

Athletic Trainers' Knowledge and Confidence Helping Athletes with Relative Energy Deficiency in Sport.

Heather Corriveau ATC, Julie Bernier EdD, ATC, Eric LaFlamme PhD

Introduction

In 2014 the International Olympic Committee proposed a term that would expand what is typically considered the female athlete triad under the term relative energy deficiency in sport or RED-S (Mountjoy, et al., 2014). This term includes a more diverse population and considers other negative impacts of low energy availability (Valliant, 2016). RED-S can affect both male and female athletes and includes numerous health and performance indicators in addition to bone health and menstrual function, which are the only factors considered by the female athlete triad. (Mountjoy et al., 2018)

This relatively new term used to identify insufficient energy intake for athletes may not be incorporated into athletic training education or continuing education for professionals (Kroshus, DeFreese, & Kerr, 2018). Previous studies have explored the knowledge and practices of collegiate athletic trainers on the subject of RED-S, but the knowledge and practices of athletic trainers in other settings had not yet been examined. The purpose of this study was to assess athletic trainers' knowledge about RED-S, and identify areas where further education is needed. Additionally, the athletic trainers' confidence in identifying and assisting athletes with RED-S was examined.

Methods

A survey design was utilized in this study. The survey was created utilizing previous survey questionnaires recorded in the literature on RED-S by Kroshus, DeFreese, and Kerr (2018), and Vaughan, King, and Cottrell (2004). The survey requested that participants report demographic information such as their sex, age, number of years certified as an athletic trainer, and current job setting. The survey also included questions that assessed the knowledge and confidence in helping athletes with RED-S.

Study Design

- The survey was randomly distributed to 2000 athletic trainers through the NATA email database.
- Qualtrics, an online survey tool, was used to deliver the survey to participants and collect their responses.
- The survey was completed anonymously and Qualtrics did not collect any information to link participants to their responses.
- 130 participants completed the survey, a response rate of 6.5%

Data Analysis

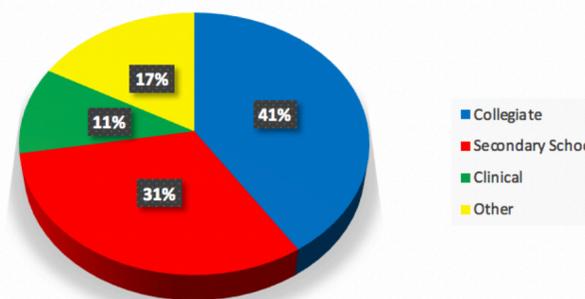
The data was translated into knowledge and confidence scores. The knowledge score was calculated by taking the sum of the correct responses to a series of questions about RED-S to determine the knowledge of the athletic trainers being surveyed. The confidence score was calculated by taking the total of the responses discussing confidence in identifying and treating athletes with RED-S using a 6 point Likert scale. The scores were then imported into Minitab where a multivariate regression was run to determine any levels of variability in responses between groups based on demographic information provided, such as sex, age, highest degree level achieved, work setting, and the number of years each participant had been certified.

Key Findings

- 71.54% (n=93) of athletic trainers feel it is their role to identify athletes with RED-S, however only 18.46% (n=24) of athletic trainers believe they can effectively identify an athlete with RED-S.
- The amount of time the participants have been a certified athletic trainer did not significantly influence (p-value 0.091) the knowledge score, which differs from previous research by Kroshus, DeFreese, and Kerr (2018), that found that athletic trainers who received their formal training before the RED-S framework was conceptualized were less familiar with the condition.
- Finally, athletic trainers who work in the collegiate setting were more confident (p-value 0.029) in their abilities to identify and treat athletes with RED-S than the athletic trainers who work in secondary schools or clinical settings.

FIGURE 1

Participants Current Work Setting



Conclusion

Athletic trainers are the health care professional who is best positioned to be able to identify and assist athletes with relative energy deficiency in sport. Whereas most participants were aware of the female athlete triad, all athletic trainers need to be aware of the signs, symptoms, and implications of RED-S.

- Further education about RED-S is needed for athletic trainers in all settings.
- Continuing education may be particularly beneficial to athletic trainers who completed their education before the RED-S framework was recognized.
- College athletic trainers were more confident in assisting athletes with RED-S than secondary school and clinical athletic trainers. Additional training and policies in these settings might increase confidence.

References

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