INIOST Study Report 2024

A bibliometric overview of osteopathic studies published worldwide in 2024

Helge Franke

The Institute for Osteopathic Studies (INIOST) maintains the osteopathic database OSTLIB (ostlib.de). As in previous years, osteopathic studies were evaluated according to various criteria for the year 2024. A selection is presented in the following overview

Table 1: Studies by study design N=386

Number	Study design
66 Studies	Case study
63 Studies	Cross-sectional study
36 Studies	Rand. controlled study
26 Studies	Systematic review
25 Studies	Observation study
25 Studies	Pretest-Posttest Design
23 Studies	Qualitative study
22 Studies	Retrospective study
14 Studies	Meta-analysis
14 studies**	Narrative Review
13 Studies	Cohort study
12 Studies	Mixed-method study
10 Studies	Clinical study
7 Studies	Scoping Review
6 Studies	Descriptive study
6 Studies	Contr.-clinical study
5 Studies	Case-control study
4 Studies	Animal study
2 Studies	Long-term study
2 Studies	Case series
2 Studies	Bibliometric study
1 study each	Crossover study, Exploratory study, Cochrane Review

Table 2 Selected research areas osteopathic studies (multiple answers possible)

Number	Field of Research
122 Studies	Musculoskeletal system
51 Studies	Nervous system
32 Studies	Pediatrics
31 Studies	Post surgery
25 Studies	Gynecology, childbirth
22 Studies	Cardiovascular system
22 Studies	Psychiatry, psychosocial
15 Studies	Digestive system
13 Studies	Headache
13 Studies	Geriatrics
13 Studies	Head, teeth
12 Studies	Ears, nose, teeth, tongue
11 Studies	Respiratory system
9 Studies	Sport
7 Studies	Injuries
6 Studies	Skin
5 Studies	Immune system
5 Studies	Sleep, sleep disorders
5 Studies	Drugs, addiction
4 Studies	Oncology
4 Studies	Eyes, vision
4 Studies	Endocrine system
3 Studies	Urological system
2 Studies	Trauma
1 Study	Sexuality

In 2024, 495 articles and studies* on osteopathy were produced worldwide. Of the 495 contributions, 109 were articles, interviews, letters to the editor, editorials, book reviews, corrections, announcements and reports without a recognizable study design. These contributions were not included in the following analysis. Of the remaining 386 studies, 287 were published in scientific journals. 99 studies were not published. Of these, 11 were MSc and DO theses, 1 was a PhD thesis and 1 was an abstract, 3 were conference abstracts and 83 were poster presentations.
The overview is therefore based on 386 studies. Of these studies, 3 were pilot studies and 12 were protocols.

Table 3: Studies according to superior areas (multiple answers possible)	
Number	**Field**
228 Studies	Therapy
94 Studies	Education
55 Studies	Profession / practice
37 Studies	Diagnosis
28 Studies	Basic research
13 Studies	Research
9 Studies	Sports
2 Study	History

As in the previous year, case studies (N=66) and cross-sectional studies (N=63) were the most frequently selected study design. Randomized controlled trials were found in 36 publications. There is a noticeable shift towards non-strictly quantitative studies. Qualitative studies, descriptive studies and mixed-method studies were found 41 times in journals, compared to 18 studies in 2023.

Table 4: Studies by country N=386	
Number	**Country**
216 Studies	USA
35 Studies	Russia
22 Studies	Germany
20 Studies	Italy
13 Studies	Australia
11 Studies	Great Britain
10 Studies	Spain
7 Studies	Turkey
7 Studies	Switzerland
7 Studies	France
5 Studies	Poland
5 Studies	India
5 Studies	Brazil
4 Studies	Canada
4 Studies	Iran
3 Studies	New Zealand
2 studies each	Austria, China, Portugal,
1 study each	Belgium, Greece, Colombia, Singapore, Netherlands, Egypt

With 35% of the studies (N=129), more studies than ever before focused on the musculoskeletal system, 8% (N=30) of the studies were in the field of pediatrics, and just over 11% (N=43) concerned the nervous system (Table 2). More than twice as many studies as in 2022 dealt with psychological aspects (N=11) and the field of accompanying support after surgery was also surprisingly well represented with 17 studies. This also applies to the field of geriatrics, which increased from one study in 2022 to 8 studies last year. Around two-thirds of all studies are still conducted in the therapeutic area. The majority of studies on the training of osteopaths (N=94) come from the US with its established training system. In addition, studies are particularly concerned with the professional concerns of osteopaths (N=55) and the field of diagnostics (N=37) (Table 3).

