

Efficacy of Osteopathy Mobilization Techniques in Patients with Non - Specific Neck Pain in Musculoskeletal Disorders

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Abstract: *Aim:* to investigate the efficacy of osteopathy mobilization techniques in non specific neck pain patient. *Methods:* a comprehensive search on pubmed, medline, cochrance, google scholar, *Result:* 16 Studies were include 5 RCT, 2 Comparative study, 1 Case study 1, Litratue reviw. *The result of the review provides evidence that osteopathy mobilization technique will improve non specific neck pain or mechanical neck pain conclusion: the result of this review evidence about osteopathy mobilization technique will improve the neck pain and increases range of motion and neck disability with patient suffering from non specific neck pain*

Keywords: Osteopathy, Osteopathic Manipulative Treatment, Musculoskeletal manipulations, Manual therapy, Disability, Non specific Neck pain

1. Introduction

Non - specific neck pain (NS - NP), a musculoskeletal condition, is characterized by pain between the superior nuchal line and the spinous process of the first thoracic vertebra. Neck pain ranks highly among musculoskeletal disorders causing disability, as noted in the Global Burden of Disease studies, with a global point prevalence of 4.9%. It is estimated that 70% of people will experience neck pain at some stage in their lives. The increasing prevalence of skeletal muscle issues, often linked to occupational habits that require prolonged incorrect postures, is concerning. Symptoms of these musculoskeletal problems can include stiffness, cervical pain, muscle discomfort, tingling in the upper limbs, reduced strength, brachialgia, headaches, and dizziness. To combat these issues, healthcare providers like chiropractors, osteopaths, physiotherapists, and some medical doctors often use spinal manipulation, a manual therapy technique. [2]

Osteopathy Mobilization: Unlocking Healing Potential through Manual Therapy

Osteopathy mobilization, a segment of osteopathic medicine, adopts a holistic and comprehensive healthcare approach. The fundamental principle of osteopathy is based on the concept that the body operates as a unified and integrated system. This intricate web of interconnections extends beyond individual symptoms, recognizing the importance of treating the body as a whole rather than addressing isolated issues. Osteopathic mobilization is a dynamic therapeutic modality that plays a pivotal role in optimizing musculoskeletal health, enhancing bodily functions, and fostering the body's natural healing mechanisms.

Understanding Osteopathy:

Osteopathy, established by Dr. Andrew Taylor Still in the late 19th century, arose from his dissatisfaction with the medical practices of his era. Emphasizing the body's innate capacity for self - regulation and healing, osteopathy focuses on the critical role of the musculoskeletal system in overall

health, positing that imbalances within this system can lead to diverse health issues.

Osteopathy mobilization is grounded in a thorough understanding of anatomy, physiology, and biomechanics. Osteopaths view the body as a dynamic unit, where proper movement and balance are essential for optimal health. The hands - on techniques employed in osteopathic mobilization aim to identify and address restrictions in mobility, tissue tension, and alignment that may impede the body's ability to function optimally.

1.1 Principles of Osteopathic Mobilization:

1) Holistic Assessment:

Osteopathic mobilization begins with a comprehensive assessment of the patient's overall health. Osteopaths consider not only the specific symptoms but also the patient's medical history, lifestyle, and environmental factors. This holistic approach enables practitioners to understand the root causes of health issues and develop targeted treatment plans.

2) Structural Integration:

Central to osteopathy mobilization is the principle of structural integration. Practitioners focus on optimizing the relationship between different body structures, including bones, muscles, ligaments, and fascia. By addressing structural imbalances, osteopathy mobilization seeks to restore harmony and improve the body's ability to function efficiently.

3) Facilitation of Self - Healing:

Osteopathy mobilization embraces the body's innate capacity for self - healing. Through gentle and precise manual techniques, osteopaths aim to facilitate the body's natural mechanisms of repair. This approach not only provides relief from symptoms but also promotes long - term well - being by addressing the underlying causes of dysfunction.

4) Patient - Centered Care:

Osteopathic mobilization emphasizes a patient - centered approach, where the individual actively participates in their healing journey. Osteopaths work collaboratively with patients, educating them about their condition, and involving them in the decision - making process regarding their treatment plan.

