FEMALE ATHLETE TRIAD (FAT) SCREENING IN HIGH SCHOOL CROSS COUNTRY RUNNERS

Nicole O'Rourke, BSN, RN, DNP student
University of Missouri-Columbia Sinclair School of Nursing

Sinclair School of Nursing
University of Missouri Health

INTRODUCTION

Problem:

Increased education and assessment about the Female Athlete Triad (FAT) is needed among high school female cross-country athletes as:

- early intervention prevents serious endpoints such as amenorrhea, osteoporosis and eating disorders (De Souza et al., 2014)
- Female athletes often present with one or more of the three components of the triad without knowledge of their presence
- Adolescence is the most critical time for bone mineral density (BMD)
- Zach et al. (2011) found 78% of varsity athletes had one or more components of the triad with 50% reporting menstrual dysfunction

Literature Review:

- The Low Energy Availability Questionnaire for Females (LEAF-Q): 25 item questionnaire focusing on physiological symptoms developed to identify female athletes in endurance sports at risk for the FAT (Melin et al., 2014).
- The Eating Disorders Examination Questionnaire (EDE-Q): 26-item self-report measure of ED psychopathology- rate on a 0–6 scale the frequency over the past 28 days (Nichols et al., 2006).
- Kyriazis et al., only 10% of respondents could even name the three components of the FAT (2012)

PICOT

In female high school cross country athletes age 14-18 how does a Female Athlete Triad (FAT) educational session affect the results of the symptom awareness questionnaires immediately after the educational session and at the end of the cross country season ?

OBJECTIVES

1. End of season LEAF-Q and EDE-Q scores will decrease by 20% compared to beginning of the season
2. 75% of female cross country runners will experience a change in behavior related to pre-season education and questionnaires

MATERIALS AND METHODS

Setting & Sample: The setting for the education and assessment took place in a Mid-western, suburban all female high school. A convenience sample of 14-18 year old females were recruited from the female cross-country team. Participation was voluntary. Parental consent for those <18 years and athlete assent were obtained.

Design: Pilot study using a prospective cohort pre and post-test design using existing questionnaires LEAF-Q and EDE-Q. Pre-post test design

- LEAF-Q: menstrual function, injuries, GI, energy availability, disordered eating
- EDE-Q: based on the last 28 days (weight concern, shape concern, eating concern & restraint= global score)
- Behavior change survey: 5 questions, self-report true/false

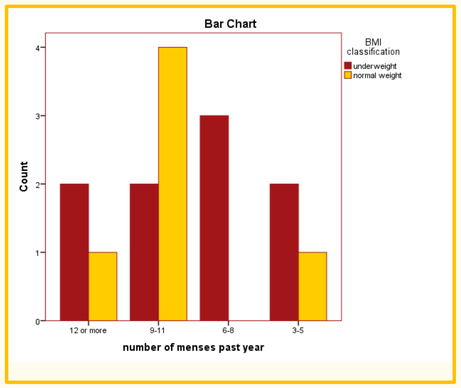
August 2016
- Letter sent home to parents explaining the project risks and benefits along with consent
- Letter sent home to athletes along with assent form

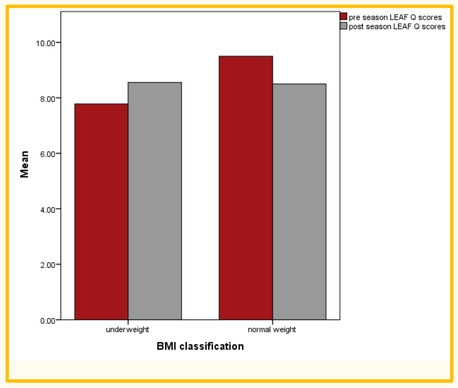
September 2016
- 25 minute educational session performed with PowerPoint at the school
- Initial LEAF-Q and EDE-Q administered immediately following education

November 2016
- Follow up LEAF-Q and EDE-Q administered
- 5 question true/false questionnaire created by investigator
- Discussed general results and importance of contacting investigator for scores

RESULTS

- Outcome 1 NOT MET: LEAF-Q and EDE-Q global scores (*n*=15) increased slightly from pre season 8.47 (*sd* = 4.3) to post season 8.53 (*sd* = 3.8) . The difference between the two means was not statistically significant at the .05 level (t = -.07, df = 14).
- Outcome 2 NOT MET: 33% of participants (*n*=15) had a change in behavior following education on the signs and symptoms of the FAT. The goal was 75%.





RESULTS

- ❖ 75% of runners had never heard of the FAT before education and intervention
- ❖ 92% of runners felt that the educational season at the beginning of their season was beneficial
- ❖ 33% of participants had a change in behavior following education on the signs and symptoms of the FAT
- ❖ 83% plan on talking to their parents or doctor if they notice any red flags related to the FAT
- ❖ 100% of participants agreed that it would be beneficial for more young female athletes to be aware of the FAT

CONCLUSIONS

- Study limitations: small sample size, convenience sample, poor follow up, short duration
- An increase in knowledge of the FAT occurred within the group of competitive cross country runners.
- The LEAF-Q and EDE-Q did identify girls at risk determining that there is evidence of symptoms in the high school cross country population with a lack of awareness.
- Recommendations include developing the school nurse role, establish routine screening, set protocols for positive screens, and utilizing a multidisciplinary approach to treatment

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Contact information: nmo3m8@mail.missouri.edu
http://nursing.missouri.edu/index.php