

Immediate Effect of MET of Quadratus Lumborum on Electrophysiological Activity of Diaphragm in Individuals with Low Back Pain

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ABSTRACT

Introduction: Low Back Pain is common in general population. Quadratus Lumborum is a deep muscle situated in the posterior aspect of abdominal wall lying deep inside the abdomen and dorsal to iliopsoas. It shares its insertion with Diaphragm on 12th rib and is responsible for abnormal habituated breathing patterns if the muscle is affected as it will hamper the descend of the ribs during expiration. Tight/stiff Quadratus Lumborum prevents rib cage from fully expanding to take a deep breath and will pull diaphragm and surrounding tissues. This will affect breathing and lead to faulty breathing pattern and cause faulty breathing habits. A Self Evaluation Breathing Questionnaire (SEBQ) is used to check the presence of breathing dysfunction. A score more than 11 is indicative of the same.

Method: 60 individuals with LBP were screened using Self Evaluation Breathing Questionnaire (SEBQ). 35 individuals with score >11 were included in this experimental study. MET to Quadratus Lumborum was given and outcome measures were assessed pre and post intervention electrically through Surface EMG of Diaphragm and physiologically through Maximum Inspiratory Pressure (P_Imax).

Result: Amplitude, Duration of the motor unit potentials and values of Maximum Inspiratory Pressure (P_Imax) were analysed. A p value less than 0.0005 (**p<0.0005**) was obtained in the pre and post readings of amplitude making it statistically significant with mean difference and SD (difference) of (57.43±134.9), p value of less than 0.682 (p<0.682) was found in duration with Mean difference and SD (difference) (-0.1564±2.241) and p<0.0001 in P_Imax with mean difference and SD (difference) (-7.343±6.082)

Conclusion: There was a significant change in Amplitude and P_Imax after delivering MET to Quadratus Lumborum in individuals with Low Back Pain.

Keywords: MET, Low back pain, Quadratus lumborum

