

# Eating disorders in elite athletes: prevalence and risks



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Being an elite level athlete, an immense amount of pressure is placed on athletes to perform at their very best, often times leaving them yearning to achieve the top physical fitness that they can reach. This level of physical 'fitness' and 'leanness' has been not only exaggerated in sports, but also in modern media that is associated with the industry that is today's sports. Over the years, this has led to eating disorders in those not only at an elite level, but in all sports. Disordered eating has substantial and devastating effects on the physical body, although it stems from a mental illness. Not only is the prevalence of eating disorders in high-level female athletes apparent, but also the associated risks with the development of the disorder are detrimental to performance. It is important to note the susceptibility of athletes to acquire the eating disorder, in addition to taking a closer look at the variability of the development in weight dependent sports that focus on leanness versus non-weight dependent sports (Wells, 2015). In addition, once it has been understood how disordered eating arises, it is key to look into the prevention of the potential development of eating disorders in the elite level of athletics. The purpose of this paper is to look at the prevalence of eating disorders in athletes compared to their non-athlete counterparts, the risk factor of developing the disorder in a lean vs. non-lean sport, as well as the physiological harm an eating disorder can cause and ways to prevent the development of one. The compiled look at these ideas is important in helping to better the overall mental health of the athletes and recognize where these behaviors stem from, to hopefully lower the frequency in the upcoming years.

Eating disorders in the athletic population, more specifically the female athletic population, are obtaining increasing attention. (Brownell, et al., 1992) However, the exact causes of eating disorders are not known, and look to be a combination of psychological, biological and social factors. In studies, there have been claims that female athletes look to be more vulnerable to eating disorders, more specifically to Anorexia Nervosa, Anorexia Athletica and Bulimia Nervosa than those females in the general population. (Sundgot-Borgen, 1996) Amongst the rationale proposed for the high occurrence of both subclinical and clinical eating disorders among female athletes includes the “ attraction-to-sport” hypothesis (Thompson et al., 1993), exercise induced anorexia nervosa (Epling and Pierce, 1988), dieting and body weight cycling (Brownell et al., 1992), personality factors (Yates, 1989), early start of sport-specific training (Sundgot-Borgen, 1994), traumatic events (Sundgot-Borgen, 1994), and the impact of coaches as well as their strength trainers (Rosen and Hough, 1988).

In a study conducted in Norway, the clinical and subclinical eating disorders in young, modern rhythmic gymnasts on the national team were assessed. The subjects of the study included 12 members of the national team, ranging in ages from thirteen to twenty years old, and they were individually paired with nonathletic control subjects. All of the subjects took part in a structured clinical interview for eating disorders, as well as medical examinations and dietary analysis. The results showed that two of the participants met the criteria for anorexia nervosa, while two others met the requirements for anorexia athletica. Every single one of the gymnasts were dieting at some point during the study, although they were already extremely lean. In

relation to their non-athletic counterparts, the athletes scored significantly higher than their age-matched control when assessed for the eating disorder inventory. (Sundgot-Borgen, 1996)

Furthermore, Beals and Monroe in Arizona suggest that the prevalence of eating disorders, as well as the excessive concerns regarding body weight in female athletes, are increasing constantly. In addition to the pressures placed upon female athletes to improve their performances as well as their physiques, the general sociocultural demand thrust upon women to be thin frequently results in unlikely body weight and size goals. (Beals and Monroe, 1994).

Looking at the associated risk of developing an eating disorder as an athlete, Folscher and her peers observed that worldwide female participation in endurance events might place the athletes at risk for the female athlete triad. In the study, only about 7.5% of the female marathoners even knew about the triad's existence, despite the fact that 44.1% of the athletes were high risk for developing the triad. Around one-third of the participants showed disordered eating behaviors with almost half reported restrictive eating behaviors. The study found that the athletes were more likely to experience disordered eating when participating in an elite event, when compared to those that were not. (Folscher et al., 2015)

In addition, in the athletic training and health centers at National Collegiate Athletic Association Division I, II, and III institutions, studies were conducted comparing athletes to non-athletes using questionnaires. In contrast to the other studies, the findings were generally positive, indicating that female

student athletes have high levels of self-concept, and are at low risk to develop eating disorders. However, even with these encouraging results, it does not mean that all concerns can be overlooked, seeing as though there are still athletes who are at risk to develop an eating disorder (McLester, 2014).

