TACSM Abstract

Menstrual Phase Symptoms and Perceived Musculoskeletal Strength and Flexibility Among NCAA Collegiate Athletes

ASHTON VASQUEZ AND KRISTEN MCALEXANDER

Exercise Physiology Laboratory; Department of Exercise Science and Sport Management; Schreiner University; Kerrville, TX

Category: Undergraduate

Advisor / Mentor: McAlexander, Kristen (kmcalexander@schreiner.edu)

ABSTRACT

Previous findings suggest that the associations among menstrual hormones, symptoms and human performance are inconsistent and lacking. Earlier research has measured hormonal fluctuations and symptoms from each of the four menstrual phases (menstrual, follicular, ovulation, and luteal), but their physiological effects on perceived musculoskeletal strength and perceived flexibility remain unclear, particularly among college athletes. **PURPOSE:** To measure the prevalence and associations among self-reported menstrual symptoms, perceived overall strength and perceived flexibility in NCAA female athletes during each of the four menstrual phases. **METHODS:** In the Fall of 2020, a survey consisting of demographic questions and questions of perceived strength, flexibility, and menstrual symptoms was emailed to 99 female athletes at a NCAA Division III University. **RESULTS:** Twenty-five participants (*M* age= 19.76 years, *SD*= 1.01 years) representing 6 NCAA sports (softball *N*=11, volleyball *N=5*, soccer *N=4*, basketball *N*=2, cross country/track & field *N*=2, and tennis *N=1*) voluntarily responded. Eighty-eight percent of participants reported suffering from premenstrual and/or menstrual symptoms that included cramps, headaches, bloating, mood swings, back pain, cravings, decrease in physical activity, and breast aches. Most participants (56%) reported feeling the weakest during the menstruation phase, and only 29% felt no difference in strength throughout the phases. Less than half of participants (44%) felt the least amount of flexibility in the menstruation phase, but most participants (52%) reported no difference for flexibility throughout the phases. Further, bivariate analyses suggested statistical significance between the presence of premenstrual and/or menstrual symptoms and self-reported strength (ρ=.478, p=.018). **CONCLUSION:** Results suggest that perceived strength and flexibility can vary among the four menstrual phases and that the presence of symptoms and self-reported strength are correlated. Clinicians, trainers and coaches could consider symptom treatments, injury prevention programs, timing of competitions and appropriate strength training techniques to address perceived strength fluctuations among their female athletes.