

Changes in Female Athlete Triad Knowledge After an Educational Intervention: A Pilot Study

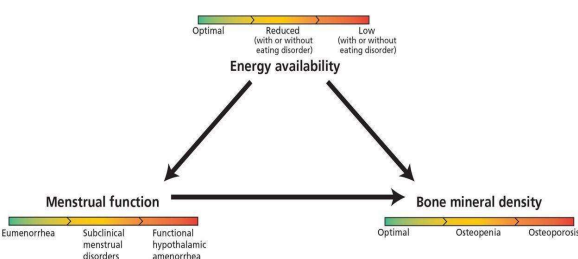
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Introduction

The Female Athlete (Triad) is characterized by low energy availability (with or without disordered eating), menstrual irregularity, and low bone mineral density.¹ Factors related to the triad affect many facets of wellbeing, not just athletic performance. The Triad is associated with higher rates of anxiety, low self-esteem, disordered eating, depression, alter endocrine function, reduce metabolic rate, increase bone fractures, and impair cardiovascular health, etc.¹⁻⁵

There is minimal literature on Triad knowledge and changes in Triad knowledge following an educational intervention in the female college athlete population. This is intended to provide pilot data for design of larger studies in the future.

The purpose of this study is to gather more information on current female athletes' knowledge of the Triad as well as Triad knowledge retention immediately after a 10-minute Triad educational video. We hypothesized that there would be a gap in knowledge of the female athlete triad among female athletes. We think that after a 10-minute Triad educational video there will be an increase in Triad knowledge.



Methods and Materials

Those eligible to participate were invited to gather in a classroom at the USU athletics complex or ARC (Aggie Recreation Center) to view a 10-minute video about the Triad. Those who wished to participate first completed an online survey that assesses their Triad knowledge as well as their current Triad risk factors (e.g. irregular menstruation, stress fractures, etc.). Following the video, participants completed a post-intervention survey that included the same Triad knowledge questions as the pre-intervention survey.

Participants: current female USU NCAA and recreational athletes ages 18 years and older.

Survey: Demographic data collected: age, sport, height, and weight. The 7 Triad knowledge questions were adapted from Feldman et al⁶, with additional energy-availability-related questions developed by Brown et al^{7,8}. Participants provide answers on a 5-point Likert-type scale ranging from "strongly agree" to "strongly disagree" where correct answers were 1 point and incorrect answers were 0. Internal consistency of the questionnaire was established previously ($r = .75$, $p < 0.001$).⁹

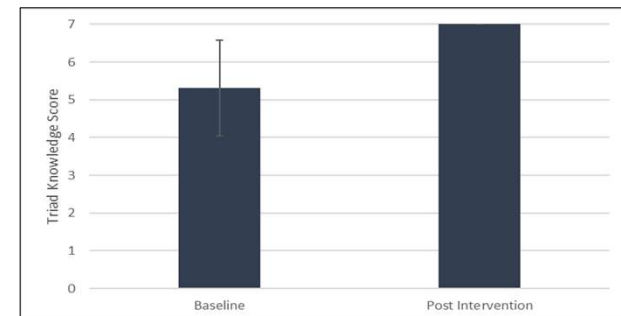
Recruitment: was achieved by word of mouth, posted flyers and emails sent to all female student athletes

Analysis: analyzed using SPSS. A paired t-test was used to assess changes in Triad knowledge from baseline to immediately post-intervention.

Results

- 13 participants completed all components of the study: 6 NCAA athletes and 7 recreational athletes
- Menstruation: two participants displayed primary amenorrhea, while no subjects had secondary amenorrhea with 38% having had a history of secondary amenorrhea
- History of Stress Fractures: 1 participant
- Average Participant Age: 20.7 ± 1.54 years
- Triad Knowledge score increased from 5.31 ± 1.26 to 7 ± 0 , $P < 0.001$
- Athletes were generally aware of campus resources but suggested earlier education opportunities.

Table 1: Changes in Triad Score from Pre to Post Intervention



Conclusion

In the educational intervention we found that there was a significant improvement in Female Athlete Triad knowledge amongst the female athlete participants.

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