



Knowledge and Attitude towards Chronic Musculoskeletal Pain Treated with Osteopathy

**Yahya Abdullah Mohammed Al-Shareef^{1*#},
Ali Abdullah Mohammed Alshareef^{2†} and Ibrahim Mohammed Almoftery^{3‡}**

¹Independent Researcher, Saudi Arabia.

²Aseer Central Hospital, Abha, Saudi Arabia.

³Musculoskeletal Oncology, Aseer Central Hospital, Abha, Saudi Arabia.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i48B33275

Editor(s):

(1) Dr. P. Veera Muthumari, V.V.Vanniaperumal College for Women, India.

Reviewers:

(1) Kastanis Grigorios, General Hospital of Heraklion, Greece.

(2) Vivek Joshi, Drexel University School of Medicine, USA.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/73632>

Received 20 August 2021

Accepted 26 October 2021

Published 10 November 2021

Systematic Review Article

ABSTRACT

Background: Chronic pain is a common clinical feature that accompanies osteopathy. Knowledge and attitudes of both patients and their treating clinicians would influence the patients' outcomes and pain control.

Objective: This systematic review will provide an understanding of the knowledge and attitudes of patients and clinicians towards musculoskeletal pain accompanying osteopathy.

Methods: Different keywords were used to search the medical literature, including: "knowledge" OR "Attitude" AND "Osteopathy" AND "Pain" AND "patient" OR "clinician." The search databases included Medline, Embase PubMed, and SCOPUS. The following step was reviewing the appearing results to ensure that they were original research articles that examined the knowledge and attitudes about chronic musculoskeletal pain with osteopathy. All the eligible studies should mention the type of participants examined (either patients or clinicians).

Results: A total of 89 studies were obtained. After removing review articles and choosing original research studies solely, 11 studies appeared from the filtration process. Eight research articles were eligible. All the included studies had a quantitative cross-sectional design. Only health care

#Internship Doctor

†Orthopedic Resident

‡Consultant Orthopedic Surgeon

*Corresponding author: E-mail: Alshareefyahya1@gmail.com;

professionals were asked about osteopathy, where all the studies included osteopaths from different countries, except one study that included physiotherapists. Osteopaths knew about the benefits of osteopathy, particularly for lower back pain; however, their knowledge about biopsychosocial factors requires improvement.

Conclusion: Knowledge about osteopathy benefits for controlling chronic musculoskeletal pain should be improved even among osteopaths. Awareness campaigns are also needed for patients in orthopedic and physiotherapy clinics about osteopathy.

Keywords: Knowledge; attitude; chronic pain; musculoskeletal; osteopathy.

1. INTRODUCTION

Chronic pain is regarded as a common condition that challenges physiotherapists and orthopedics [1]. Managing chronic pain necessitates an understanding of different contributors that affect chronic pain sensation in osteopathy patients. This is particularly crucial for musculoskeletal pain [2]. The prevalence of chronic pain is relatively high, with more than five million patients suffer from chronic pain annually in Europe, with an estimation of 28 million patients living with chronic pain [3].

Osteopathic techniques can play a pivotal role in reducing chronic musculoskeletal pain [4]. It has a particular benefit in pain associated with the low back. However, the knowledge of patients about the availability of osteopathic techniques and the attitudes and perceptions of clinicians towards using these techniques could significantly influence the use of osteopathy [5]. Osteopathy can also supplement the effect of medication, as biochemical explanations may not always be sufficient to explain the etiology of chronic pain [6].

There are multiple factors to consider with the assessment of Musculoskeletal chronic pain and the potential benefit from osteopathy [7]. Some socio-economic as well as psychological factors, would influence the perceptions of patients towards chronic pain [8]. However, improving patients' knowledge about chronic pain and their options to control pain would improve their experience [9, 10].

There have been some proposals that clinicians who have positive attitudes towards using osteopathy to treat chronic pain through osteopathy have their patients with better clinical outcomes and more extended pain-free periods, compared to patients on pharmacological treatment solely. However, these data are still debatable and require further exploration [11].

