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The comparison effects of 12 weeks treatment of Williams and Pilates exercise on chronic low back pain

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Abstract

The study compared the effects of 12 weeks of treatment for chronic back pain sufferers in man with 40-30 years old that referred to an orthopedic surgeon and specialist clinics in Borujerd in 2014 who chosen randomly and were divided into two experimental groups of 10 subjects (10 treated with Pilates exercises and 10 patients treated with Williams) and a control group of 10 subjects. Using Vas pain questionnaire and using oblique muscle range of motion and flexibility and abdominal muscles power tests before and after treatment were measured. After 12 weeks of Pilates and Williams exercises, Williams exercises group has reduced the amount of pain as well as improving their performance was evident and the strength and flexibility increased significantly in compared of Pilates and the control group. As a result of chronic low back pain Pilates exercises better than Williams to the treatment of men 40-30 years.

Key words: Pilates, Williams, Vas

Introduction

Almost all people have experience with back pain many times during their lives. The pain can be a variety of reasons, including inadequate sudden movement and rotation, lifting heavy objects incorrectly, sitting high and low mobility created. Stress and nervousness is one of the reasons for back pain [7]. Moreover, jobs provide facility for lives, but may bring risks to health. Constant repetition of uniform motion causes body that takes the incorrect shape to do these movements. As a result, abnormal conditions may cause of back muscle pain {4}. In industrial societies problem started about 30 years old and especially the spinal disease with back pain [6]. Due to the change in lifestyle, inactivity and mismatch position with this kind of life generally seen[8]. Doctors recommend their patients to activities that

increase the flexibility of the body, prevent illness and pain including exercise, is effective for this purpose have been developed. Williams exercise can be beneficial to help and often used for correcting spinal abnormalities. Williams believes that the main cause of low back pain, eating the natural curvature of the spine. In other words, he believes that the effect of the causes and factors such as the weakness of the muscles of the abdominal wall, the amount of curvature or arch increased and cause the back pain. Williams also believes that in the effect of muscle weakness in the muscles or flexibility as around the hips and thighs, especially (hamstring muscle) or act in person when the correct pattern of activity does not use the same agent by virtue of being disturbed and joint movements between hip and waist area, and as a result cause the back pain. Therefore, Williams to reduce the curvature or back arch (lordosis), strengthening the muscles of the abdominal region and creating flexibility in the muscles around the hips and buttocks, plans therapeutic movements that called Williams {2}.It is a training method Pilats in 1920 by Joseph Pilats has been investment grade. individual awareness with the pilats relative to the body, which is part of the unconscious and on the effects of the habit tense, with the creation of the expansion and the knowledge of how to record the correct muscles and standing and walking, just sit in the minds of many of the ills in the fix in head, neck, spine, knees and wrists. Williams with training effects the entire Muscles of the body and the pilats work on power (abdominal muscles, hips set, hip, back) muscles and strengthen the body to stay fit and reach sufficient strength.

Research methodology

This study focused on treatment and improving the chronic low back pain, and due to terms of the nature and method research component is a quasi-experimental with pre-test and post-test study. In this clinical trial 30 patients with chronic low back pain with 30-40 years were randomly assigned among orthopedic surgeon's Office in city of Borujerd west of Iran. The subjects were randomly divided into three groups. 20 persons on experimental (n = 10 treatment of pilats and n= 10 treatment with Williams), and n= 10 as a control group that during the 12 weeks 3 time per week and 45 minutes per session (10 minutes of warm up and 25 minutes of therapeutic body movements were used. MRI , manual examination ,questionnaires, Vas pain scale (visual scale Analouge) and measurement of joint angel tools has been used.

Pain intensity (VAS)

The questionnaire pain from 1 to 10 grading the severity of their pain and the patient will be mentioned. 3-1 of mild pain, moderate pain intensity range of 6-4, 10-7 of the pain is severe.

Abdominal muscle strength

Half sit-ups test will measure. The person hold hand cross in chest and try to lift body and half from the ground and hold it for 2 second .finally after one minute number of sit-ups counted.

The flexibility of the abdominal muscles

Samples lay back on desk and slowly move his legs smooth from 0 degree to the end of 90 degree and according to the level of the individual patient's range of motion can be used with the set square meters.

To test the hypothesis, covariance were used to analyze the parametric data and also K.S. has been used. Statistical research data based on independent variables and dependent variables were analyzed using Spss software ver. 21 and output has been achieved through the above test results and analysis of the leasing has been presents.

Findings:

Table 1.The intensity of back pain

Post test Mean±SD	Pre test Mean±SD	Intensity of Back Pain / Groups
1.90±.740	**4.60±1.75**	Williams
3.50±0.71	**5±0.943**	Pilates
5.30±0.82	**4.30±1.252**	**Control**

Table 2. Abdominal muscle strength

Pre test Mean±SD	Pre test Mean±SD	Abdominal strength / Groups
220±.82	**8.4±0.7**	Williams
18±0.82	**7.90±1.2**	Pilates
7±0.82	**7.80±0.92**	**Control**

Table 3. Low back flexibility

Pre test Mean±SD	Pre test Mean±SD	Low Back Pain / Groups
75±8.17	**27±1.76**	Williams
65±8.17	**25.40±1.08**	Pilates
20±8.17	**25.20±0.632**	**Control**

The first hypothesis: The impact of Pilates exercise on chronic low back pain is significantly decreased more than the Williams exercise in men 40-30 years. the level value between Williams and Pilates is 0.000.

The second hypothesis: The impact of Pilates exercise on abdominal muscles strength is significantly increased more than the Williams exercise in men 40-30 years. the level value between Williams and Pilates is 0.000.

A third hypothesis: The impact of Pilates exercise on flexibility of the waist area is significantly increased more than the Williams exercise in men 40-30 years. the level value between Williams and Pilates is 0.000.

Results:

According to research conducted Ghasemi (1391) suggests that chronic non-specific low back pain is one of the obvious reasons to see a doctor and one of the most common causes of absenteeism and health care insurance. It can be concluded that the Pilates method is effective in the treatment of chronic non-specific low back pain and can be very helpful as a supplement so this result same with my study. Hemat Far (1390) in his study showed the effects of hydrotherapy exercises, Williams and a selected correction exercise on the severity of back pain and lumbar lordosis in female students in Borujerd city. During the study, these results were obtained. The therapeutic water exercise reduces back pain and for correction of lumbar lordosis Williams training was affected more. According Rajabi et al,(1389) Pilates exercises on the amount of women hyper lordosis concluded that Pilates exercises has positive effect on hyper lordosis . Aghdaie (1379) The effect of exercise on lumbar lordosis in girls 27- 19 years showed William: William training program to increase power and reduce lordosis, abdominal muscles and back pain effect is statistically significant. Based on the findings, it is recommended to patients with lumbar lordosis William exercise to their patients use it. Wells and colleagues (2013) found that Pilates exercises for reducing pain and disability in patients with low back pain have been

effective. The method is efficient and effective in increasing muscle strength and flexibility. The results of this study show that the rehabilitation program, physical function and facilitates the ability to return to work. Klvicjune (2010) examined the effects of Pilates exercises on the strength of the abdominal muscles, hamstring flexibility, upper body muscle strength, balance and posture . Results showed that the experimental group and the control group increased strength and flexibility. Latuch and colleagues (2008) in their study on the effects of Pilates exercises on patients with chronic low back pain problems discussed And concluded that Pilates exercises can reduce the pain and disability in patients who are aligned with our research.

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