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Pain and Lumbar Muscle Activation before and after Functional Task in Nonspecific Chronic Low Back Pain

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Abstract : Individuals with non-specific chronic low back pain may present altered movement patterns during functional activities. However, muscle behavior before and after performing a functional task with different load conditions is not yet fully understood. The aim of this study is to analyze lumbar muscle activity before and after performing the functional task of picking up and placing an object on the ground (with and without load) in individuals with nonspecific chronic low back pain. 20 subjects with nonspecific chronic low back pain and 20 healthy subjects participated in this study. A surface electromyography was performed in the ilio-costal, longissimus and multifidus muscles to evaluate lumbar muscle activity before and after performing the functional task of picking up and placing an object on the ground, with and without load. The symptomatic participants had greater lumbar muscle activation compared to the asymptomatic group, more evident in performing the task without load, with statistically significant difference (p = 0,033) between groups for the right multifidus muscle. This study showed that individuals with nonspecific chronic low back pain have higher muscle activation before and after performing a functional task compared to healthy participants.

Keywords : chronic low back pain, functional task, lumbar muscles, muscle activity
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