Acupuncture for alcohol dependence: a systematic review

Cho SH, Whang WW

CRD summary
This review assessed the efficacy of acupuncture in treatment of alcohol dependence and concluded that the limited available evidence did not allow any conclusion to be drawn. The authors' conclusions appear appropriate given the limited number and generally poor quality of included trials.

Authors' objectives
To assess the efficacy of acupuncture for the treatment of alcohol dependence.

Searching
MEDLINE, EMBASE, CINAHL, PsycINFO, The Cochrane Library, AMED, six Korean medical databases, four Chinese databases and one Japanese database were searched without language restriction up to June 2008. Current Controlled Trials, NCCAM and Complementary and Alternative Medicine Specialist Library were searched. Search terms were reported. Relevant journals, symposia and conference proceedings were handsearched. Retrieved publications were cross-referenced. Study authors were contacted for additional data.

Study selection
Randomised controlled trials (RCTs) that compared all forms of acupuncture with a control group (no treatment, a placebo, or a pharmacological or non-pharmacological treatment) in patients with alcohol dependence defined with recognised criteria were eligible for inclusion. Studies that compared different forms of acupuncture against each other were excluded. The primary outcomes were change in craving for alcohol, completion rates of treatment, withdrawal symptoms, relapse rates and use of alcohol. A secondary outcome was incidence of acupuncture-related adverse events.

Included studies evaluated classical acupuncture, electroacupuncture, laser acupuncture and auricular acupuncture. Most studies permitted additional conventional therapies. Duration and frequency of acupuncture treatment varied between studies. Where reported, patients' mean age ranged from 32.3 to 47.9 years.

The authors did not state how many reviewers performed the study selection.

Assessment of study quality
The quality of studies was assessed using the following criteria: allocation concealment; randomisation; blinding; withdrawals; and selective reporting of results.

Two reviewers independently performed the validity assessment. Any disagreements were resolved by discussion.

Data extraction
For dichotomous outcomes, data were extracted on the number of patients who experienced an event; calculation of relative risks (RRs) with 95% confidence intervals (CIs) was performed. For continuous outcomes, data were extracted on mean differences (MDs) with 95% CIs. Acupuncture-related adverse events were recorded.

Two reviewers independently performed data extraction. Any disagreements were resolved by discussion.

Methods of synthesis
Where appropriate, studies were combined in meta-analyses. Pooled RRs and 95% CIs were calculated. Statistical heterogeneity was assessed using the $X^2$ test and $I^2$ statistic. The random-effects model was used if there was significant heterogeneity; otherwise, the fixed-effect model was employed. Publication bias was not assessed due to the small number of trials.

Results of the review
Eleven RCTs (n=1,110) were included in review. Methodological quality varied between included RCTs; only two RCTs met all of the quality criteria.
There were no significant differences in completion rates between acupuncture and sham acupuncture (RR 1.07, 95% CI 0.91 to 1.25; five RCTs) and between acupuncture and no acupuncture (RR 1.15, 95% CI 0.79 to 1.67; five RCTs). Statistically significant heterogeneity was observed only in the pooled outcome between acupuncture and no acupuncture ($I^2 = 83\%$).

Three of four RCTs reported non-significant differences in alcohol craving between acupuncture and sham acupuncture. Three of four RCTs reported that acupuncture together with conventional therapy was associated with significant reductions in alcohol craving compared with conventional therapy alone.

Three RCTs reported that acupuncture-related adverse events were mostly minimal. Two RCTs reported minor adverse events. One RCT reported that a patient experienced a withdrawal-related epileptic seizure on clinical grounds.

**Authors' conclusions**
The limited available evidence did not allow any conclusion to be drawn regarding the efficacy of acupuncture in the treatment of alcohol dependence.

**CRD commentary**
This review's inclusion criteria were clear. A number of relevant databases were searched. Efforts were made to find both published and unpublished studies without language restriction, thereby minimising potential for language and publication biases. Steps were taken to minimise bias by having more than reviewer independently undertake the validity assessment and data extraction; it was unclear whether the process of study selection was performed in duplicate. Relevant criteria were used to examine the study quality. Statistical heterogeneity was assessed and appropriate methods were used to pool the results. In light of the limited number and generally poor quality of included trials, the authors' conclusions appear to appropriate.

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

**Practice:** The authors stated that the existing evidence did not support use of acupuncture in the treatment of alcohol dependence.

**Research:** The authors stated that further well-designed studies with a large sample size were required to assess the efficacy of acupuncture in the treatment of alcohol dependence. Future trials should also investigate adverse effects related to acupuncture.

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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.