

## An Eight-Week Thoracic Stabilization Exercise Program Improves Postural Back Pain and Spine Alignment of University Students with Back Pain

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**Objectives:** The study aimed to investigate effects of thoracic stabilization exercises on postural back pain, spinal alignment and inclination in university students who had postural back pain.

**Methods:** University students who had minor to moderate postural back pain (18-25 years) were randomly allocated into Exercise (n = 28) and Control (n = 25) Groups. The programs were carried out 8 weeks and 3 days/week. The postural back pain intensity was assessed by Visual Analogue Scale. Spinal alignment and spinal inclination were evaluated with the Spinal Mouse® (Idiag, Fehraltorf, Switzerland). Assessments were applied before (BP) and after program (AP). Wilcoxon and Mann Whitney U tests were utilized.

**Results:** The significant differences were observed for postural back pain (BP: 1.33 (1.16); AP: 0.33 (1.16)), thoracic curvature (BP: 44.50 (11.75); AP: 36.50 (13.25)), lumbar curvature (BP: -29.00 (10.00); AP: -7.00 (19.50)) and spinal inclination (BP: 5.00 (5.25); AP: 0.00 (4.00)) in Exercise Group between BP and AP (p<0.05). No significant differences were observed in Control group for all the parameters (p>0.05). The intergroup comparison showed that postural back pain, thoracic curvature, lumbar curvature and spinal inclination decreased in Exercise Group in comparison to Control Group (p<0.05).

**Conclusion:** The exercise program with eight weeks regular practice was effective on improving postural back pain, spinal alignment and inclination in university students with postural back pain.

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