Accordingly, this systematic review will understand what patients and clinicians know

and how they behave towards chronic musculoskeletal chronic pain managed with osteopathy.

2. REVIEW

2.1 Methodology

This systematic review adhered to the PRISMA checklist forms for systematic review and meta-analysis [12]. This systematic review was done via reviewing electronic databases to select the eligible research studies between 2011 and 2021 through four databases: Medline, Embase, PubMed, and SCOPUS.

2.2 Search Strategy

The keywords used were: "knowledge" OR "Attitude" AND "Osteopathy" AND "Pain" AND "patient" OR "clinician". All the titles and abstracts resulting from this primary evaluation were assessed thoroughly to avoid losing any eligible research articles. The results were then evaluated to select only original research studies which examined the knowledge and attitudes about chronic musculoskeletal pain with osteopathy. All the included studies should mention the type of participants examined (either patients or clinicians). Only articles in English were considered studies of possible inclusion, which were then included in the second stage.

2.3 Eligibility Criteria

The following stage was identifying the inclusion criteria to select the eligible research articles. Abstracts were assessed manually to identify all the articles that can be included to be further reviewed. We set inclusion criteria which comprised a mentioning of the participants' population (patients or clinicians) as well as studies published during the last decade. The final stage was gathering the pre-defined extracted data from the pre-formed excel sheet to collect data from eligible articles and arrange them. Reviews and articles that contained

missing or overlapped data were removed. Besides, unavailable full-text articles or poor study designs were removed. The full description of the search strategy is shown in Fig. 1.

2.4 Data Review and Analysis

The initial stage in the data review process was a fundamental review that used a pre-formed excel sheet to gather information. The selected information from eligible research studies was then revised via the excel sheet. In the case of multiple research studies designed by one research group assessing similar variables, an evaluation for duplication possibility was carried out.

3. RESULTS

After evaluating all abstracts and assessing them against the inclusion criteria to detect the

abstracts for inclusion, eight research articles were eligible to be included [13-20]. All the included studies had a quantitative cross-sectional design, where surveys were used to evaluate the knowledge and attitudes towards osteopathy for chronic musculoskeletal pain.

Only health care professionals were asked about osteopathy, where all the studies included osteopaths from different countries, except one study that included physiotherapists [14]. It has been shown that osteopaths knew about the benefits of osteopathy for chronic musculoskeletal pain, particularly for lower back pain; however, their knowledge about biopsychosocial factors requires improvement. It has also been shown that patients' demographics could affect their acceptance to being treated by osteopathy to control their pain but at a minimal level, as detailed in Table 1.

