

Annotated Bibliography 2: Pain and Muscle Spasm

Koldas Dogan S, Sonel Tur B, Kurtais Y, Atay MB. Comparison of three different approaches in the treatment of chronic low back pain. *Clin Rheumatol*. 2008;27:873-81.

The problem stated in the article is that low back pain affects 50-80% of adults, which leads to multiple treatments, a decrease in manpower in the workplace and an increase in medical costs. The purpose of the article was to investigate 3 different methods of treating chronic low back pain. Patients used for the study were 60 patients who had been admitted to the outpatient clinic of Physical Medicine and Rehabilitation Department with low back pain exceeding 3 months, who were above the age of 25, were willing to comply with any treatment group and gave written consent. Patients were excluded if they had any herniation of lumbar disks, vertebral fractures, cardiovascular condition, neurological deficit, psychiatric disorder, history of spinal surgery, or pregnancy. Patients were randomized into 3 groups. All 3 groups had to perform a home exercise program consisting of basic trunk flexion and extension exercises along with mobilization and stretching everyday for 6 weeks performing each exercise 15-20 repetitions. Group 1 was the aerobic therapy group that performed treadmill running at 65-70% of their maximum heart rate for 50 minutes 3 times a week for 6 weeks. Group 2 received physical therapy, which included a heat pack for 15 minutes, ultrasound at 1 MHz and 1.5 W/cm² for 10 minutes and transcutaneous electrical nerve stimulation for 15 minutes 3 times a week for 6 weeks. Group 3 just performed the home exercises for 6 weeks. Compliance of home exercises were checked by phone calls and an exercise diary. Assessment was taken before treatment, at 1 month and after 6 weeks. Spinal mobility was assessed with a modified Schober test, pain was assessed with a visual analog scale, disability was assessed by the Roland Morris Disability Questionnaire and the General Health Questionnaire and Beck Depression inventory assessed for general and psychological state of the patients. 5 patients were dropped from the study, 3 from poor compliance with home exercise program, 1 because of vertigo and 1 because a surgery was performed. Aerobic group saw a significant decrease in pain and an improvement in fitness level from the start to the end of treatment. Physical Therapy group saw a significant decrease in pain, depression and an increase in fitness level from baseline to end of treatment. Home exercise group saw a significant decrease in pain and an increase in fitness level from baseline to end of treatment. There was no significant difference between the 3 groups in pain, disability or psychological status at any point during the treatment.

When grading the level of evidence this article was considered a level I using the AAOS, as it was a high quality randomized control trial without a low dropout rate and it found a significant difference. The strength of recommendation of this article was an A using the SORT as the recommendations were consistent with other research and it was a high quality study.

The clinical relevance of this article is that any treatment, whether it is aerobic exercise, physical therapy or home exercises will help reduce low back pain. Since the first 2 groups had home exercise plus another intervention and the results were similar to the group with just home exercise patients should know that home exercise is the key to treating low back pain and it will be the least expensive and easiest to perform. Patients with low back pain should be given a home exercise program to reduce their pain.