Jan 5th, 12:00 AM

05. Physical Education

Northeastern State University

Abstracts from the 2016 Oklahoma Research Day

Held at Northeastern State University

02. Education and Professional Studies

05. Physical Education

02.05.01 Effects of an ACL Prevention Program on Neuromuscular Balance on Female College Soccer Players

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Purpose of this study is to bring public awareness to the amount of ACL injuries among female athletics seeking ways to reduce ACL injuries from occurring. The Anterior Cruciate Ligament, more commonly referred to as the ACL, is located behind the patella and connects the femur to the tibia. Stabilizing the knee joint is the primary function of the ACL. Possible causative factors for the increase in ACL injuries among the female soccer players may be extrinsic body movement, muscular strength, shoe-surface interface, and skill level. Methods: The Balance Error Scoring System Test (BESS) was used to measure neuromuscular balance of 17 female soccer players before and after a six week ACL injury prevention program which consisted of a warm up, specific lower body stretches, directional running, plyometric, core and hamstring strengthening exercises. An analysis of covariance was used to determine the differences between the pre and post results of the Balance Error Scoring System Test. Results: The mean pre-test BESS score was 13.06 (standard deviation of 4.7). The post-test mean score was 11.59 (standard deviation of 4.1). There were no statistical differences between the pre and post test results. Conclusion: Possibly partly due to the length of this study (six weeks), subjects physical conditioning was not improved enough to produce better post-test scores. Key Words: Neuromuscular Coordination, Plyometric, Anterior Cruciate, Ligament, Agility, Balance.

02.05.02 The Effects of an Eight Week Exercise Program on Faculty and Staff Anxiety

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Previous research shows there may be a correlation between the rise in anxiety and the decrease in exercise over the years, and it has been shown that those who exercise regularly are less likely to develop mental disorders. Due to previous research, it has been proposed that exercise is an effective treatment for those with anxiety. The purpose of the present study was to examine if the anxiety level of staff and faculty at a university varied before and after an eight week fitness challenge. A total of 21 faculty and staff members were recruited and participated in a pre and post body composition analysis using the TANITA BF-350 and Hamilton Anxiety Scale. Findings concluded that there was a decrease in anxiety levels after completing the eight week exercise program.