**Article Full Title**

A randomized, controlled trial of manual therapy and specific adjuvant exercise for chronic low back pain

**Author Names**

Geisser, M. E., Wiggert, E. A., Haig, A. J., & Colwell, M. O.

**Reviewer Name**

Jada Holmes, SPT

**Reviewer Affiliations**

Duke University School of Medicine, Doctor of Physical Therapy Division

**Paper Abstract**

Objective: This article examines the effectiveness of manual therapy with specific adjuvant exercise for treating chronic low back pain and disability. Methods: A single blind, randomized, controlled trial was employed. Patients were prescribed an exercise program that was tailored to treat their musculoskeletal dysfunctions or given a nonspecific program of general stretching and aerobic conditioning. In addition, patients received manual therapy or sham manual therapy. Participants were seen for 6 weekly sessions and were asked to perform their exercise program twice daily. Results: Seventy-two out of 100 patients completed the study. Multivariate tests conducted for measures of pain and disability revealed a significant group by time interaction (P = 0.04 and P = 0.05, respectively), indicating differential change in these measures pretreatment to posttreatment as a function of the treatment received. When controlling for pretreatment scores, patients receiving manual therapy with specific adjuvant exercise reported significant reductions in pain. No change in perceived disability was observed, with the exception that patients receiving sham manual therapy with specific adjuvant exercise reported significantly greater disability at posttreatment. Discussion: Manual therapy with specific adjuvant exercise appears to be beneficial in treating chronic low back pain. Despite changes in pain, perceived function did not improve. It is possible that impacting chronic low back pain alone does not address psychosocial or other factors that may contribute to disability. Further studies are needed to examine the long-term effects of these interventions and to address what adjuncts are beneficial in improving function in this population.

**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)?**

No

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?**

No

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?**

Cannot Determine, Not Reported, or Not Applicable

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?**

No

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

Yes

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?**

No

**Key Finding #1**

The results of the present study do not support the notion that manual therapy alone is beneficial in treating chronic LBP.

**Key Finding #2**

The combination of manual therapy and specific adjuvant exercise had the greatest efficacy for treating chronic LBP.

**Key Finding #3**

Further attention should be given to enhancing the effectiveness of manipulation by adding exercise as a part of the intervention.

**Key Finding #4**

The findings of the present study do not support the notion that manual therapy and exercise alone are effective in treating chronic LBP. Multidisciplinary interventions appear the have the greatest efficacy in treating chronic pain.

**Please provide your summary of the paper**

This study shows that patients that received manual therapy with specific exercise displayed significant improvements in pain control, but only the sham manual therapy group with specific exercise saw significant decreases in disability. Further, the result of reduced pain in the study wasn’t found to lead to a change in function. In contrast to the Aure et al study (a similar study), the results of the present study don’t support that manual therapy and specific exercise have a significant impact on level of disability (2003). For future studies, it would be beneficial to examine the dose-response relationship between manual therapy, exercise, and treatment outcome, to see if changing dosage can affect how much a patient’s pain control or disability level can change (improve or decline). Lastly, a limitation of this study is that the outcomes were only measured over a short-term period (roughly 6 weeks) during the study, so long-term outcomes weren’t assessed.

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

The use of manual therapy with specific exercises targeting observed muscular weakness in each individual patient helps improve short-term pain control but doesn’t necessarily change disability in patients with chronic LBP. Therefore, it might provide some short-term relief for patients, but further studies need to be conducted to know if the long-term effects are worth the therapist’s while.