5) Manual Techniques in Osteopathy Mobilization:

Osteopathic mobilization employs a diverse range of manual techniques tailored to the specific needs of each patient. These techniques may include soft tissue manipulation, joint mobilization, muscle energy techniques, and myofascial release. The goal is to enhance mobility, reduce pain, and improve overall function.

Applications of Osteopathy Mobilization:

1) Musculoskeletal Conditions:

Osteopathy mobilization is widely recognized for its effectiveness in managing musculoskeletal conditions. It is commonly employed to address issues such as back pain, neck pain, joint stiffness, and sports injuries. By restoring optimal musculoskeletal function, osteopathy mobilization contributes to pain relief and improved mobility.

2) Neurological Disorders:

Osteopathy mobilization can be beneficial in certain neurological disorders by addressing musculoskeletal imbalances that contribute to symptoms. While it may not be a primary treatment for neurological conditions, it can

complement other therapeutic approaches, promoting overall well - being and functional improvement.

3) Visceral Manipulation:

Osteopathic mobilization extends beyond the musculoskeletal system to include visceral manipulation. Practitioners use gentle techniques to assess and address restrictions in the movement of organs. This aspect of osteopathy mobilization is based on the interconnectedness of the musculoskeletal and visceral systems, recognizing their influence on each other.

4) Prenatal and Pediatric Care:

Osteopathy mobilization is embraced in prenatal and pediatric care to support the health and well - being of both expectant mothers and children. Gentle techniques are applied to address musculoskeletal issues, promote optimal fetal positioning, and support the natural development of infants and children.

5) Chronic Pain Management:

Those grappling with chronic pain frequently discover relief through osteopathy mobilization. By pinpointing and tackling the root structural and functional issues contributing to chronic pain, osteopathic practitioners strive to improve the quality of life for individuals enduring ongoing discomfort.

2. Literature Review

S. no	Author	Title	year	Study design	Conclusion
1	Andreia cristina de Oliveira silva et al [1]	In a randomized, double - blind, placebo - controlled pilot study, the impact of Osteopathic Visceral Manipulation on patients with chronic nonspecific neck pain and functional dyspepsia was investigated, focusing on pain levels, cervical range of motion, and upper trapezius muscle activity. " 窗体顶端 窗体底端	2018	A Randomized, double blind, placebo controlled pilot study	This study conclude that osteopathy visceral manipulation reduces cervical pain and increases the amplitude of 7 days treatment in patients with non specific neck pain. placebo visceral mobilization reported as significant decrease in pain on the cervical.
2	Andrea Giacalone [2]	The effect of ostepathy cervical manipulation on the musculoskeletal system	2020	Literature review	This study conclude that significant improvement range of motion in participants with chronic mechanical neck pain
3	Stan metcalfe [3]	Effect of osteopathy manipulation on cervical spine musce strength	2006	A Rabdomized clinical trial	The study revealed greater improvements in neck strength on the weaker side compared to the stronger side. Additionally, it tentatively supports the necessity for segment - and direction - specific manipulative interventions in patients with mechanical neck pain. 窗体顶端 窗体底端
4	Sandro groisman [4]	Combining osteopathic manipulative treatment with exercise enhances pain relief and reduces disability in people with chronic non - specific neck pain. "	2019	Apragmatic randomized controlled trail	The study conclude The correlation between osteopathic mobilization therapy (OMT) combined with exercises demonstrates a greater reduction in pain and improved functional disability compared to the impact of exercise alone for individuals experiencing non - specific chronic neck pain.
5	Gary whelana [5]	The immediate effect of osteopathic cervical spine mobilization on median nerve mechanosensitivity	2017	A tripple blind, randomized, placebocontrolled trail	an overall increase in ROM was observed in control and sham groups, albeit to varying degrees. In light of these findings, future studies should consider exploring the impact of placebo effects, cognitive factors, and other psycho - physiological changes that may arise due to the provocative nature of the intervention. Understanding these nuances will contribute to a more comprehensive

