Spine

SPINE Volume 36, Number 18, pp 1427–1437

RANDOMIZED TRIAL

Does Maintained Spinal Manipulation Therapy for Chronic Nonspecific Low Back Pain Result in Better Long-Term Outcome?

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Study Design. A prospective single blinded placebo controlled study was conducted.

Objective. To assess the effectiveness of spinal manipulation therapy (SMT) for the management of chronic nonspecific low back pain (LBP) and to determine the effectiveness of maintenance SMT in long-term reduction of pain and disability levels associated with chronic low back conditions after an initial phase of treatments.

Summary of Background Data. SMT is a common treatment option for LBP. Numerous clinical trials have attempted to evaluate its effectiveness for different subgroups of acute and chronic LBP but the efficacy of maintenance SMT in chronic nonspecific LBP has not been studied.

Methods. Sixty patients, with chronic, nonspecific LBP lasting at least 6 months, were randomized to receive either (1) 12 treatments of sham SMT over a 1-month period, (2) 12 treatments, consisting of SMT over a 1-month period, but no treatments for the subsequent 9 months, or (3) 12 treatments over a 1-month period, along with "maintenance spinal manipulation" every 2 weeks for the following 9 months. To determine any difference among therapies, we measured pain and disability scores, generic health status, and back-specific patient satisfaction at baseline and at 1-, 4-, 7-, and 10-month intervals.

Results. Patients in second and third groups experienced significantly lower pain and disability scores than first group at the end of 1-month period ($P = 0.0027$ and 0.0029, respectively). However, only the third group that was given spinal manipulations (SM) during the follow-up period showed more improvement in pain and disability scores at the 10-month evaluation. In the nonmaintained SMT group, however, the mean pain and disability scores returned back near to their pretreatment level.

Conclusion. SMT is effective for the treatment of chronic nonspecific LBP. To obtain long-term benefit, this study suggests maintenance SM after the initial intensive manipulative therapy.

Key words: chronic nonspecific low back pain, effectiveness of maintenance of spinal manipulation, long-term benefit of manipulative therapy, maintained spinal manipulation. **Spine 2011;36:1427–1437**

Low back pain (LBP) is one of the most common musculoskeletal ailment worldwide. It affects up to 80% of the adult population at some point during their lives.[1] A simple and practical classification, divided LBP into three main categories, the so-called "diagnostic triage"[2]: specific spinal pathology, nerve root pain/radicular pain and nonspecific LBP. Chronic LBP is defined as LBP persisting for at least 12 weeks.[3] "Nonspecific" chronic LBP is the LBP that is not attributable to a recognizable, known specific pathology (such as infection, tumor, osteoporosis, fracture, structural deformity, inflammatory disorder, for example, ankylosing spondylitis, radicular syndrome, or cauda equine syndrome). Nonspecific LBP represents about 85% of LBP patients seen in primary care.[4] About 10% will go on to develop chronic, disabling LBP.[5] It is this group of LBP that uses the majority of health care and socioeconomic costs.[6,7]

Many reviews evaluated the role of spinal manipulation (SM) as a treatment of LBP. The majority of these reviews concluded that SM is an efficacious treatment for nonspecific LBP.[8–13] However, most reviews restricted their positive conclusions to patients with acute nonspecific LBP. Some studies suggest that patients with chronic nonspecific LBP are likely to respond to SM.[14] A recent high quality review of literature stated that Cochrane review found SM moderately superior to sham manipulation for chronic LBP.[15] However, research evidence,[16] recognizes that not all patients with LBP should be expected to respond to a manipulation intervention. Thus, the debate whether or not SM constitutes an efficacious treatment continues.[17]

Most of the studies concerned about the therapeutic effects of SM investigated theses effects only for short term. One possible way to reduce the long-term (<6 months) effects of

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Acknowledgment date: November 14, 2009. First revision date: March 10, 2010. Second revision date: May 20, 2010. Third revision date: July 11, 2010. Fourth revision date: July 26, 2010. Acceptance date: July 26, 2010.

The manuscript submitted does not contain information about medical device(s)/drug(s).

No funds were received in support of this work. No benefits in any form have been or will be received from a commercial party related directly or indirectly to the subject of this manuscript.

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DOI: 10.1097/BRS.0b013e3181f5dfe0