INPLASY PROTOCOL

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Review Stage at time of this submission: Completed but not published.

Conflicts of interest: None declared.

A Systematic Review and Meta-Analysis of Randomized Controlled Trials of Manipulative Therapy for Patients with Chronic Neck Pain

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Review question / Objective: Manipulative therapy has been increasingly applied to alleviate those who suffer from chronic neck pain. This systematic review and meta-analysis of randomized controlled trials (RCTs) aimed to determine the efficacy of manipulative therapy for chronic neck pain. P: Patients with Chronic Neck Pain. I: Manipulative therapy. C: Exercise, rehabilitation, or other physical therapy. O: Pain intensity and Neck disability. S: Randomized controlled trials.

Condition being studied: Pain in the neck is a disagreeable sensory and emotional experience associated with the potential or actual damage of tissue that affects the cervical region. Pain in the neck that lasts for a long period is a serious problem for public health that causes a lot of pressure. Manipulative therapy is usually considered an alternative treatment option with the advantages of fewer verse effects and lower treatment costs compared to exercise. Therefore, this study retrieved the relevant randomized controlled trials of manipulative therapy in the treatment of chronic neck pain and conducted a comprehensive quantitative analysis to offer an evidence-based reference for the clinical application of manipulative therapy.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 24 November 2022 and was last updated on 24 November 2022 (registration number INPLASY2022110123).

INTRODUCTION

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METHODS

Participant or population: Patients with Chronic Neck Pain.

Intervention: Manipulative therapy.

Comparator: Exercise, rehabilitation, or other physical therapy.

Study designs to be included: Randomized controlled trials.

Eligibility criteria: The study included the following inclusion criteria: (1) All studies conducted on subject experience over three months of chronic neck pain; (2) Manipulative therapy was used as the interference as opposed to exercise, no treatment, usual care, or sham; (3) Only randomized controlled trials; and (4) Neck disability and pain intensity were the main outcomes and assessed by the Numeric Pain Rating Scale (NPRS), or Visual Analog Scale (VAS) and the Neck Disability Index (NDI); (5) Adverse event and medication use served as the secondary outcome measure. If manipulative therapy was not the primary intervention, but rather part of a multimodal approach, the study was excluded.

Information sources: A systematic review of RCTs was performed based on seven electronic databases (PubMed, Embase, Cochrane Library, Medline, CNKI, Wanfang, and SinoMed) from their inception through May 1, 2022. A literature search was created around searching terms for "manipulative therapy" and "neck pain".

Main outcome(s): Neck disability and pain intensity were the main outcomes.

Additional outcome(s): Adverse event and medication use served as the additional outcome measure.

Quality assessment / Risk of bias analysis: The Physiotherapy Evidence Database (PEDro) scale was used to assess each study's methodological quality to assess the methodological quality of each study, the Physiotherapy Evidence Database (PEDro) scale was used. An assessment of the methodological quality of RCTs of physiotherapy interventions is based on the PEDro scale, an eleven-item scale aimed at measuring the methodological quality of these studies.

Strategy of data synthesis: The statistical analysis was done with Review Manager V.5.3 (the Cochrane Collaboration, Oxford, UK). A standardized mean difference (SMD) or mean difference was used to measure continuous outcomes between the experiment and control groups. And the relative risk was evaluated for dichotomous outcomes. On the bases of formulas in the Cochrane Handbook for Systematic Reviews of Interventions, we converted confidence intervals (CIs) and interquartile ranges into standard deviations.

Subgroup analysis: The different types and intervention times of manipulative therapy related to the degree of pain and disability related to the neck were used to stratify the subgroups.

Sensitivity analysis: Sensitivity analysis was conducted by removing the top three highest-weighted studies to examine the reliability and stability of our outcomes.

Country(ies) involved: China.

Keywords: manipulative therapy, chronic neck pain, disability, meta-analysis, complementary and alternative therapy.

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