					assessment of the outcomes associated with unilateral passive cervical mobilization.
6	Fulvio dal farra	Effectiveness of osteopathic interventions in chronic non-specific low back pain	2020	A systematic review and meta analysis	The results provide additional support for the effectiveness of osteopathy in reducing pain levels and enhancing functional status in patients with NS - CLBP. Myofascial release (MFR) demonstrated a superior level of evidence for pain reduction compared to other interventions. Further high - quality randomized controlled trials (RCTs), comparing various osteopathic modalities, are recommended to generate stronger evidence.
7	Yasir rehaman	Osteopathic Manual Treatment for Pain Severity, Functional Improvement, and Return to Work in Patients With Chronic Pain	2020	A Randomised control trials	This represents the most exhaustive review conducted to date, characterized by methodological rigor, assessing the efficacy of osteopathic manipulative therapy (OMTh) in chronic non - cancer pain (CNCP). Our results substantiate that OMTh, whether administered independently or in conjunction with exercise, proves effective in alleviating pain, reducing disability, and enhancing overall quality of life. Additionally, specific OMTh techniques are demonstrated to be more efficacious in these outcomes.
8	Paul Posadzki	Osteopathy for musculoskeletal pain patient	2010	A systematic review of randomised controlled trails	The effectiveness of osteopathy for MSP lacks comprehensive documentation. This contrasts with a review; however, this review and meta - analysis are compromised by a high risk of bias for several reasons. Firstly, four out of six studies included in the review and meta - analysis found no difference between OMT and controls. Secondly, it lacks a critical evaluation of the methodology and validity of the primary studies included.
9	Jonathan Daniil Telles	Transcutaneous electrical nerve stimulation and cervical joint manipulation on pressure pain threshold	2018	Double blind randomised clinical controlled trail	The a study to assess the immediate impacts of cervical, cervicothoracic, and thoracic joint manipulations on self - reported pain and pressure pain threshold in individuals with experimentally induced shoulder pain. The manipulations were administered 24 hours after pain induction. Results indicated that cervical, cervicothoracic, and thoracic joint manipulations led to an acute increase in PPT among the participants. However, a lack of a control group to account for the passage of time on experimental pain was noted. Previous research has demonstrated that spinal manipulation can reduce pain sensitivity, as assessed by quantitative sensory testing, in healthy individuals
10	Perry R Sloop	Manipulation for chronic neck pain	1982	A double blind controlled study	This study says that significant improvement in their chronic neck pain had manipulation.
11	Renata salvatori	Case study: Utilizing thoracic spine thrust manipulation for neck pain and headaches in a patient post multiple - level anterior cervical discectomy and fusion.	2014	Case study	Clinical reasoning based on evidence led to the decision to integrate manual therapy techniques, such as thoracic spine thrust manipulation, into the physical therapy management of this patient post anterior cervical discectomy and fusion (ACDF) Incorporating evidence - based practice principles, which encompass prior research involving nonsurgical patient populations, patient preferences for intervention, and clinical reasoning emphasizing effective communication to positively influence patient treatment expectations.
12	Gary Fryer	The effect of osteopathic treatment on people with chronic and sub chronic neck pain.	2005	Pilot study	During a 4 - week treatment period, osteopathic intervention demonstrated a notable reduction in both the quality and intensity of neck pain. Interestingly, the duration of the subjects' symptoms did not seem to impact their progress throughout the treatment. This preliminary study implies that osteopathic treatment holds promise for effectively managing sub - chronic and chronic neck pain. Subsequent research should consider employing a larger sample size, incorporating a control group, and extending the observation period to assess long - term improvements.
13	Groisman, Sandro	Combining osteopathic manipulative treatment with exercises enhances both pain relief and reduction of disability in individuals experiencing non -	2019	A pragmatic randomised controlled trails.	The outcomes of this randomized controlled trial revealed that the integration of Osteopathic Manipulative Treatment with exercise surpasses the efficacy of exercise alone in alleviating pain, reducing disability, and enhancing rotational mobility in the neck. Additionally,

