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Immediate effects of thoracic spine self-mobilization in patients with mechanical neck pain: A randomized controlled trial

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Abstract

Objectives: To investigate the immediate effects of thoracic spine self-mobilization in patients with mechanical neck pain.

Study design: Randomized, controlled trial.

Background: Thoracic spine self-mobilization is performed after thoracic spine thrust manipulation to augment and maintain its effects. To the best of our knowledge, no study has investigated the effects of thoracic spine self-mobilization alone in individuals with mechanical neck pain. The purpose of this randomized, controlled trial was to evaluate the immediate effects of thoracic spine self-mobilization alone without any other intervention on disability, pain, and cervical range of motion in patients with mechanical neck pain.

Methods: Fifty-two patients (39 females and 13 males) with mechanical neck pain were randomly allocated to either a thoracic spine self-mobilization group that was performing a thoracic spine active flexion and extension activity using two tennis balls fixed by athletic tape or a placebo thoracic spine self-mobilization group. Outcome measures were collected at pre-intervention and immediately after intervention, including the Neck Disability Index, visual analogue scale, and active cervical range of motion (ROM). The immediate effect of the intervention was analyzed using two-way repeated

measures analysis of variance (ANOVA). If interactions were found, a simple main effect test was performed to compare the pre-post intra-group results.

Results: The results of two-way repeated measures ANOVA indicated that the main effect of time was significant ($p < 0.05$) for all measurement outcomes. The main effect of group was not significant for all measurement outcomes ($p > 0.05$). The group \times time interactions for cervical flexion active ROM ($p = 0.005$) and cervical extension active ROM ($p = 0.036$) were significant. The tests of simple main effect in cervical flexion active ROM ($p < 0.0001$) and cervical extension active ROM ($p < 0.0001$) showed a significant difference before and after intervention in the thoracic spine self-mobilization group.

Conclusion: Patients with mechanical neck pain who carried out thoracic spine self-mobilization showed increases in active cervical flexion and extension ROM.

Keywords: Mechanical neck pain; Randomized controlled trial; Range of motion; Thoracic spine self-mobilization.

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