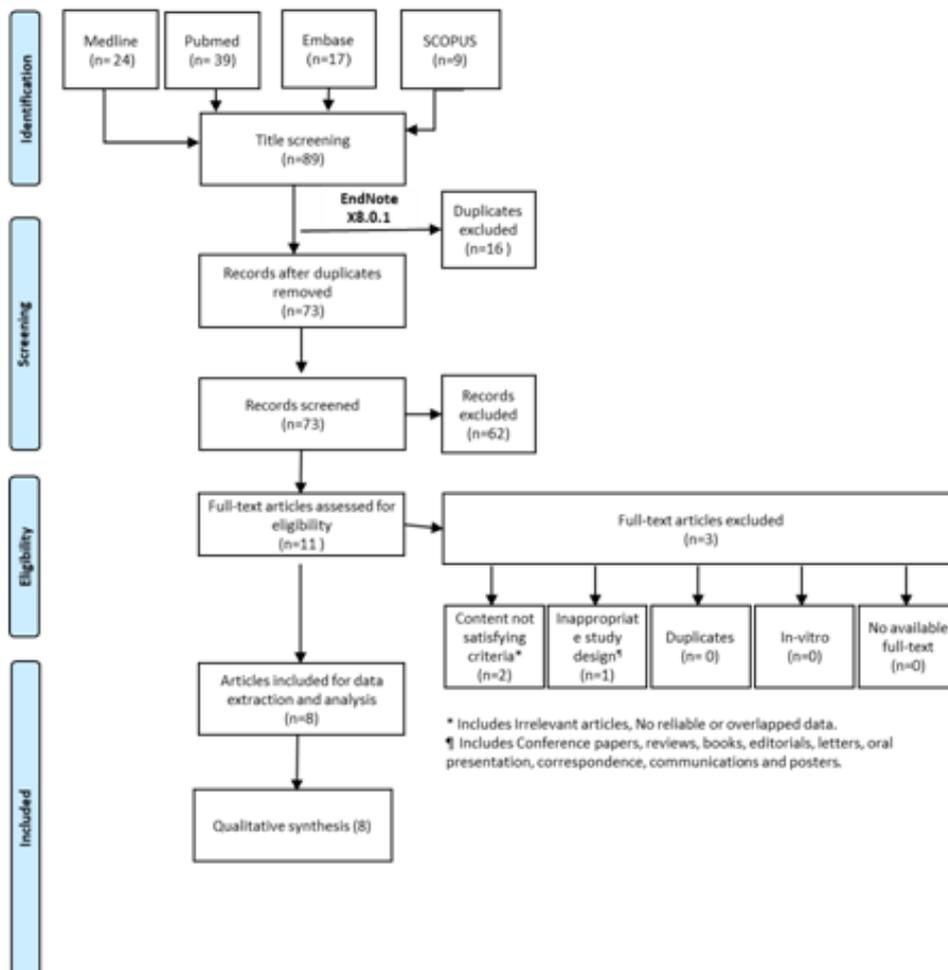


Fig. 1. Full description of the search strategy

Table 1. Shows included trials

Author(s)	Year	Study design	Sample size	Patients/clinicians	Objective	Result
Van Biesen et al. [13]	2020	questionnaire.	70	osteopaths'	To evaluate the attitudes of osteopaths towards using osteopathy to reduce chronic pain associated with chronic lower back pain.	The attitudes and knowledge of Spanish osteopaths were non-significantly different from other healthcare professionals towards using osteopathy. A quarter of the responders feared using osteopathy because of misconception, which influenced their management strategies.
Benny et al. [14]	2020	questionnaire	99	physiotherapists'	To understand the attitudes and knowledge of musculoskeletal physiotherapists practicing in Canada towards osteopathy for chronic lower back pain.	Physiotherapists in public practice had a stronger osteopathy knowledge than those in private practice ($p = 0.01$). Less experienced physiotherapists (<10 y) had higher osteopathy knowledge than more experienced physiotherapists ($p = 0.013$), and three-quarters of physiotherapists were aware of the clinical practice guidelines. Future studies should explore the impact of improving knowledge about osteopathy on managing chronic lower back pain.
Abrosimoff et al. [15]	2020	qualitative study	17	osteopaths'	To evaluate the attitude of osteopaths' for their use of osteopathy to treat lower back pain with the challenges facing its use.	The responders thought that osteopathy could improve a patient's experience of pain. They had good knowledge about factors causing chronic pain and how to manage these factors. However, there was great

Author(s)	Year	Study design	Sample size	Patients/clinicians	Objective	Result
						uncertainty about this treatment strategy, and physicians do not get enough training on osteopathy at their early career stages.
Fitzgerald et al. [16]	2020	questionnaire.	211	osteopaths	To assess Australian osteopaths' knowledge about the acceptance of osteopathy by patients as a treatment strategy for chronic pain.	Osteopaths believed that patients need psychological support besides osteopathy and that behaviors of patients towards osteopathy can be affected by demographic factors at a minimal level. They also thought that patients with lower back pain may need more treatment sessions than other patients. Osteopaths who had higher studies and certification in pain management had significantly higher knowledge about osteopathy ($p < 0.01$).
Bar-Zaccay et al. [17]	2018	cross-sectional survey	107	osteopaths	To assess the attitudes and beliefs of osteopaths towards the management of low back pain (LBP) using osteopathy	Osteopaths' believe in the benefits of osteopathy for controlling pain with LBP, but some were doubtful if the biopsychosocial model can help their decision-making regarding pain control. Future studies should investigate the impact of osteopaths' beliefs on their clinical management of LBP
Formica et al. [18]	2018	qualitative study	11	osteopaths	Italian osteopaths' attitudes and beliefs towards chronic pain treatment.	Osteopaths displayed a more excellent orientation towards the benefit of osteopathy for chronic pain. Osteopaths had poor knowledge about the

