PM&R WILEY

ORIGINAL ARTICLE

The effects of osteopathic manipulative treatment on pain and disability in patients with chronic neck pain: A single-blinded randomized controlled trial

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First published: 31 October 2021 | **https://doi.org/10.1002/pmrj.12732**

Funding information: National Center for Complementary and Integrative Health, Grant/Award Number: U19AT006057

Abstract

Background

Neck pain (NP) affects up to 70% of individuals at some point in their lives. Systematic reviews indicate that manual treatments can be moderately effective in the management of chronic, nonspecific NP. However, there is a paucity of studies specifically evaluating the efficacy of osteopathic manipulative treatment (OMT).

Objective

To evaluate the efficacy of OMT in reducing pain and disability in patients with chronic NP.

Design

Single-blinded, cross-over, randomized-controlled trial.

Setting

University-based, osteopathic manipulative medicine outpatient clinic.

Participants

Ninety-seven participants, 21 to 65 years of age, with chronic, nonspecific NP.

Interventions

Participants were randomized to two trial arms: immediate OMT intervention or waiting period first. The intervention consisted of three to four OMT sessions over 4 to 6 weeks, after which the participants switched groups.

Main Outcome Measures

Primary outcome measures were pain intensity (average and current) on the numerical rating scale and Neck Disability Index. Secondary outcomes included Patient-Reported Outcomes Measurement Information System-29 (PROMIS-29) health domains and Fear Avoidance Beliefs Questionnaire. Outcomes obtained prior to the cross-over allocation were evaluated using general linear models and after adjusting for baseline values.

Results

A total of 38 and 37 participants were available for the analysis in the OMT and waiting period groups,

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Low Pain Catastrophization and

respectively. The results showed significantly better primary outcomes in the immediate OMT group for reductions in average pain (–1.02, 95% confidence interval [CI] –1.72, –0.32; *p* = .005), current pain (–1.02, 95% CI –1.75, –0.30; *p* = .006), disability (–5.30%, 95% CI –9.2%, –1.3%; *p* = .010) and improved secondary outcomes (PROMIS) related to sleep (–3.25, 95% CI –6.95, –1.54; *p* = .003), fatigue (–3.26, 95% CI –6.04, –0.48; *p* = .022), and depression (–2.59, 95% CI –4.73, –0.45; *p* = .018). The effect sizes were in the clinically meaningful range between 0.5 and 1 standard deviation. No study-related serious adverse events were reported.

Conclusions

OMT is relatively safe and effective in reducing pain and disability along with improving sleep, fatigue, and depression in patients with chronic NP immediately following treatment delivered over approximately 4 to 6 weeks.