Continuing on the topic of prevalence, in a study comparing disordered eating behaviors in undergraduate female collegiate athletes and non-athletes, Reinking and Alexander found that female athletes did not exhibit more disordered eating symptoms in general, however, the data suggested that lean-sport athletes were more susceptible to developing an eating disorder than their non-lean sport counterparts. (Reinking, 2005).

Overall, the prevalence of eating disorders in female athletes at an elite level is gaining more attention amongst competitors. A combination of psychological, social factors and biological predispositions lead to the eventual development of disordered eating among the high-level female athletic population, and in more cases than not, elite athletes display an increased risk for the development of eating disorders than their non-athletic colleagues, in addition to being at risk for having a higher prevalence of eating disorders by close to 14 to 19% compared to their male counterparts (Anderson, 2012).

Sports that emphasize body composition (also known as lean sports), are frequently associated with driving women towards disordered eating habits in order to reach an 'elite' athlete body type. (Beals, 2004) In a study conducted by Wells et al., eighty-three varsity female athletes from eight

separate Campbell University sports teams were observed, and were separated based on lean and non-lean sports. The results of the study showed that there was a significant difference between lean and non-lean sports, indicating that lean sports exhibit a higher risk for developing an eating disorder when compared to athletes participating in non-lean sports. In addition, it appears that a likely influence of disordered eating in these female athletes emerge from external social influences (Wells, 2015).

Likewise, in a 2016 study derived from German Young Olympic Athletes (GOAL), the researchers objectively looked at the factors regarding eating disorder pathology in female youth athletes, as there are scarce studies that focus on the elite adolescents. During this stage in their life, they are highly vulnerable developmentally and are affected not only by general but sport-specific risk factors as well. The results concluded that those who were at high risk for developing a disorder comprised of athletes in weight dependent sports (lean sports), in addition to athletes who are high on negative affectivity, female athletes in general, and male athletes who participate in endurance, technical or power sports. These athletes that competed in lean sports showed signs of compensatory behaviors to influence their body weight, in addition to reporting increased levels of depression and anxiety than their athlete counterparts without eating disorder pathology. (Giel, et al., 2016)

Risk factors are key in understanding the concept of the susceptibility of groups of athletes in the development of the disorder, as well as certain trigger factors that could be responsible for precipitating the exacerbation or onset of disordered eating. In a study conducted by Sundgot-Borgen, elite <https://assignbuster.com/eating-disorders-in-elite-athletes-prevalence-and-risks/>

female athletes were assessed to identify risk and trigger factors for anorexia athletica, anorexia nervosa, and bulimia nervosa. Of the athletes studies, the prevalence of the clinical and subclinical pathologies were significantly higher in sports that emphasized leanness, or a specific weight, than in those sports where body image is considered less important.

(Sundgot-Borgen, 1994)

Further, athletes that perform at higher levels of athletic competition show increased levels of pathological clinical and subclinical eating disorders. As a population as a whole that have been identified for the development of disordered eating, identifying subgroups within of who is more likely to develop the malady is key in finding a way to prevent it in the future.

Generally, athletes in sports that emphasize lean physique, as well as weight restrictions in the sport are more vulnerable to progress into an eating disorder than those athletes that do not compete in those types of sports, as well as non-athlete controls (Picard, 1999).

Eating disorders can be devastating not only psychologically, but physiologically as well. The complications stem from three main mechanisms: undereating, purging, and low body weight. Long-term eating disorders reduce the quality of muscular fitness, leading to a constant state of tiredness and weakness that is extremely difficult to recover from. In addition to the physical manifestations, the psychosocial functioning of athletes is severely under functioning as well. The overvaluation of shape, weight and eating control, and using them as such to determine one's self-worth are regarded as the main psychopathology of eating disorders.

