Acupuncture for the pain management of osteoarthritis of the knee
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CRD summary
This review concluded that the use of acupuncture in the treatment of pain in osteoarthritis of the knee is an effective therapy, with few reported minor adverse events. The authors did not assess study quality, they failed to report details of the review process and they did not synthesise the results of studies. Their conclusions may not, therefore, be reliable.

Authors’ objectives
To assess the use of acupuncture in the treatment of osteoarthritis (OA) of the knee.

Searching
MEDLINE, CINAHL and Alt-Med (from 1977 to 2003) and the Cochrane CENTRAL Register were searched; the search terms were reported. The authors did not state whether they applied any language restrictions to their search strategy.

Study selection
Study designs of evaluations included in the review
Controlled trials were eligible for inclusion in the review.

Specific interventions included in the review
The authors stated that studies in which patients were either treated with traditional Chinese medicine acupuncture, or acupuncture exclusively to one or both knees, compared with sham acupuncture (use of non-meridian point) or no acupuncture were eligible for inclusion. Studies that used electrical stimulation, bee venom therapy, moxibustion therapy, heat lamp, or cupping with the acupuncture treatments were not eligible for inclusion. Where stated, the included studies had a treatment duration of between 3 and 49 weeks, with the number of treatments ranging from 6 to 9. The actual treatment time ranged from 15 to 30 minutes. The training level of the acupuncturist, where stated, was physical therapist, medical acupuncturist and an acupuncturist with 10 years' experience.

Participants included in the review
Studies of patients with OA were eligible for inclusion in the review.

Outcomes assessed in the review
The authors did not state any inclusion criteria relating to the outcomes. The actual outcome measures used were a visual analogue scale (VAS) pain score, the Hospital for Special Surgery (HSS) Knee Score, knee range of motion, Ahlbach's Classification (an evaluation of the degree of X-ray changes), 50-metre walk time, 20-step climb time, the McGill pain questionnaire, the Western Ontario and McMaster Universities OA Index (a health status instrument that measures clinically important patient-relevant outcomes), pain at four sites of the knee (using a pain threshold meter that applies and measures force in kg/cm2) and a review of analgesic use.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. The authors extracted data on the outcome measures used, the number of participants, the interventions and the results of the studies.

Methods of synthesis
How were the studies combined?
The studies were described separately in the 'Results' section of the review; the results were not combined.

How were differences between studies investigated?
Statistical heterogeneity was not assessed. The authors stated that the included studies varied in study design, outcome measures, needle technique, and practitioner education and experience.

Results of the review
Five controlled trials, with a total of 205 patients, were included in the review.

Effectiveness of acupuncture.

One study reported an 85% subjective improvement in 36 of 42 knees in their study of 29 patients. There was also a statistically significant improvement in HSS knee function score over 3 weeks. Of the 19 knees that had the best immediate effect, only six showed long-term effects.

One study reported that 80% of the patients experienced pain relief at week 16 and 56% of patients indicated subjective improvement. The long-term results indicated that acupuncture continued to deliver a reduction in pain, an increase in quality of life, and a reduction in the use of non-steroidal anti-inflammatory drugs. However, 26 of the 32 patients dropped out before the end of the 49-week study period.

A randomised controlled trial (RCT) reported statistically significant decreases in pain, stiffness and functional indexes in both the control (sham acupuncture using treatment points approximately 1 inch away from the real acupuncture points) and treatment groups. However, there was no significant difference between the groups. Patients who experienced 'The-Chi', a sensation of numbness and pressure created by the acupuncture needles, reported better results than those who did not, and men reported better results than women.

An RCT that randomised patients to either unilateral (in the most painful knee) or bilateral acupuncture treatment found that both interventions were equally effective in reducing pain and increasing functional loss associated with OA of the knee. At the 6-month follow-up there was no significant difference in pain.

Another RCT with a 'no treatment' group found significant improvements in the treatment group, compared with the control group, for HSS Knee Score, VAS pain score, 50-metre walk time and 20-step climb time.

Side-effects.

In one study three patients reported mild effects such as increased pain, nausea or dizziness, as well as more serious effects of a large haematoma that disappeared in 14 days and a vasovagal attack. In another trial three patients reported minor bruising at the needle insertion points. Beneficial side-effects, including improved backache, better sleep and improvement in circulation, were reported in the same trial.

Authors' conclusions
The use of acupuncture in the treatment of pain in OA of the knee is an effective therapy, with few reported minor adverse events. The authors stated that despite the differences in the included studies, and the need for larger long-term studies, significant reductions in pain and improvements in quality of life were demonstrated.

CRD commentary
The review question was clear in terms of the study designs, participants and interventions of interest, but the outcomes of interest were not specified. The authors searched four relevant electronic databases. However, they did not state whether any language restrictions were applied to their search strategy, and they made no attempt to identify unpublished research; the possibility of language bias and publication bias cannot, therefore, be excluded. The authors do not appear to have assessed the quality of the included studies. The methods used to identify studies for the review and to extract the data from the included studies were not described, thus the potential for reviewer bias or error cannot be assessed.

Details of the studies were tabulated and discussed in the 'Results' section, but no details of the included patients were provided, other than the number of patients in each study. The interventions and outcome measures used were described in sufficient detail. The authors made no attempt to synthesise the results of the included studies. In view of the potential sources of bias (mentioned above), the authors’ conclusions should not be regarded as reliable.

**Implications of the review for practice and research**

Practice: The authors stated that acupuncture could prove to be an appropriately safe and efficacious referral option before or after analgesics or pain medications are prescribed.

Research: The authors stated that considerations for future research might include comparisons of acupuncture treatment with non-steroidal anti-inflammatory drugs, diathermy, transcutaneous nerve stimulation and exercise.

**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.