Author(s)	Year	Study design	Sample size	Patients/clinicians	Objective	Result
						biopsychosocial model, which constitutes an integral part of the osteopathy treatment strategy. Osteopaths also lacked knowledge about how to evaluate psychosocial risk factors for chronic musculoskeletal pain evaluation.
Macdonald et al. [19]	2018	cross-sectional questionnaire	216	osteopaths	To evaluate knowledge and attitudes of UK osteopaths towards chronic pain and the management of chronic musculoskeletal pain patients through osteopathy.	Osteopaths in the UK did not have significantly higher knowledge about the biopsychosocial strategies for the management of chronic pain patients compared to other healthcare professionals. Psychosocial factors of the patients' pain experience can be improved. Osteopaths need further training on osteopathy benefits in chronic pain patients, particularly the biopsychosocial approach.
Morin et al. [20]	2014	survey	277	osteopaths	to examine the opinions of osteopaths about patients' factors affecting osteopathy consultations for the management of chronic musculoskeletal pain.	Musculoskeletal pain located in the spine, thorax, pelvis, and limbs was the most common reason for patients seeking osteopath's consultation among more than half of the patients. Females seeking osteopathy were significantly higher than males.

Table 2. Methodological quality of studies on medical diagnostic agreement and accuracy, triaging agreement of potential orthopaedic surgical candidates or clinical recommendations between physiotherapists in advanced practice physiotherapy and physicians

Study	MacKay et al. 2009	O'Donoghue and Hurley-Osing 2007	Dickens et al. 2003	Moore, J. H. 2005	Trompeter et al. 2010	Aiken and McColl 2008	Aiken et al. 2008
Item Evaluation Criteria (maximum = 1; minimum = 0)*							
1. Independent, blind comparison with a reference standard test	1	1	1	0	0	1	1
2. Reference standard/true diagnosis selected is a recognized gold standard or reasonable alternative	1	1	1	1	1	1	1
3. Reference standard applied to all patients	1	0	0	1	1	0	0
4. Actual cases include an appropriate spectrum of severity	1	1	1	1	1	1	0
5. Non-cases patients are patients who might reasonably present for differential diagnosis	1	1	1	1	1	1	1
6. Non-cases include an appropriate spectrum of patients with alternate diagnoses	1	1	1	1	1	1	0
7. Justified sample size or not less than 40 participants	0	1	1	1	0	0	0
8. Test manoeuvre described in sufficient detail to permit replication	1	1	1	1	1	0	0
9. Exact criteria for interpreting the test results provided	0	0	0	0	0	0	N/A
10. The reliability of the test procedures documented	0	1	0	0	0	0	N/A
11. Number of positive and negative results reported for both cases and non-cases	1	0	0	0	0	1	1
12. Appropriate statistics presented (sensitivity, specificity, positive/negative predictive value or likelihood ratios)	0	0	1	0	0	0	0
13. The qualifications and skills of the examiner described if the test required an element of examiner interpretation	1	1	1	1	1	0	0
14. Training, skills and experience of the examiner found to be appropriate for test interpretation	1	1	1	1	1	0	0
Total score (%)	71%	71%	71%	64%	57%	42%	33%
Rank	1	1	1	2	3	4	5

1- *1 indicates that criterion was fulfilled and 0 indicates that criterion was not fulfilled or not reported.