Interpersonal functioning is impaired, and mood and cognition are negatively  
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affected, in severe cases detrimentally influencing not only education but physical performance of the athlete as well. (El Ghoch, 2013)

Recognition that intervention programs and preventative methods are necessary have been apparent for quite some time now, allowing research to shift towards suggestions in prevention methods. Looking at several health educational intervention methods for collegiate female athletes, Abood and Black found four that worked as ways to aid in prevention. Intervening in the athletes understanding of self-esteem, and exploring the factors that affect self-esteem, including body image, positive and negative self-talk, realistic and unrealistic expectations, as well as feedback from peers, was a key way in which to alter the course of the development of the disorder. Stress management to counteract the anxiety derived from the disorder was effective at reframing the mindset, using methods such as diaphragmatic breathing, progressive relaxation and visualization as coping methods. Education on nutrition was further established as a preventative measure, where caloric needs of the female athlete were discussed with them, as well as nutrition beliefs and myths, and the athletes were given guidelines for healthy approaches to weight management. Finally, goal setting education as a method to reduce anxiety of body image distortions was established through short and long term goals, synchronization of those goals with a coach and the evaluation of those goals with others. An education focus on the importance of health instead of attention to the harmful effects of pathogenic weight loss appear to be a more productive method of producing positive changes. Participating in educational interventions in athletes who are at risk or have already developed the disorder seems to protect from



further decline in self-esteem, and reduces the athletes' drive for thinness (Abood, 2000).

Prevention of eating disorders focuses on thwarting the emergence of the illness or disorder, typically by identifying the correlations and risk factors that may contribute to the development of the affliction. The American Academy of Pediatrics, the International Olympic Committee Medical Commission, and the American College of Sports Medicine have recommended national and international sports federations to implement policies to eliminate harmful weight-loss practices (Coelho, 2014). Primary prevention focuses on education and instruction to prevent extreme dieting and the onset of the eating disorder. Furthermore, protecting athletes from factors that can predispose them to the development of the disorder should begin as early as 9-11 years of age (Sundgot-Borgen, 1993). Numerous studies have shown that various intervention methods have positive results. These interventional programs addressed not only the de-stigmatization of eating disorders through discussion, but also the harmful effects of pathogenic weight loss, and healthy nutritional practices to implement for sufficient energy availability (Coelho, 2014).

Furthermore, because of the sport specific correlations and risk factors, prevention programs should be shaped to each individual type of sport, as well as various athlete groups (more specifically adolescents, due to their developmental stage and susceptibility) (Coelho, 2014). Not only should the athletes themselves be informed, but also coaches and health professionals that directly interact with the athlete should be better educated.

In response to the epidemic that are eating disorders, the National Athletic Trainers' Association (NATA) released a position statement on the prevention of eating disorders in athletes, which recommended athletic trainers as well as health professionals to be able to first detect signs of disordered eating, including clinical features and behavioral warning signs, and identify predisposing risk factors. Some of the psychological and behavioral characteristics that are identified in athletes with eating disorders are dieting which is unnecessary, ritualistic eating patters, social withdrawal, depression, compulsiveness, etc. These signs can be apparent or not, but having a professional who can recognize these symptoms is key in the prevention of further development. In addition, mandatory educational programs for all involved in athletics should be implemented annually, describing the risks associated with eating disorders. (Bonci, et al., 2008)

An example of an educational program that had high success rate was implemented in a high-risk school setting in 1999. The world-class residential ballet school housed both female and male students aged 10-18, and employed a prevention program that followed the paradigm of health promoting schools as outline by the World Health Organization, involving systemic changes in addition to direct interventions with students. The study used various measures to compare between the baseline cohort and later ones, which revealed significant reductions in disordered eating patterns and attitudes about body shape and eating (Piran, 1999).

Being able to recognize the signs and then preventing the eating disorder from developing is key in the day-to-day lives of athletes who participate at a high-level, or anticipate to compete at an elite status eventually.  
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Understanding the serious physiological harm disordered eating can lead to is an important aspect of prevention, as well as establishing social circumstances and high-risk situations that can lead to an eating disorder. Education is one of the most profound ways to prevent the development of eating disorders, and should be implemented across the board at any high-level athletic institution.

