Chiropractic spinal manipulation treatment for back pain: a systematic review of randomised clinical trials
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CRD summary
This review evaluated the effectiveness of chiropractic spinal manipulation for back pain. The authors concluded that the notion that chiropractic spinal manipulation, compared with other treatments, is an effective therapy for lower back pain is not supported by the data available. Overall this was a well-conducted review, and the authors’ conclusions and suggestion for further research seem appropriate and reliable.

Authors' objectives
To evaluate the effectiveness of chiropractic spinal manipulation (CSM) for back pain.

Searching
MEDLINE, EMBASE, CISCOM, AMED and the Cochrane Library were searched from inception to the end of 2002, with no language restrictions; the search terms were reported. The bibliographies of an ongoing Cochrane Review and the retrieved studies, and the authors’ personal files, were also searched. Experts in the field were contacted.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) were eligible for inclusion. All of the included studies were of a parallel design.

Specific interventions included in the review
Studies of CSM, defined as spinal manipulation performed by a chiropractor, were eligible for inclusion. Studies of manual manipulation by other professionals were excluded, as were trials of mobilisation or other manual techniques. Trials comparing two forms of spinal manipulation or mobilisation were also excluded. The interventions evaluated in the included studies were short lever manipulations, spinal adjustments, and chiropractic adjustments or care. The comparators included sham manipulation, drugs or bedrest, medical treatment, back school, transcutaneous electric nerve stimulation, corset, education, physiotherapy, acupuncture, epidural steroid injection and no treatment.

Participants included in the review
Studies of people with any type of lower back pain were eligible for inclusion. People with chronic and acute back pain were represented in the included studies, as were those with uncomplicated back pain and sciatica.

Outcomes assessed in the review
Studies reporting any clinical outcome were eligible for inclusion. Patient satisfaction was not included as a primary end point. The outcomes reported in the included studies were pain, function, improvement, Oswestry scores, Neck Disability Index, endorphin levels, joint mobility, bothersomeness of the symptoms, Roland disability scale, healthcare utilisation and direct costs.

How were decisions on the relevance of primary studies made?
The authors did not state how the decision to retrieve full papers was made. Two reviewers independently read the full papers. It was not stated how any disagreements were resolved.

Assessment of study quality
The quality of the included studies was assessed using the Jadad scale, with studies given a rating of 0 to 5. The authors stated that further aspects of methodology and validity were considered, although details were not provided. Two reviewers assessed study quality, although it was not stated whether this was done independently.
Data extraction
Two reviewers independently extracted the data. It was not stated how any disagreements were resolved.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative.

How were differences between studies investigated?
Details of the studies and results were tabulated, and differences were discussed in the text.

Results of the review
Twelve RCTs were included in the review (the number of participants was in excess of 1,960, as one study did not report the sample size).

One study scored 5 on the Jadad scale, five scored 3, four scored 2, and two scored 0. Of the 14 publications derived from 12 trials, six reported a greater degree of benefit from CSM compared with controls. However, several of these studies were methodologically poor. Seven publications reported no difference, and one publication reported that CSM gave less benefit than back school. All 4 studies that used sham manipulation as the control reported a greater improvement in pain with CSM. There was no evidence to suggest that one type of lower back pain (acute or chronic) may respond better than another.

Cost information
A single study reported the mean direct cost per patient after 2 years. This was $429 for CSM, $437 for physiotherapy, and $153 for an educational booklet.

Authors' conclusions
The notion that CSM is an effective therapy for lower back pain of any type was not supported by the majority of the data available.

CRD commentary
The review question and inclusion criteria were clearly stated. Several electronic databases were searched with no language restrictions, and experts in the field were contacted. While this reduces the possibility of language and publication bias, the authors did not investigate publication bias. Efforts were made to reduce error and bias by performing the study selection (at least at the second stage), validity assessment and data extraction processes in duplicate. Details of the studies were clearly presented and the decision to synthesise the studies in a narrative was appropriate, particularly considering the wide range of comparators used in the included studies. The authors' conclusions and suggestion for further research seem appropriate and reliable.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors suggested further research into CSM, as the treatment was popular but was associated with risks of which the frequency of occurrence was unknown. The authors went on to suggest that trials should include a sufficiently large sample size, have an adequate follow-up period, and be conducted in a well-defined patient group. Studies evaluating the specific therapeutic effects should use sham CSM with adequate patient blinding, define outcome measures clearly, and include an economic evaluation.

Bibliographic details

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.