



Grant Information Summary:

Prevalence of disordered eating, menstrual dysfunction and musculo-skeletal injury in female high school athletes

Practical Significance Statement

The data from this study indicate that there is a relationship between eating behaviors and menstrual dysfunction in female high school athletes.

Study Background

The female athlete triad (Triad) is the interrelatedness of energy availability, menstrual function and bone mineral density. The majority of research on the Triad involves college-age or elite athletes and most studies examine only a few components of the Triad. The female athlete triad in the adolescent athlete has only been determined in one study. Nichols et al determined that 18% suffered from disordered eating, 24% had menstrual dysfunction, and 22% met criteria for low bone mass. Almost 6% met criteria for 2 of the 3 components, and 1.2% met criteria for all 3 components of the triad.

Objective

To determine the prevalence of disordered eating (DE) and menstrual dysfunction (MD) among high school athletes, and to examine the relationship between these components and musculoskeletal injury (MI) rates.

Design And Setting

The study utilized a prospective cohort design where data from subjects from three public high schools in Wisconsin were collected.

Subjects

Subjects were female athletes (mean age: 15.4 ± 1.2) competing in an interscholastic sport, cheer squad, poms or dance team.

Measurements

Disordered eating (DE) and menstrual status were assessed in 334 athletes using 2 interview-assisted questionnaires. Athletes were also classified by sport type. Overall, 51.9% were considered team/anaerobic sport, 35.1% endurance sport, and 13.0% aesthetic sport.

Results

The prevalence of DE and MD were 34.7% and 18.9%, respectively. Athletes reporting DE were twice as likely (OR=2.0, 95% CI: 1.1-3.6) to report MD. DE (OR=2.4, 95% CI: 1.4-4.1) was significantly associated with MI. No significant relationship was found between MD and MI.

Conclusions

These results indicate that DE and MD are prevalent in high school athletes. The findings suggest that athletes with DE are at greater risk for sports-related MI. The need for screening female high school athletes exists; interventions to educate female high school athletes on the importance of appropriate nutrition are recommended.

Principal Investigator:

Jill Thein-Nissenbaum
PT, SCS, ATC



Ms. Thein-Nissenbaum received her BS from Iowa State University in Physical Education with an emphasis in athletic training, and received her athletic training certification in 1990. She received her Master of PT from the University of Iowa in 1993 and obtained her Sports Certified Specialist in 2001. Jill is currently a faculty member in the University of Wisconsin / Meriter Hospital's Orthopedic Clinical Residency Program Associate at the University of Wisconsin-Madison, where she teaches in courses in the Clinical Sciences track. She is also Doctoral Candidate at Rocky Mountain University in Utah. Jill's areas of interest include: knee pathology, articular cartilage, the female ACL, the female athlete triad, and aquatics. Jill has published numerous papers and book chapters related to these areas.

Publication & Presentation List

Thein-Nissenbaum J, Rauh MJ, Carr K, Loud K, McGuine T. Prevalence of disordered eating, menstrual dysfunction and musculoskeletal injury in female high school athletes. 2008 NATA Annual Meeting, St. Louis, MO.

Printing by:

Ellington Printery, Ellington, CT

Funded by NFL Charities



2952 Stemmons • Dallas, TX 75247
214-637-6282

*Supporting and advancing the
Athletic Training profession through
research and education.*