		specific neck pain. 窗体顶端 窗体底端			the results offer supporting evidence that individuals without specific chronic neck pain may benefit from a combined approach involving osteopathic manipulative treatment and exercises.
14	Ghulam, Hussain saleh	Efficacy of cervical mobilization with post - isometric relaxation in managing mechanical neck pain, ROM, and functional limitations associated with myofascial trigger points	2023	Double blinded, 2 arm parallel group randomized comparatiive design	This investigation demonstrated that the amalgamation of cervical mobilization and the post - isometric relaxation technique resulted in a notable decrease in pain intensity and functional limitations, contrasting with the outcomes of post - isometric relaxation alone, in individuals experiencing mechanical neck pain associated with myofascial trigger points. However, with the exception of the pain pressure threshold measured at week 3 post - intervention, no substantial differences were observed between the groups in terms of cervical side flexion range of motion and pain pressure threshold. These findings contribute valuable evidence to support the use of combined manual therapy interventions for managing neck pain triggered by myofascial issues. Nonetheless, further research is warranted to explore the long - term effects, optimal treatment protocols, and underlying mechanisms of such interventions.
15	Raquel Martinez segura	Immediate change in widespread pressure pain sensitivity, neck pain and cervical range of motion after cervical or thoracic thrust manipulation in patient with bilateral chronic mechanical neck pain,	2012	A randomized clinical trail	The findings of this randomized clinical trial suggest that both cervical and thoracic spine thrust manipulations result in similar changes in pain pressure threshold (PPT), neck pain intensity, and cervical range of motion (CROM) in individuals with bilateral chronic mechanical neck pain. However, the noted alterations in PPT. and CROM were marginal and did not exceed the Minimum Detectable Change (MDC) values published for these outcome measures. Since all three groups exhibited similar changes, and no control group was incorporated in the study, the possibility of a placebo effect cannot be ruled out.
16	E. J. Thoomes	Effectiveness of manual therapy for cervical radiculopathy, a review	2016	Literature review	The effectiveness of manual therapy in patients with CR lacks substantial evidence, as nearly all interventions have been investigated only once, and in some cases, within studies of low quality. Only two manual therapy interventions have undergone repeated examination, and these were part of multimodal interventions. It is evident that a pressing requirement exists for multiple high - quality studies to offer evidence - based guidance to both patients and healthcare providers regarding management choices for CR.

3. Study Design

Search Method and Eligibility criteria

An extensive literature search was done, the search engines used were PubMed, google scholar, Medline and Pedro based on the available study there is an improvement of non specific neck pain by osteopathy mobilization techniques. Keywords used are osteopathy manipulation, mobilization manual therapy non specific neck pain. The article focusing on improving the disability, ROM in non specific neck pain through osteopathy mobilization techniques are only included in the study and the article which were not published in the English language were excluded.

Sample size

A Sample size of 35 articles were searched with the keywords of non specific neck pain, manual therapy, mobilization, osteopathy. Out of these articles, paper

obeying the inclusion and exclusion criteria are filtered and finally, 16 articles were obtained for the review.

