

CAHE *Allied Health News in Review*

Acupuncture: Are its pain relieving effects limited?

Plain English Findings: Acupuncture has only a small pain relieving effect when compared to placebo acupuncture.

Evidence Background

'Acupuncture treatment for pain: systematic review of randomised clinical trials with acupuncture, placebo acupuncture, and no acupuncture groups'

Reported on-line, at virtual medical centre on 11th of March 2009:

<http://virtualmedicalcentre.com/news.asp?artid=13326>

The origin of evidence

This article reports on a systematic review published at BMJ.com in March 2009. The authors are based at the Nordic Cochrane Centre in Copenhagen, Denmark. No external funding was receiving by the authors to complete this review.

The objectives of research

- 1) To determine the size of the pain relieving effect of acupuncture by analyzing clinical trials.
- 2) To compare the pain relieving capacity of different types of acupuncture and placebo acupuncture.

The nature of evidence

A systematic review and meta-analysis of randomised clinical trials.

Participants involved in the research

In total, 3025 participants across 13 randomised clinical trials were included in this review. The participants in these trials were treated for pain which resulted from a range of conditions. All trials randomised their participants to acupuncture, placebo acupuncture or a no treatment groups. No limits were placed on the characteristics of participants or their condition or disease as long as the trial addressed pain as an outcome.

Interventions utilised

Trials were included in this review if they referred to their intervention as acupuncture. This included electro-acupuncture, where a small electrical current is applied to the area being treated through the acupuncture needle. Trials were excluded if they used pressure through the fingers or thumbs (manual acupressure) or involved only electrical stimulation or TENS (transcutaneous electrical nerve stimulation) without an acupuncture needle.

There was much variation among trials in term of the location of acupuncture points and the specific acupuncture techniques utilized. The conditions treated in each trial also varied greatly. They included tension headache, osteoarthritis, low back pain and post-operative pain. The interventions in each trial ranged from 1 day to 13 weeks duration and ranged from one session to 20 sessions.

Outcome measures

Eight different scales were used to rate pain across the 13 trials included in this review. These were all subjective scales, where the participant rated their own pain experience. There are key differences between some of the pain scales used. The WOMAC (Western Ontario and McMaster Osteoarthritis) scale asks questions about stiffness and physical function in addition to pain. Other pain scales included in trials ask patients to rate their pain on a numbered scale or to mark their level of pain on a line, known as a visual analogue scale (VAS).

Key findings

Overall this systematic review found that acupuncture has only a small pain relieving effect. When placebo acupuncture was compared to no acupuncture a moderate difference was found. When acupuncture was compared to placebo acupuncture a small difference was found. Great variation was found in the size of the treatment effect between studies. It was concluded that it was unclear whether the small effect of acupuncture was clinically relevant and that it was difficult to distinguish this effect from bias in the trials or the psychological impact on the participant of having their pain treated.

Recommendations made by the review article

The main recommendation made by the authors of this review is that the effects of acupuncture are not large enough to be considered clinically relevant. Recommendations for future research were suggested. Firstly, it was recommended that future trials attempt to prevent the therapist who provides the acupuncture treatment from knowing the objectives of the trial (blinding of therapists). Secondly it was recommended that future trials be designed to try to separate the physiological effect of acupuncture from its psychological effect by addressing the treatment ritual and the patient-therapist relationship in their study design.

Methodological considerations

This systematic review was conducted using a rigorous scientific approach which included detailed appraisal of the quality of the included trials, data analysis and assessment of the risk of bias in the included trials.

Validity and reliability of the conclusions

Internal validity: This systematic review included a rigorous appraisal of the quality of its included trials, including a comparison of the effectiveness of acupuncture in trials of high methodological quality compared to those of low methodological quality. It must be noted that none of the 13 trials included in this review used the same type or method of acupuncture.

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External validity: This review included acupuncture treatments for a variety of conditions in a variety of contexts, and included trials using a number of different methods of acupuncture. This may improve the external validity of this review; that is, the findings of this review may be applied to a range of clinical problems and not just one.

Reliability: Eight different pain measuring scales were used across the 13 trials included in this review. Each of these pain scales measure pain in a different way. This must be taken into account when reading the author's reports of the large variation in the size of the pain relieving effect of acupuncture between trials.

Clinical implications

The recommendations of this review article and its supporting news report are based on an extensive review of the literature and a comprehensive analysis of randomised clinical trials. It is important to remember that pain is only one outcome which may change as a result of acupuncture. Stiffness, mobility and function are other important outcomes which may be addressed in other research papers, which were not the focus of this review.

The large variation in the size of the effect of acupuncture between the trials could be explained in part by the variation in the type, method, duration and frequency of acupuncture treatments which were used in the trials. Although this finding was not discussed in this context within the review paper, the large variation in the amount of pain relief provided by acupuncture across the trials may be similar to that seen in clinical practice.

The authors recommend that future trials be designed to try to separate the physiological effects of acupuncture from its psychological effects, in order to determine the effectiveness of acupuncture as a pain relieving treatment. It is worth considering that the physiological and psychological effects of acupuncture may be linked and therefore trials may never be able to demonstrate an isolated physiological effect. The clinical implications of this are that acupuncture may still be of benefit to some patients as a pain relieving technique, regardless of the mechanism. This example highlights the importance of considering both clinical evidence and research evidence.

Reference

Reports published by US News can be accessed at: <http://health.usnews.com>

Article Reference

Madsen, M, V, Gøtzsche, P, C & Hróbjartsson, A 2009, 'Acupuncture treatment for pain: systematic review of randomised clinical trials with acupuncture, placebo acupuncture, and no acupuncture groups', *British Medical Journal*, vol. 338, pp. 1-8

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