Is acupuncture effective in the treatment of fibromyalgia?

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Authors' objectives
To assess the effectiveness of acupuncture in the treatment of fibromyalgia syndrome (FMS), to report any adverse effects, and to generate hypotheses for future investigation.

Searching
MEDLINE (from 1966 to 1997), EMBASE, MANTIS, the specialised register of the Cochrane Complementary Medicine Field, the University of Maryland's CAMPAIN database, CISCOM, and the database of the National Institutes of Health Office of Alternative Medicine were searched using the keywords 'acupuncture' and 'fibromyalgia'. The search was supplemented with conference abstracts, citation lists, and letters to pertinent institutions or individuals. Studies reported in any language were considered.

Study selection
Study designs of evaluations included in the review
Randomised or quasi-randomised controlled trials (RCTs), or uncontrolled studies, were included.

Specific interventions included in the review
Acupuncture (various regimens). The controls in the included studies were sham (inactivated laser or sham electroacupuncture), acupuncture, antidepressant medication or psychiatry.

Participants included in the review
Patients with FMS were eligible for inclusion. The participants were aged from 45 to 51 years. The majority of the patients in all trials were women, although no trial reported responses according to gender. The average duration of FMS symptoms was 6 to 12 years.

Outcomes assessed in the review
The included studies assessed the following: pain relief, regional pain score, pain threshold, sleep quality, global assessment by physician, medication use, depression, the number of tender points, anxiety, serum substance P, and range of motion.

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

Assessment of study quality
The RCTs were evaluated using the scoring assessment of Jadad et al. (see Other Publications of Related Interest no.1). The uncontrolled studies were evaluated using Cochrane Collaboration guidelines for assessing non-experimental designs (see Other Publications of Related Interest no.2). The authors do not state how the papers were assessed for validity, or how many of the reviewers performed the validity assessment.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction. Data were extracted for the following categories: trial identification; study design; experimental treatment; control treatment; outcomes; follow-up; site of study; inclusion criteria; mean age of the sample (years); and mean duration of the disease (years).
Methods of synthesis
How were the studies combined?
A narrative synthesis was undertaken. The authors presented the evidence from the one high-quality RCT, and used the remaining low-quality RCTs and cohort studies to generate hypotheses rather than conclusive statements. The authors state that statistical pooling was not performed because of differences in the control groups.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.

Results of the review
Seven studies were included in the review. There were 3 RCTs (n=168), 3 uncontrolled studies (n=126; 2 prospective and one retrospective), and one non-randomised uncontrolled study (the number of participants was not reported).

The high-quality RCT reported that persons receiving real acupuncture fared significantly better (P<0.05 Mann-Whitney two-tailed test) than those in the sham group for 5 of the 8 outcomes: pain relief, pain threshold, morning stiffness, and the patient's and physician's global subjective assessment.

The high-quality RCT did not report long-term follow-up. Thus, the question of how long relief can be expected from a series of acupuncture treatments remains unanswered.

The acupuncture approach used in the high-quality RCT, a combination of low and high electrical frequencies, was consistent with laboratory data suggesting that optimal pain relief is achieved by combining low (2 to 4 Hz) and high (50 to 100 Hz) frequencies.

Authors' conclusions
There was a limited amount of high-quality evidence available. This evidence suggested that real acupuncture is more effective than sham acupuncture for relieving pain, increasing pain thresholds, improving global ratings, and reducing morning stiffness of FMS. However, some patients reported no benefit, while a few reported an exacerbation of their FMS-related pain with acupuncture. The results from lower-quality studies were consistent with these findings. The duration of benefit after cessation of the acupuncture treatments is unknown, because the only high-quality RCT did not provide follow-up data.

CRD commentary
The authors stated their research question and some inclusion and exclusion criteria. The literature search was fairly thorough, searching for unpublished data and publications in all languages. It is unlikely that additional studies were missed. The authors do not report whom, or how many of the reviewers, performed the study selection, quality assessment and data extraction processes. The included studies were assessed on the basis of a validated scoring system.

The review was a narrative discussion with no statistical pooling. Differences between the included studies were discussed with regard to the participants, type of measurement, and differences between the control groups. The authors felt it would have been inappropriate to combine the studies in this instance.

The authors' conclusions appear to follow from the results, but these should be viewed with caution because of some limitations in the review process.

Implications of the review for practice and research
Practice: The authors state that this review may be helpful in providing clinicians with the practical information necessary to advise patients with FMS of the potential benefits and risks of acupuncture treatment.

Research: The authors state that further high-quality randomised trials are needed to provide more robust data on effectiveness. Additional trials are also needed to address important questions such as the value of booster doses, the optimal acupuncture procedures, and possible synergistic effects of acupuncture with antidepressants.
Funding
Maurice Laing Foundation; National Institutes of Health, grant number #1 R21-RR09327-01.

Bibliographic details

PubMedID
10086765

Other publications of related interest

This additional published commentary may also be of interest. Linde K. Is acupuncture effective in the treatment of fibromyalgia? FACT 2000;5:14-5.

Indexing Status
Subject indexing assigned by NLM

MeSH
Acupuncture Therapy/adverse effects; Antidepressive Agents/therapeutic use; Combined Modality Therapy; Fibromyalgia/therapy; Humans; Prospective Studies; Randomized Controlled Trials as Topic; Retrospective Studies

AccessionNumber
12000001070

Date bibliographic record published
30/11/2002

Date abstract record published
30/11/2002

Record Status
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.