As in previous years, the US accounted for the largest proportion of scientific papers with 56% (N= 216).*** Russia was represented by the Russian Osteopathic Journal with 35 studies. Germany followed directly behind with 22 studies and Italy with 20. Australia doubled its share of studies with 13, as did Spain with 10 studies, while the UK published 11 studies, as it did last year. European countries such as the Netherlands and Greece only published 1 study each, while Iran alone is represented with 4 studies. It is noteworthy that no studies were published from Scandinavia (Table 4).

Table 5: Publications in osteopathic journals of N= 287	
Number	**Journal**
36 Studies	International Journal of Osteopathic Medicine
33 Studies	Journal of Osteopathic Medicine
33 Studies	Russian Osteopathic Journal
15 Studies	Osteopathische Medizin
10 Studies	The AAO Journal
3 Studies	Osteopathic Family Physician
1 Study	DO – Zeitschrift für Osteopathie

In 2024, 178 of 287 published studies were published in open access. This is a about 10% more than in previous years. Accordingly, 62% were downloadable free of charge from the journals' websites. The osteopathic studies from 2024 were published in 86 different journals, which is 20 more than in the previous year. Of 287 studies, 131 appeared in osteopathic journals; this is around 46% and thus 11% less than in the previous year. Of the non-osteopathic journals, the open access journal Cureus published the most osteopathic studies, as in previous years. With 46 studies, Cureus published more studies than any other osteopathic journal for the first time. Tables 5 and 6 show the most frequent publications in osteopathic and non-osteopathic journals.

Table 6: Most frequent publications in non-osteopathic journals from N=287

Number	Journal
46 Studies	Cureus
7 Studies	Journal of Bodywork and Movement Therapies
6 Studies	Healthcare
5 Studies	BMC Medical Education,
3 Studies	Journal of Manual & Manipulative Therapy

15 studies were published in the journal "Osteopathische Medizin". There was 1 study in the "DO - Zeitschrift für osteopathische Medizin". This means that in 2024 5.6% of all published osteopathic studies were published in Germany.

Comment:

A quarter of osteopathic studies in 2024 were not published (N=99). Although this is considerably less than the 45% from last year (N=170), it is still far too many. The publication process has become more demanding and complicated due to the peer review process. Publishers expect the finished manuscript and a high level of willingness to implement the reviewers' suggestions for changes. Professional associations worldwide should therefore discuss whether publication incentives and support measures could help to simplify the publication process for authors.

For the first time, more studies on osteopathy were published in non-osteopathic journals than in osteopathic journals in 2024. The online journal Cureus surpassed every other journal with 46 publications. The large number of publications in non-osteopathic journals shows that osteopathy has become mainstream and that publishers of specialist journals are interested in publishing studies. This is encouraging, even if it means that osteopathic journals have to increase their efforts to obtain articles due to competition.

As in the previous year, this study report also shows that research efforts in the European countries in which osteopathy is regulated are far too low. In the 12 countries*** (Cyprus, Denmark, Finland, France, Iceland, Liechtenstein, Luxembourg, Malta, Norway, Portugal, Switzerland and the UK), only 27 research projects were carried out (25 last year). In 8 out of 12 countries, no studies on osteopathy were completed. This is a completely unacceptable situation that urgently needs to be changed.

When looking at osteopathic research activity worldwide, it is noticeable that it is very unevenly distributed. In 5 countries (USA, Russia, Germany, Italy and Australia), 81% of all scientific work is produced with 306 studies. If the UK and Spain are also included, this figure rises to 84% with 327 studies.

