




Motor Control Approach with and without Whole Body Vibration Affects Pain, Static and Dynamic Balance in Female Nurses with Non-Specific Chronic Low Back Pain: Randomized Clinical Trial

Raziyeh Karimi¹ , Seyed Sadredin Shojaedin² ,
Raghad Mimar³ 

Original Article

Abstract

Introduction: Chronic non-specific low back pain is one of the prevalent musculoskeletal disorders among nurses, which imposes significant burdens on the society. The present research aimed to investigate the effect of motor control approach with and without whole-body vibration on pain, static and dynamic balance of the female nurses with chronic non-specific low back pain.

Materials and Methods: The statistical sample consisted of 75 female nurses with chronic non-specific back pain and with a history of pain for more than three months, who were randomly divided into three groups: the combined group (movement control with whole-body vibration), the movement-control group and the control group. The pain intensity was measured by visual analog scale and static and dynamic balance were measured using the Biodex balance meter. Tests were conducted before and after eight weeks. The Shapiro-wilk test was used to check if the data were normally distributed; parametric ANOVA and non-parametric Kruskal-wallis tests were used if the distribution followed normal one or not respectively.

Results: The research results showed a significant difference ($P < 0.001$) in pain intensity, static and dynamic balance between the combined and movement-control groups and the control group, however, no significant difference ($P > 0.05$) was observed between the combined and movement-control groups.

Conclusion: It seems that exercise improves the symptoms of chronic non-specific back pain in female nurses, and both exercise approaches were equally effective.

Keywords: Chronic non-specific low back pain; Pain; Balance; Nurse

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1- PhD Candidate of Corrective Exercises and Sports Pathology, School of Physical Education, Kharazmi University, Tehran, Iran

2- Associate Professor, Department of Biomechanics and Sports Pathology, School of Physical Education, Kharazmi University, Tehran, Iran

3- Assistant Professor, Department of Biomechanics and Sports Pathology, School of Physical Education, Kharazmi University, Tehran, Iran

Corresponding Author: Seyed Sadredin Shojaedin; A Associate Professor, Department of Biomechanics and Sports Pathology, School of Physical Education, Kharazmi University, Tehran, Iran; Email: shojaeddin@khu.ac.ir