Adipose tissue has many important functions in the human body, including energy storage, thermal insulation and protection of internal organs. In athletes, normal body fat levels are a key element in sports performance, overall health, and the ability to regenerate. The optimal level of body fat varies depending on the sports discipline, gender, age and individual physiological characteristics [22]. Body fat affects sports performance through its effect on body weight, body composition and metabolism. Too low a level of body fat can lead to hormonal disorders, reduced physical performance, and even the development of eating disorders, especially in female athletes [23].On the other hand, excessive body fat can limit aerobic fitness, strength and speed, which is particularly unfavorable in disciplines requiring high intensity of exercise [22].

Optimal Body Fat Levels in Different Sports

The optimal level of body fat varies depending on the type of sport. In disciplines such as bodybuilding, gymnastics, or long-distance running, low body fat levels are often desirable due to aesthetic requirements or body weight needs. In bodybuilders, body fat levels can be as low as 10% in men and 15% in women, which is considered to be very low levels [22].

The Importance of Gender and Individual Differences

Sex differences have a significant impact on the optimal level of body fat. Women naturally have higher levels of body fat than men, which is related to reproductive function and differences in hormonal balance. In female athletes, too low levels of body fat can lead to menstrual disorders, weakened bones, and an increased risk of injury [23].

Methods of body fat assessment

Assessment of body fat levels in athletes can be performed using a variety of methods, including skinfold thickness measurement, bioelectrical impedance analysis (BIA), bone densitometry (DXA), and magnetic resonance imaging (MRI). Each of these methods has its own advantages

and limitations, and the choice of the appropriate method depends on the availability of equipment, measurement accuracy and the specificity of the sport discipline [22].

Bioelectrical impedance analysis (BIA) is a more advanced technique that measures the electrical resistance of the body and, based on this, estimates the body fat content. This method is fast and non-invasive, but its accuracy can be affected by hydration and other physiological factors.

Bone densitometry (DXA) and magnetic resonance imaging (MRI) are considered to be the most accurate methods for assessing body composition, including body fat levels, but their use is limited by high costs and the availability of equipment [24].

The impact of too low or too high levels of body fat

Both too low and too high levels of body fat can have a negative impact on the health of the athlete and his sports performance. Too low levels of body fat, especially in women, can lead to menstrual disorders, weakened bones, reduced immunity and increased risk of injury [23]. In men, too low body fat levels can lead to a decrease in testosterone levels, which affects physical performance and regeneration [22].

Excess body fat can also lead to metabolic disorders such as insulin resistance or hypertension, which negatively affects the general health of the athlete [24].

Applications

Understanding the prevalence, risk factors and consequences of ED in athletes allows for the development of targeted interventions that support the mental and physical health of athletes, which in turn contributes to improved performance and well-being.

Eating disorders among athletes are a serious health problem that has a significant impact on their physical performance, mental health, and overall quality of life. The research confirms that athletes are a group particularly vulnerable to developing these disorders due to the specific demands of their sport, the pressure to achieve and cultural norms regarding body and weight.

In conclusion, the problem of eating disorders among athletes requires a comprehensive approach that includes education, early diagnosis, as well as psychological and medical support. The sports community must be aware of the risks and actively counteract the development of these disorders in order to ensure the health of athletes and optimal conditions for achieving sports success.

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