Today, every profession is required to provide evidence of the effectiveness of its therapeutic approach. Osteopaths are not exempt from this obligation. Proof of therapy is provided by controlled clinical studies; other forms of study are not able to do this. Randomized controlled trials (RCTs) have the highest value in this area. Figure 1 shows the number of randomized studies in the field of therapy over the last 10 years. While 17 RCTs were conducted in 2015, there were 69 scientific studies in 2022. In the last two years, the number has decreased again, halving to 34 studies in 2024. This is not a good development. A look at the meta-analyses published last year shows just how problematic the study situation is in the area of therapeutic efficacy. Meta-analyses are systematic reviews of (often) randomized controlled trials. The RCTs are statistically evaluated and, where possible, the results are summarized as if it were a single large study. In the evidence pyramid, the hierarchical structure of study value, meta-analyses are at the top. In 2024, 8 meta-analyses dealt with the therapeutic efficacy of osteopathic treatment (see Table 7). Craniosacral osteopathy was rated extremely poorly by 3 meta-analyses. In a further study, no difference was found for neck and back pain compared to a placebo or sham treatment. Advantages of osteopathic treatment were found as a complementary therapy after bypass surgery, in the neurophysiological effect on heart rate variability, patellofemoral pain syndrome and as a complementary therapy in post-operative care. However, here too, the authors explicitly point out that the results are subject to great uncertainty and that more studies are needed to reach a firm conclusion.

Fig. 1

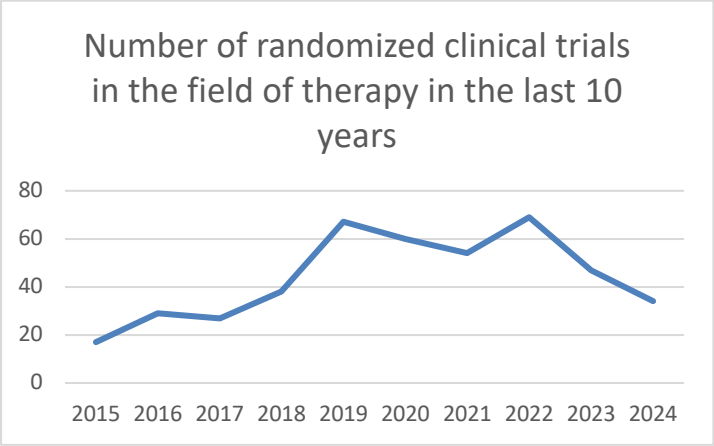

Table 7: Overview of published meta-analyses in the field of therapy in 2024.

Is Osteopathic Manipulative Treatment Clinically Superior to Sham or Placebo for Patients with Neck or Low-Back Pain? A Systematic Review with Meta-Analysis. Diseases, 2024. 12(11).
Ceballos-Laita, L.;Jiménez-Del-Barrio, S.;Carrasco-Uribarren, A.;Medrano-de-la-Fuente, R.;Robles-Pérez, R.; Ernst,E
Conclusions: “The findings of this study reveal that OMT is not superior to sham or placebo for improving pain, disability, and quality of life in patients with NP or LBP”.

Effectiveness of osteopathic craniosacral techniques: a meta-analysis. Frontiers in Medicine, 2024. 11:p. 1452465.
Amendolara, A.;Sheppert, A.;Powers, R.;Payne, A.;Stacey, S.;Sant, D.
Conclusions: “CST demonstrated no significant effects in this meta-analysis, indicating a lack of usefulness in patient care for any of the studied indications.”
Effectiveness of Osteopathic Manipulative Treatment on Hemodynamic and Pulmonary Response in Coronary Artery Bypass Graft Patients: A Meta-Analysis. Cureus, 2024. 16(8): p. e67968.
McGonegal, C.;Bhatti, S.;Carrasquillo, J.;Potesta, M. A.;Kavulich, J.;Toldi, J.
Conclusion: "... Moreover, it has demonstrated enhancement in maximal aerobic and vital capacity. This study suggests that the addition of osteopathic management to post-bypass standards can ultimately prevent certain morbidities associated with this specific patient population.”

