The effect of eight weeks aqua exercise on pain, range of motion and EMG in postmenopausal women With chronic non-specific low back pain

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Low back pain or lumbar spine pain is one of the most common musculoskeletal complications that is observed in middle age and old age in people with inactive lifestyle. The purpose of the present study was to evaluate 8 weeks aquatic exercise training on pain, range of motion and EMG in postmenopausal women with non-specific chronic low back pain. Methods: The present study is a quasi-experimental research with pre and post-test with control group and the research type was applied purpose. The study population consisted of all 105 postmenopausal women with chronic low back pain who referred to a medical clinic in Guilan province September 2018 to June 2019. Twenty postmenopausal women with non-specific chronic low back pain who were voluntarily ed and randomly divided into two experimental (n = 10) and control (n = 10) groups. In both groups, the amount of pain and range of motion of the trunk, as well as the amount of electrical activity of the rectus abdominis, external oblique, longissimus and multifidus muscles were measured before and after an 8-week period. In this course, the experimental group participated in a water based exercise program 3 sessions, 60 minutes, per week, while the control group was only followed. Results: The distribution of variables was normal and the research hypotheses were tested by parametric tests. Pain score of postmenopausal women with non-specific chronic low back pain in the pre-test group was 24.9 6 6.34 which decreased to 24.8 5 5.65 after intervention but this decrease was not statistically significant (780 / 0 = P). Pain score of postmenopausal women with nonspecific chronic low back pain was 26.1 82 5.82 in the pre-test and decreased to 15.60 /10 10.9 in the post-test and this decrease was statistically significant. (P = 0.001). Eight weeks of aquatic exercise training had significant effects on pain, range of motion, EMG of rectus abdominis, external oblique, longissimus and multifidus muscles in

postmenopausal women with nonspecific chronic low back pain. Conclusion: According to the findings of the present study, it can be concluded that aquatic exercise could have a positive effect on pain reduction, increase of range of motion and EMG of postmenopausal women with non-specific chronic low back pain and they can use water based exercises with a trained instructor to improve their health and fitness.

Keywords : Aquatic exercise, Pain rate, Range of motion, Electromyography, Chronic low back pain, Women.