

# Physical Effects in Female College Athletes with Eating Disorders: A Systematic Review

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## Introduction

Out of all mental illnesses, eating disorders have the highest mortality rate (2). Currently, there is limited research on the harmful physical effects of eating disorders on female college athletes. The purpose of this study was to determine the physical effects on the health of female college athletes who suffer from an eating disorder. Broader impacts of this research aim to raise awareness of this mental illness and decrease the number of female college athletes who develop an eating disorder.

## Methods

- PubMed and EBSCOhost databases
- Keywords: female collegiate athletes, eating disorders, physical effects, female athlete triad, anorexia nervosa, bulimia nervosa, binge eating
- Participants had to be female athletes that were competing in collegiate athletics in any division
- The research had to include an eating disorder as well as a female athlete competing in a collegiate sport
- Initially 21 articles were returned, and 12 were selected (Figure 3)
- 10 Questionnaires and 2 Case Reports

1. Beals, K.A., Manore, M.M. (2002). Disorders of the Female Athlete Triad Among Collegiate Athletes. *International Journal of Sport Nutrition and Exercise Metabolism*. Vol. 12, 281-292.

2. Eating Disorder Statistics. (2018) *Mirasol Recovery Centers*.

3. Greenleaf, C., Petrie, T.A., Carter, J., Reel, J.J. (2009). Female Collegiate Athletes: Prevalence of Eating Disorders and Disordered Eating Behaviors. *Journal of American College Health*. Vol. 57, 489-494.

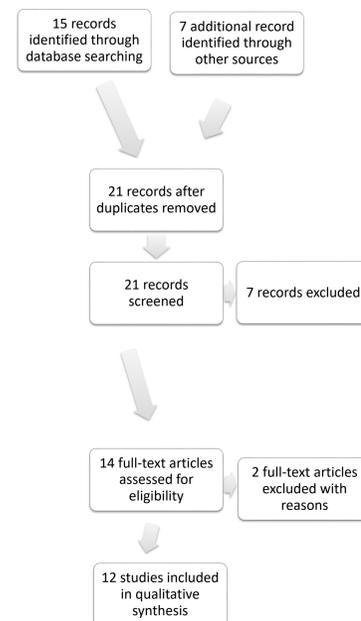
4. Thompson, S.H. (2007) Characteristics of the Female Athlete Triad in Collegiate Cross-Country Runners. *Journal of American College Health*. Vol. 56 No. 2, 129-135.



<http://weirdlittleworlds.com/the-enemy-a-ballet-story-2/>  
**Figure 1:** An example of a female college athlete who may be at risk for developing an eating disorder or currently suffering from one.



<http://asklaurenfleshman.com/questions/how-to-lose-weight-before-cross-country-season/>  
**Figure 2:** A possible uniform for a female college athlete that is physique revealing, which is one of the most common influences to an eating disorder.



**Figure 3:** Process for identifying and including articles in systematic review.



<https://www.mediate.com/online/ok-this-one-is-definitely-about-sex-si-puts-lindsay-vonn-in-a-bikini/>  
**Figure 4:** A visual representation of the sexual expectations and pressures placed on female athletes that can lead to the development of an eating disorder.

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## Results

- The most prevalent factor found in the studies was menstrual dysfunction
- The possible effects found included dehydration, electrolyte imbalance, cardiac arrhythmia, more time to recover from workouts/injuries (3)
- Decreases in Body Mass Index and decreased bone density were also found (4)
- Those with menstrual irregularities experienced more bone and muscle injuries than those of normal cycles (1)
- Menstrual dysfunction was found in at least 17% and up to 57% of the female collegiate athletes surveyed

## Public Health Implications and Recommendations

Current education on the life threatening damages to the female body due to an eating disorder need to improve and be discussed with more teams. Yearly education and changes to certain programs, like eliminating team weigh-ins, may help to decrease the number of those suffering from an eating disorder.

## Conclusion

- Negative physical health outcomes affect female college athletes who are victims of eating disorders
- Menstrual dysfunction can lead to early osteoporosis, in turn leading to many further problems like infertility, decreased bone density and even death
- The damages to a female collegiate athletes body due to an eating disorder are life threatening if the person has this illness for an extended time