The Neurophysiological Effects of Craniosacral Treatment on Heart Rate Variability: A Systematic Review of Literature and Meta-Analysis. Cureus, 2024. 16(7): p. 64807.
Cook, A. C.;Egli, A. E.;Cohen, N. E.;Bernardi, K.;Chae, M. Y.;Kapalko, B. A.;Coyne, S. A.;Scott, R.
Conclusion: " We conclude that CST does provide a moderate short-term increase in parasympathetic activity. These findings suggest that CST may be used to treat patients with an overactive sympathetic state. Further studies should be conducted for comparison against a control group to eliminate the possibility of a placebo effect and to elucidate long-term effects”.

Efficacy of Osteopathic Manipulative Treatment for Pain Reduction in Patients With Patellofemoral Pain Syndrome: A Meta-Analysis of Randomized Controlled Trials. Cureus, 2024. 16(5): p. e59439.
Delgadillo, B. E.;Bui, A.;Debski, A. M.;Miller, B.;Wu, S. S.
Conclusion: " Given the lack of definitive treatment and the poor long-term prognosis for PFPS, the authors suggest OMT provides an effective option for pain relief in patients with PFPS. Further research is needed to provide results that may be more clinically applicable or valuably interpreted.”

The Effects of Osteopathic Manipulative Treatment (OMT) on Postoperative Length of Stay: A Meta-Analysis. Cureus, 2024. 16(5): p. e59983.
Henwood, L.;Le Donne, M. E.;Vaughn, A.;Kamil, S.;Harrington, A.;Scott, R.
Conclusion: " The substantial heterogeneity observed (heterogeneity tau(2) = 6.75, chi(2) = 34.6, df = 4, P < 0.00001, I(2) = 88%) suggests that clinical dissimilarities among the five studies may have resulted in our inconclusive findings. While OMT shows promise in postoperative care, further research with standardized protocols and more homogenous patient populations is needed to assess its true impact.”

Is Craniosacral Therapy Effective? A Systematic Review and Meta-Analysis. Healthcare, 2024. 12(6): p. 679.
Ceballos-Laita, L.;Ernst, E.;Carrasco-Uribarren, A.;Cabanillas-Barea, S.;Esteban-Pérez, J.;Jiménez-del-Barrio, S.
Conclusion: " The qualitative and quantitative synthesis of the evidence suggest that CST produces no benefits in any of the musculoskeletal or non-musculoskeletal conditions assessed. Two RCTs suggested statistically significant benefits of CST in children. However, both studies are seriously flawed, and their findings are thus likely to be false positive.”

Clinical Effectiveness of Craniosacral Therapy in Patients with Headache Disorders: A Systematic Review and Meta-analysis, Pain Management Nursing, 2024. 25(1): p. E21-28.
Carrasco-Uribarren, A.;Mamud-Meroni, L.;Tarcaya, G. E.;Jiménez-Del-Barrio, S.;Cabanillas-Barea, S.;Ceballos-Laita, L.
Conclusion: "Very low certainty of evidence suggests that craniosacral therapy produces clinically unimportant effects on pain intensity, whereas no significant effects were observed in disability or headache effect.”

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*There may be slight deviations in the number of studies. On the one hand because previously unknown unpublished papers are discovered and bibliographed, and on the other hand because studies that are put online before the journal is published are initially recorded at this time, but are assigned to this date when the journal is published. If these two dates are in different years, there will be shifts over the year.

** In most cases, studies can be easily distinguished from articles, but in some cases the distinction between articles and narrative reviews is difficult and not always clear. Narrative reviews were classified as studies, although this assessment can be seen as controversial, as narrative reviews allow a clearly subjective selection of studies in comparison to systematic reviews.

*** The study is attributed to the country of the first author. If the following authors have a different nationality, this will not be taken into account.

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