Systematic review of clinical trials of acupuncture-related therapies for primary dysmenorrhea

Yang H, Liu CZ, Chen X, Ma LX, Xie JP, Guo NN, Ma ZB, Zheng YY, Zhu J, Liu JP

CRD summary

This review concluded that there was no convincing evidence for acupuncture in the treatment of primary dysmenorrhoea and that there is an urgent need for randomised, blinded placebo-controlled trials to assess the effects of acupuncture-related therapies. These conclusions reflect the results of the review and are probably reliable.

Authors' objectives

To assess acupuncture-related therapies for the treatment of primary dysmenorrhoea.

Searching

The Cochrane Library, MEDLINE, EMBASE, Chinese Biomedical Database and China National Knowledge Infrastructure were searched from 1978 to 2008. References of studies and reviews were checked. Only published studies were eligible for inclusion in the review.

Study selection

Randomised controlled trials (RCTs) and controlled clinical trials (CCTs) that compared interventions involving acupuncture, acupoint injection, acupressure or moxibustion with non-treatment, placebo acupuncture or acupressure, psychological treatment or analgesic drugs for primary dysmenorrhoea were eligible for inclusion. The primary outcomes were pain intensity measured by a visual analogue scale and pain relief. Studies of patients with secondary dysmenorrhoea were excluded from the review.

Included studies assessed acupuncture, acupressure, moxibustion and acupoint injection. Comparison groups were treated with: waiting lists; traditional Chinese medicine; analgesia including ibuprofen, indomethacin, diclofenac or somedon; psychological therapy; placebo acupuncture-related interventions; and placebo. Patient ages were not reported in most studies; where reported, mean ages ranged from 16.7 to 28 years.

Two reviewers independently selected the studies for the review; disagreements were resolved through discussion.

Assessment of study quality

Studies were assessed for validity using the criteria of randomisation, allocation concealment, blinding, use of placebo control, use of an intention-to-treat (ITT) analysis and follow-up. It appeared that use of a power calculation was also assessed. Trials were graded as A (high quality), B (average quality) or C (low quality) based on these criteria.

Two reviewers independently performed the validity assessment. Disagreements were resolved through discussion.

Data extraction

Two reviewers independently extracted the data using prespecified forms. Risk ratios (RR) with 95% confidence intervals (CI) were calculated for dichotomous variables. It was stated that weighted mean differences (WMD) with 95% CI were calculated for continuous variables, but WMD is by definition a pooled outcome; it was assumed that mean differences were calculated.

Methods of synthesis

It was planned to combine studies in meta-analyses. However, heterogeneity between studies was considered too great and a narrative synthesis was instead presented with results for individual studies highlighted.

Results of the review

Thirty two trials (n=3,910) were included in the review: 30 RCTs and two CCTs. Methodological quality was generally

considered to be low, with six trials considered average quality and 26 low quality. Follow-up ranged from less than six months to over one year.

Acupuncture versus control (21 trials): Results were conflicting. One small methodologically sound trial suggested that acupuncture was significantly more effective than placebo acupuncture (WMD -0.57, 95% CI -0.76 to -0.38, p < 0.00001), standard control (p<0.04) and waiting visit control (p<0.00001) for analgesics use. Pain scores also showed a significant effect in favour of acupuncture compared to each control (p<0.00001 in each case). One trial found a favourable result for acupuncture compared to ibuprofen for pain relief; 18 studies used other analgesics as controls: nine trials showed no significant difference between the groups and one found no difference between acupuncture and psychotherapy.

Acupressure versus control (seven trials): Two studies found acupressure was better than placebo for pain relief (WMD -0.91, 95% CI -1.78 to 0.04 and WMD -1.48, 95% CI -2.25 to 0.71); one study found no difference compared to placebo or ibuprofen. Three trials found acupressure was superior to indomethacin or somedon. One trial found no differences between acupressure and Chinese herbal medicine.

Moxibustion versus control (three trials): Two trials found that moxibustion was significantly better than analgesic drugs for pain relief (RR 1.20, 95% CI 1.06 to 1.36 and RR 1.23, 95% CI 1.03 to 1.47); one trial found no difference.

Acupoint injection versus control (one trial): The single trial found that acupoint injection was significantly better than ibuprofen for pain relief (RR 1.34, 95% CI 1.10 to 1.64).

Authors' conclusions

There was no convincing evidence for acupuncture in the treatment of primary dysmenorrhoea. There was an urgent need for randomised, blinded placebo-controlled trials to assess the effects of acupuncture-related therapies.

CRD commentary

The review question and inclusion criteria were clear and specific. The authors searched a number of relevant databases, but the restriction to published studies may have increased the chances of publication bias and the omission of some relevant studies. The authors reported using methods designed to reduce reviewer bias and error in at each stage of the review process. The validity assessment used appropriate criteria and was used to inform the synthesis and the conclusions. The decision not to employ meta-analyses due to high levels of heterogeneity was probably appropriate. The authors' cautious conclusions reflect the results of the review and are probably reliable.

Implications of the review for practice and research

Practice: The authors did not state any implications for practice.

Research: The authors stated that there was an urgent need for randomised, blinded placebo-controlled trials to assess the effects of acupuncture-related therapies for the treatment of primary dysmenorrhoea.

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