

NO CORRELATION BETWEEN GLUTEUS MEDIUS MUSCLE ACTIVITY, HIP ABDUCTION STRENGTH AND KINEMATIC VARIABLE DURING SINGLE-LEG SQUAT IN YOUNG WOMEN WITH CHRONIC NON-SPECIFIC LOW BACK PAIN

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Afiliação

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Introduction: Chronic non-specific low back pain (CNSLBP) is the leading cause of long-term pain and disability. There is evidence showing a relationship between hip kinematics/function and CNSLBP, especially during associated to hip dysfunctional rotation. However, this association is still controversial considering the range of age described in the current literature. **Objective:** to assess the correlation between lower limb kinematics in the frontal plane, gluteus medius (Gm) strength, and Gm electromyographic activity during a single leg squat test (SLS), in young women with CNSLBP compared to asymptomatic individuals. **Methods:** Fifty two subjects were included in this cross-sectional study (IUNIRArgentina Ethics committee number 24/15): 32 CNSLBP subjects (>6 months of pain; Oswestry index range: 21-40%) and 20 matched subjects in the asymptomatic group. The frontal plane projection angle (FPPA) was measured through photogrammetry between the line from the marker on the tibial tuberosity to center of the patella and the line from the anterior-superior iliac spine to the center of the patella at the frame that corresponded with the point of maximum knee flexion. All subjects performed SLS monitored by surface electromyography (sEMG) of the Gm. Side lying hip abduction strength and Gm activation was measured by a hand-held dynamometer and sEMG, respectively. Normality was assessed by Lilliefors test and correlations through Pearson's coefficient. **Results:** no correlations were found among the Gm strength, the sEMG activity and the FPPA, neither for CNSLBP subjects nor to asymptomatic group. **Conclusion:** Results showed no correlation among CNSLBP, hip kinematic, Gm strength and sEMG in young women. Results and previous contradictory results, which noted differences in a large range of age, suggest segmented results for groups based on age. Further studies should focus on such differences when comparing subjects with CNSLBP.

Key-words: hip, strength, low back pain, physical assessment, electromyography