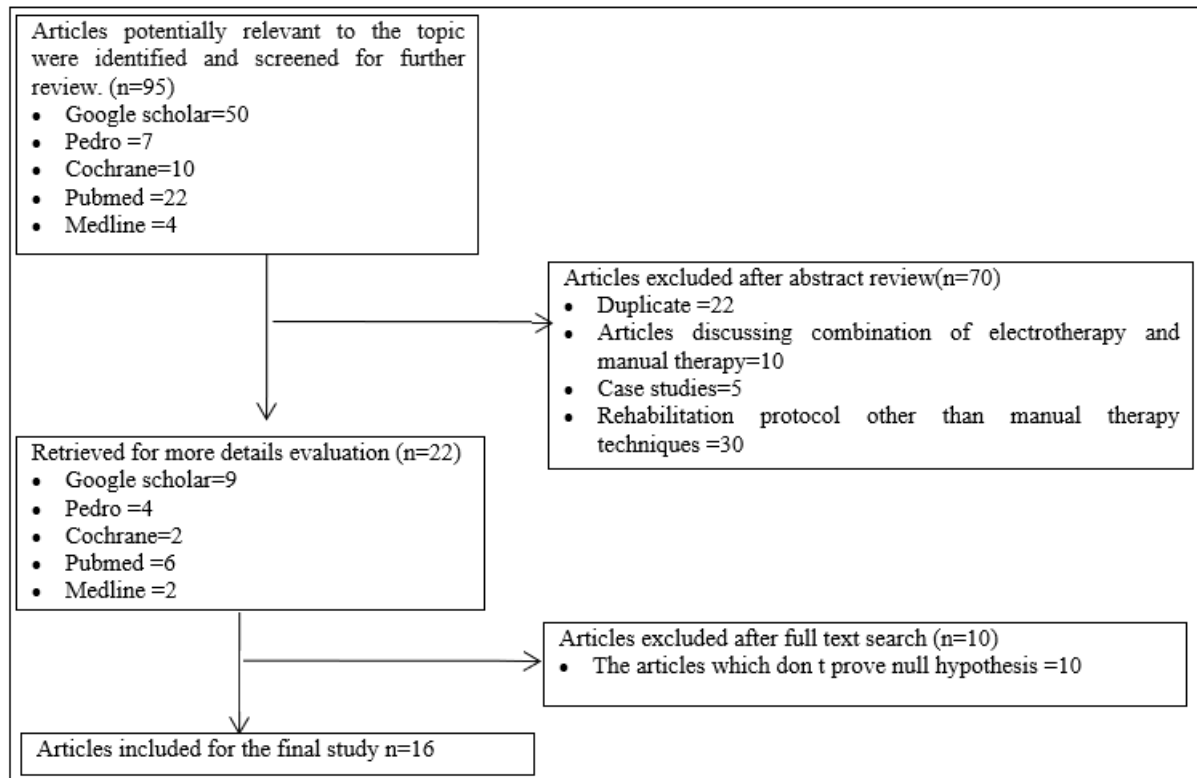
Inclusion criteria

- Articles explaining osteopathy mobilization techniques were included
- Articles published in recent years
- Full - text articles
- Articles published in English.

Exclusion criteria

- Articles are past 2005
- Articles explaining other than non specific neck pain were excluded.
- Articles discussed other than osteopathy mobilization techniques were excluded.

4. Methodology



5. Discussion

This study sought to assess the effectiveness of manual therapy interventions for patients with CR in comparison to other conservative treatments, placebo interventions, or a wait - and - see strategy. The overall quality of evidence for any intervention remains low, largely because of the small number of studies and their frequently poor quality, which obstructs the ability to draw definitive conclusions.

Insufficient evidence exists for individual interventions or combinations thereof. Despite the scarcity of conducted studies, it appears that multimodal management strategies generally exhibit greater effectiveness than unimodal interventions. Various reviews and guidelines also concur that a multimodal approach, involving spinal and neurodynamic mobilization along with specific exercises, represents a more efficacious conservative treatment for CR patients.

The preference for a multimodal approach is consistent with recent studies highlighting the efficacy of conservative treatments for various musculoskeletal disorders. Furthermore, it mirrors the modern integration of all health aspects within physiotherapy practice, as outlined in the International Classification of Functioning, Disability, and Health. (ICF). [16]

After 4 to 6 treatment sessions, the manipulation of the cervical spine—particularly emphasizing Gonstead techniques, high - speed low - amplitude (HVLA), and full - scanning—proved effective in providing pain relief for individuals with mechanical neck pain. Haavik et al. (2012) demonstrated that manipulation may alleviate pain by influencing cortical plasticity, thereby affecting motor control.

Additionally, Bronfort et al. (2001) found that combining manipulation with stretching and isometric strengthening yielded superior outcomes compared to manipulation alone. This combined approach resulted in improved disability levels and increased neck range of motion, indicating its efficacy in enhancing overall quality of life. [17]

In addition to alleviating pain, cervical manipulation facilitates the patient's return to daily activities by enhancing functional ability. Employing cervical manipulation for treating mechanical neck pain, disability, and restricted range of motion yields favorable outcomes, notably reducing pain symptoms and enhancing neck mobility.

6. Conclusion

Joint manipulation has proven effective in treating mechanical neck pain, significantly reducing pain and improving range of motion. However, given the variety of manipulative techniques available, further research is urgently needed to optimize treatment strategies for mechanical neck pain.

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