Efficacy of acupuncture for the treatment of fibromyalgia: systematic review and meta-analysis of randomized trials

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CRD summary
The review found no evidence of any benefits of acupuncture compared with placebo or sham acupuncture treatments for patients with fibromyalgia. Methodological shortcomings and lack of information about the included studies preclude making a judgement about the reliability of the authors' conclusions.

Authors' objectives
To evaluate the effectiveness of acupuncture for the treatment of fibromyalgia.

Searching
PubMed, the Cochrane Central Register of Controlled Trials (CENTRAL), EMBASE, CINAHL and Pascal Biomed were searched to January 2008 for relevant studies; some key search terms were reported.

Study selection
Randomised controlled trials (RCTs) that compared acupuncture or electroacupuncture with sham acupuncture in patients diagnosed with fibromyalgia were eligible for inclusion. Ongoing trials and studies of healthy volunteers were excluded.

The primary outcome examined was pain intensity measured on a visual analogue scale (VAS).

The included trials were all conducted on adult ambulatory populations. The definition of fibromyalgia in all the RCTs was that used by the American College of Rheumatology. Acupuncture interventions lasted from two to 13 weeks. Acupuncture techniques used included electroacupuncture, the use of stainless steel needles (from four to 20 needles per treatment), and manual stimulation in traditional needle locations. Sham acupuncture techniques included non-penetrating stimulating acupuncture at acupuncture points, acupuncture with insertion at non-acupuncture points, or acupuncture at points not recommended for the treatment of fibromyalgia. The patients also received a range of other concurrent treatments including physiotherapy, medication, applications of heat and cold treatments, and electrotherapy.

The authors did not state how studies were selected for the review.

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

Data extraction
Data were extracted to permit the calculation of standardised mean differences (SMD) and corresponding 95% confidence intervals (CI) for pain intensity on VAS, and the relative risk (RR) and 95% confidence intervals for withdrawals from treatment.

The authors did not state how many reviewers performed the data extraction.

Methods of synthesis
The pooled standardised mean difference and relative risk, and 95% confidence intervals for both, were calculated using a fixed-effects model. The I² and X² tests were used to assess statistical heterogeneity.

Results of the review
Six RCTs (n=330 patients) were included in the review. Withdrawals from treatment in the trials ranged between 0 to
24%.

There were no significant differences in pain intensity between groups receiving acupuncture and groups receiving sham acupuncture (SMD 0.02, 95% CI -0.24 to 0.28; four RCTs).

There were no differences in withdrawals from treatment (RR 0.91, 95% CI 0.53 to 1.58; five RCTs) between the groups.

There was no evidence of any statistical heterogeneity for any outcome.

**Authors' conclusions**
The systematic review found no evidence of any benefits of acupuncture compared with placebo or sham acupuncture treatments for patients with fibromyalgia.

**CRD commentary**
The review addressed a clear question and criteria for the inclusion of studies were stipulated. The authors searched appropriate databases for relevant studies, but there were no searches for unpublished studies, so there was a risk of publication bias. It was unclear if any language restrictions were applied to the search. There were no steps reported to minimise errors and bias at any stage of the review process.

There was no assessment of methodological quality, so it was difficult to make a judgement about the reliability of the results of the included studies, and whether it was appropriate to statistically combine the results of the studies. Little information was provided on the interventions, the included populations, and the results. Methodological flaws and the lack of information presented on the quality of the studies mean that the results should be interpreted with a substantial degree of caution; there is insufficient information to make any judgements about the reliability of the authors' conclusions.

**Implications of the review for practice and research**
The authors did not state any implications for practice or further research.

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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.