### **Future Research Directions and Implications for Practice**

Understanding what the prevalence, and the associated risks are with eating disorders can be practically implicated across the board. Acknowledging the problem that modern athletics face with the prevalence of eating disorders, coaches are just one group of people that need to be more aware of the imposed demands they place on athletes. Using cooperative methods, coaches are able to provide practical solutions to the issues of overtraining and under eating, as well as be able to identify signs of eating disorders earlier (Thompson, 1993).

In the clinical setting, more specifically in collegiate athletics by health professionals, understanding the signs and symptoms, as well as being able to identify the high-risk athletes who are more susceptible to developing an eating disorder based on the sport they participate in (Giel, 2016). This has even been exemplified through the NATA position statement, where understanding all aspects of eating disorder emergence in athletes has led to increased prevention, as well as interception of those who were on the track to developing an eating disorder based on their participation in elite athletics (Bonci, et al., 2008).

In addition to coaches and health professionals, athletes themselves being able to recognize the unhealthy behaviors and coping tactics in regards to their own idea of body and self, as well as understanding what is expected of them in terms of aesthetic and performance, is essential in the prevention and decrease of eating disorder prevalence across the board. Being able to apply the knowledge from educational programs, and practically implicating not only those but also the identifying risk factors are essential in the future decrease of eating disorders (Sundgot-Borgen, 1994).

An interesting area for future research would be to explore the inclusion of individualized health-enhancing physical activity programs in patients that have been diagnosed with eating disorders, and how that would play into the athletes return to participation of their competitive sport, following withdrawal due to the illness. Being able to healthily control an athlete's relationship between sport and mind is essential to the safe return to participation, and denoting a positive relationship between the physical activity programs for patients recovering from eating disorders would be essential. This area of study has just been funded by the NIH, and will most likely be published within the next couple of years.

Further research could also be applied in the development of the disorder in pre-pubescent versus pubescent versus post-pubescent athletes, and compare how the susceptibility in the development of the disorder changes based on age, more specifically athletes who begin competing at an elite level at an early age. As depicted in the study by Giel, there is a lack of knowledge on adolescent athletes and how age plays a role in the

development of eating disorders at an elite level, and it would be helpful for <https://assignbuster.com/eating-disorders-in-elite-athletes-prevalence-and-risks/>

not only health professionals, but also coaches and athletes to understand how age plays a factor. (Giel, 2016)

In addition, a longitudinal controlled-large scale intervention study would be extremely helpful in identifying not only prevalence, but also risk factors and prevention methods. This study would be most beneficial if it was conducted based on varying sports, but also sex specific, as well as denoted based on age groups.

## **Conclusion**

Overall, eating disorders are a common and very serious health problem. As advanced as we have become as a nation, the athletic world should be better equipped for not only preventing the emergence of these problems, but also identifying the prevalence among athletes as well as what sport specific factors may lead to its manifestation. The prevalence of eating disorders are found to be higher in elite level female athletes than in their non-athletic peers, or in the general population (Reinking, 2005). Even amongst athletes, the prevalence of eating disorders varies based on the specific sport that is competed in, with weight focused or 'lean' sport competitors having an increased risk of developing a disorder, whether it be clinical or subclinical (Picard, 1999). Further, the implementations of programs that are focused on not only the education of athletes but health professionals as well have been shown to decrease the prevalence of eating disorders (Coelho, 2014). Using this knowledge about eating disorders, the information should be applied throughout everyday participation in athletics, not matter what level it is at. However, there is still a need to learn more about the development of the disorder age-wise, as well as the enactment of <https://assignbuster.com/eating-disorders-in-elite-athletes-prevalence-and-risks/>

a long term study focusing on all aspects of the eating disorder development, based on specific sports and age ranges. The take home message of this paper is that athletes, coaches, and health professionals alike should be better educated at understanding the prevalence of eating disorders in athletes compared to their non-athletic counterparts, in addition to coping with the risks that stem from participating in a 'lean' sport, while at the same time knowing how to solve the problem if it were to arise.

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