**Article Full Title**

The effect of manual therapy and exercise in patients with chronic low back pain: Double blind randomized controlled trial

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**Paper Abstract**

BACKGROUND AND OBJECTIVES: To determine the effects of spinal stabilization exercises (SSE) and manual therapy methods on pain, function and quality of life (QoL) levels in individuals with chronic low back pain (CLBP). METHODS: A total of one-hundred thirteen patients diagnosed as CLBP were enrolled to the study.The patients allocated into Spinal Stabilization group (SG) and manual therapy group (MG), randomly. While SSE performed in SG, soft tissue mobilizations, muscle-energy techniques, joint mobilizations and manipulations were performed in MG. While the severity of pain was assessed with Visual Analog Scale (VAS), Oswestry Disability Index (ODI) and Short Form 36 (SF-36) assessments were performed to evaluate the functional status and QoL, respectively. All assessments were repeated before and after the treatment. Results: Intragroup analyses both treatments were effective in terms of sub parameters of pain, function and life quality (p &lt; 0.05). Inter group analyses, there was more reduction in pain and improvement in functional status in favor of MG (p &lt;0.05). CONCLUSIONS: This study showed that SSE and manual therapy methods have the same effects on QoL, while the manual treatment is more effective on the pain and functional parameters in particular. Keywords: Low back pain, pain, rehabilitation, exercise, quality of life

**NIH Risk of Bias Tool**

Quality Assessment of Controlled Intervention Studies

1. **Was the study described as randomized, a randomized trial, a randomized clinical trial, or an RCT**

Yes

1. **Was the method of randomization adequate (i.e., use of randomly generated assignment)?**

Yes

1. **Was the treatment allocation concealed (so that assignments could not be predicted)?**

Yes

1. **Were study participants and providers blinded to treatment group assignment?**

No

1. **Were the people assessing the outcomes blinded to the participants' group assignments?**

Yes

1. **Were the groups similar at baseline on important characteristics that could affect outcomes (e.g., demographics, risk factors, co-morbid conditions)?**

Yes

1. **Was the overall drop-out rate from the study at endpoint 20% or lower of the number allocated to treatment?**

Yes

1. **Was the differential drop-out rate (between treatment groups) at endpoint 15 percentage points or lower?**

Yes

1. **Was there high adherence to the intervention protocols for each treatment group?**

Yes

1. **Were other interventions avoided or similar in the groups (e.g., similar background treatments)?**

Yes

1. **Were outcomes assessed using valid and reliable measures, implemented consistently across all study participants?**

Yes

1. **Did the authors report that the sample size was sufficiently large to be able to detect a difference in the main outcome between groups with at least 80% power?**

Yes

1. **Were outcomes reported or subgroups analyzed prespecified (i.e., identified before analyses were conducted)?**

No

1. **Were all randomized participants analyzed in the group to which they were originally assigned, i.e., did they use an intention-to-treat analysis?**

Yes

**Key Finding #1**

Exercise and manual therapy can decrease pain and improve function in patients with CLBP (chronic low back pain).

**Key Finding #2**

Manual therapy group produced more significant improvements in severity of pain, functional improvements, and disability measures (e.g: ODI) over exercise group.

**Key Finding #3**

**Key Finding #4**

**Please provide your summary of the paper**

While this study found that exercise and manual therapy both decrease pain, disability, and quality of life in similar ways, manual therapy was found to be more effective in reducing pain and measures of disability.

**Please provide your clinical interpretation of this paper. Include how this study may impact clinical practice and how the results can be implemented.**

While reading the interventions for the exercise group, I feel that the exercises could have been advanced further in the later weeks to make them more functional for ADLs (activities of daily living) but I thought they started off at an appropriate level for patients with CLBP (chronic low back pain), who could get easily irritated in early weeks of the study. It would be interesting to see further research comparing exercise AND manual therapy to manual therapy alone to exercise alone in a similar demographic population of patients with CLBP.