Neck position accuracy, kinesthesia, kinematic impairment, motor control and pain: A randomized control trial study in patients with upper trapezius muscle trigger point before and after fatigue

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Aim: The aim of this work was to investigate the cervical position sense and Electromyography (EMG) responses of cervical muscles during head reposition movements in students with and without an upper trapezius muscle trigger point.

Method: The evaluations were performed with the patient seated comfortably in a chair with both feet flat on the digital balance, hips and knees flexed at 90°, buttocks positioned against the back of the chair and treated shoulder unclothed. Volunteers were asked to sit on a chair in an upright position with relaxed arms positioned at the sides of their body. The head was kept in the same position as the trunk and the vertebral column. During the test, the subjects were asked to look forward with no cervical and trunk rotation, extension or flexion. Such was the position of the subjects. Different receptors convey each somato sensory information which includes pain, temperature, and tactile sensations as well as conscious proprioception. The position sense test measures the accuracy of position replication and can be conducted actively (active position sense) or passively (passive position sense) in both open and closed kinetic chain positions. Furthermore, it was suggested that the position sense decreased even if the shortening muscle during the position sense measurement involved muscle fatigue. It ensures that the increase in Joint Position Sense (JPS) was really as a result of fatigue. In the absence of fatigue, there could be further improvement or no change in Joint Position Sense (JPS).

Result: The results of the present study showed that the fatigue of Trigger Points (TrPs) significantly improved the Range of Motion (ROM) of the thoracolumbar spine, PPT, and Visual Analogue Scale (VAS) when compared to compression at non-trigger point.

Conclusion: In general, the results of the included studies give an equivocal answer to the question of whether the Joint Position Sense Error (JPSE) is higher in people with cervical spine lesions caused by trauma and/or non-traumatic neck complaints than in controls.

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