

## The Effects of Pilates and McKenzie Exercises on Quality of Life and Lumbar Spine Position Sense in Patients with Low Back Pain: A Comparative Study with a 4-Week Follow-Up

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**Abstract :** Non-specific chronic low back pain (NSCLBP) is a common condition with no exact diagnosis and mechanism for its occurrence. Recently, different therapeutic exercises have taken into account to manage NSCLBP. So, the aim of this study has mainly been placed on comparing the effects of Pilates and Mackenzie exercises on quality of life (QOL) lumbar spine position sense (LSPS) in patients with NSCLBP. In this randomized clinical trial, 47 patients with NSCLBP were voluntarily divided into three groups of Pilates (n=16) (with mean age 37.1  $\pm$  9.5 years, height 168.9  $\pm$  7.4 cm, body mass 76.1  $\pm$  5.9 k), McKenzie (n=15) (with mean age 42.7  $\pm$  8.1 years, height 165.7  $\pm$  6.8, body mass 74.1  $\pm$  4.8 kg) and control (n=16) (with mean age 39.3  $\pm$  9.8 years, height 168.1  $\pm$  8.1 cm, body mass 74.2  $\pm$  5.8 kg). Primary outcome included QOL and secondary was LSPS. Both variables were assessed by the WHOQOL-BREF questionnaires and electrogoniometer, respectively. The measurements were performed at baseline, following a 6-week intervention, and after a 4-week follow-up. The ANCOVA test at P  $\leq$  0.05 was administrated to analyze the collected data using SPSS software. There was a statistically significant difference between experimental groups and the control group to improve QOL. But, no difference was seen regarding the effects of two exercises on LSPS (p  $\leq$  0.05). Both Pilates and Mackenzie exercises demonstrated improvement in QOL after 6-week intervention and a 4-week follow-up while none of them considerably affected LSPS. Further studies are required to establish a supporting evidence for the effectiveness of two exercises on NSCLBP.

**Keywords :** pilates, Mackenzie, preconception, low back pain, physical health

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