2- N/A=not applicable to paper. Scores obtained after consensus

4. DISCUSSION

Patients with chronic musculoskeletal pain usually have an impaired quality of life and reduced productivity [16]. There are different methods for chronic pain; an effective approach is the use of osteopathy, particularly for chronic low back pain, though, evidence on its efficacy is still controversial for all patients with chronic pain [17]. Furthermore, knowledge and attitudes of patients and clinicians towards osteopathy for chronic musculoskeletal pain is unclear [7].

The present review examined the medical literature to identify the knowledge and attitudes of patients and clinicians from different specialities towards osteopathy. It has been shown that knowledge and attitudes of patients are understudied, and they were only examined from a clinicians' point of view. Additionally, only osteopaths and physiotherapists were considered.

The present review demonstrated that osteopaths and physiotherapists had inadequate knowledge and attitude about osteopathy, especially the biopsychosocial aspect of the strategy. It has been also revealed that female patients and those with lower back pain are the most common to seek medical advice for treating their chronic musculoskeletal pain with osteopathy. Also, socio-demographic factors of patients might have minimal influence on the decision to apply osteopathy strategies to control their chronic pain.

Interest in understanding the knowledge and attitudes towards osteopathy has dramatically increased in the past five years, as shown in this review. Four studies examined the knowledge and behaviours of osteopaths and physiotherapists during the last year [13-16]. Also, questionnaires were found the most used method for understanding the knowledge and attitudes about osteopathy.

Chronic low back pain was the most common cause for chronic musculoskeletal pain which required osteopathy. Van Biesen et al. [13] showed that Spanish osteopaths knowledge and attitudes about osteopathy for treatment of chronic low back pain did not differ significantly from other medical professionals. While Van Biesen et al. [13] highlighted that osteopaths may fear using osteopathy for controlling their patients pain due to limited evidence on its use [13].

On the contrary, Benny et al. [14] showed that the knowledge and attitudes of osteopathy for chronic low back pain could vary based on the professional characters of the physiotherapists. Less experienced and physiotherapists working in public institutions had significantly higher knowledge compared to their peers (p -value <0.05). Benny et al. [14] also endorsed more studies to find associations between improving knowledge and improved patients outcomes in terms of pain control. These findings came compliant to the findings from Abrosimoff et al. [15] which involved osteopaths rather than physiotherapists.

Moreover, Fitzgerald et al. [16] highlighted that patients need psychological support in addition to the osteopathic strategy, and that demographic variations among patients may affect their attitude and acceptance for osteopathy. Two additions for Fitzgerald et al. [16] was that patients with low back pain would need more osteopathy sessions, and that patients with pain control certification were significantly more aware of osteopathy (p -value <0.01).

Insufficient knowledge about biopsychosocial strategies for osteopathy were identified among Italian osteopaths by Formica et al. [18] and among UK osteopaths by Macdonald et al. [19]. Also, Morin et al. [20] demonstrated patients with the best attitudes towards osteopathy, including females, patients with musculoskeletal pain in thorax, spine, limbs and pelvis [20].

However, this review is limited by some obstacles. All the included studies used a quantitative design using surveys. Responses to surveys usually depend on the subjective opinion of the responders, which can affect the reliability of the assessed knowledge level. Other objective methods would be endorsed for future studies.

