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ORIGINAL RESEARCH

THE RELATIONSHIP BETWEEN CORE ENDURANCE AND BACK DYSFUNCTION IN COLLEGIATE MALE ATHLETES WITH AND WITHOUT NONSPECIFIC LOW BACK PAIN

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ABSTRACT

Background: Physical activity and sports can be associated with low back pain. However, little is known about the relationship between core stability and nonspecific low back pain (LBP) among athletes.

Purpose: The purpose of this study was to investigate the relationship between core endurance and back dysfunction in collegiate male athletes with and without nonspecific LBP.

Methods: Fifty-five male collegiate athletes from a variety of sports were recruited for this study. Their mean age was 21.50 ± (2.54) years, mean weight was 70.96 ± (5.33) kg., and mean height was 174.38 ± (4.37) cm. Thirty athletes with non-specific LBP and twenty five healthy athletes were assessed using McGill's anterior, posterior, and left and right plank core endurance tests (seconds) and for dysfunction using the Micheli functional scale (MFS). Pearson's product moment correlations examined the relationships between core endurance and MFS.

Results: There were significant differences regarding the measured core endurance tests between the healthy athletes group and the nonspecific LBP group ($p < 0.05$). Additionally, good negative ($r = -0.794$) and moderate negative ($r = -0.541$) correlations were found between MFS and trunk extensor and flexor endurance tests, respectively in the group with nonspecific LBP.

Conclusion: The results of this study imply that poor core endurance is likely associated with nonspecific LBP in collegiate athletes. Injury risk reduction and back management programs for the athletic population should include strategies that emphasize endurance of the core muscles especially the trunk extensors and flexors.

Level of Evidence: **2b**

Keywords: collegiate athletes, low back pain, trunk endurance

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