5. CONCLUSION

Knowledge and attitudes of healthcare professionals, including physiotherapists and osteopaths, about osteopathy use for controlling chronic musculoskeletal pain should be improved through early training programs and courses starting from medical schools. Awareness campaigns and patient education sessions are also needed for patients who suffer from chronic musculoskeletal pain in orthopedic and physiotherapy clinics. Future studies should investigate the correlation between knowledge and attitudes towards osteopathy with patients outcomes.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Bill AS, Dubois J, Pasquier J, Burnand B, Rodondi PY. Osteopathy in the French-speaking part of Switzerland: Practitioners' profile and scope of back pain management. *PloS one*. 2020; 15(5):e0232607.
2. Thomson OP, Petty NJ, Moore AP. A qualitative grounded theory study of the conceptions of clinical practice in osteopathy—a continuum from technical rationality to professional artistry. *Manual therapy*. 2014;19(1):37-43.
3. Bordoni B. The benefits and limitations of evidence-based practice in osteopathy. *Cureus*. 2019;11(11).
4. Vaughan B, Grant M, Moroz J, Ngawaka C, Mulcahy J. Self-management behaviour and knowledge of patients with musculoskeletal complaints attending an Australian osteopathy clinic: A consecutive sampling design. *International Journal of Osteopathic Medicine*. 2020; 37:3-9.
5. Thomson OP, Petty NJ, Moore AP. Reconsidering the patient-centeredness of osteopathy. *International Journal of Osteopathic Medicine*. 2013 Mar 1;16(1):25-32.
6. Dubois J, Scala E, Faouzi M, Decosterd I, Burnand B, Rodondi PY. Chronic low back pain patients' use of, level of knowledge of and perceived benefits of complementary medicine: A cross-sectional study at an academic pain center. *BMC complementary and alternative medicine*. 2017;17(1):1-8.
7. Fitzgerald K, Devonshire E, Vaughan B. Pain Knowledge, Attitudes and Beliefs of Allied Health Learners Across Three Curricular Models. *Health Professions Education*. 2020;6(4):552-63.
8. Smith D. Reflecting on new models for osteopathy—it's time for change. *International Journal of Osteopathic Medicine*. 2019;31:15-20.
9. Rajendran D, Bright P, Bettles S, Carnes D, Mullinger B. What puts the adverse in 'adverse events'? Patients' perceptions of post-treatment experiences in osteopathy—a qualitative study using focus groups. *Manual therapy*. 2012;17(4):305-11.
10. D'alessandro G, Cerritelli F, Cortelli P. Sensitization and interoception as key neurological concepts in osteopathy and other manual medicines. *Frontiers in neuroscience*. 2016;10:100.
11. Thomson OP, Petty NJ, Moore AP. Clinical decision-making and therapeutic approaches in osteopathy—a qualitative grounded theory study. *Manual therapy*. 2014;19(1):44-51.
12. Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ioannidis JP, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *PLoS medicine*. 2009;6(7):e1000100.
13. Van Biesen T, Alvarez G. Beliefs about chronic low back pain amongst osteopaths registered in Spain: A cross-sectional survey. *International Journal of Osteopathic Medicine*. 2020;36:3-10.
14. Benny E, Evans C. Ontario Musculoskeletal Physiotherapists' Attitudes toward and Beliefs about Managing Chronic Low Back Pain. *Physiotherapy Canada*. 2020;72(4):355-63.
15. Abrosimoff M, Rajendran D. 'Tell me your story'-How osteopaths apply the BPS model when managing low back pain-A qualitative study. *International Journal of Osteopathic Medicine*. 2020;35: 13-21.
16. Fitzgerald K, Vaughan B, Fleischmann M, Austin P. Pain knowledge, attitudes and beliefs of Australian osteopaths drawn from a nationally representative sample of the profession. *Journal of Bodywork and Movement Therapies*. 2020;24(4):43-50.
17. Bar-Zaccay A, Bailey D. The attitudes and beliefs of UK osteopaths towards the management of low back pain: A cross-sectional study. *International Journal of Osteopathic Medicine*. 2018; 28:42-7.

18. Formica A, Thomson OP, Esteves JE. 'I just don't have the tools'-Italian osteopaths' attitudes and beliefs about the management of patients with chronic pain: a qualitative study. *International Journal of Osteopathic Medicine*. 2018;27:6-13.
19. Macdonald RJ, Vaucher P, Esteves JE. The beliefs and attitudes of UK registered osteopaths towards chronic pain and the management of chronic pain sufferers-A cross-sectional questionnaire based survey. *International Journal of Osteopathic Medicine*. 2018;30:3-11.
20. Morin C, Aubin A. Primary reasons for osteopathic consultation: a prospective survey in Quebec. *PloS One*. 2014;9(9): e106259.

© 2021 Al-Shareef et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<https://www.sdiarticle4.com/review-history/73632>