Acupuncture and osteoarthritis of the knee: a review of randomized controlled trials  
Selfe TK, Taylor AG

CRD summary  
The review assessed the effectiveness of acupuncture for treatment of symptoms of osteoarthritis of the knee and concluded that there was evidence that acupuncture was an effective treatment of pain and physical dysfunction. The review had multiple methodological flaws and the authors conclusions are not likely to be reliable.

Authors' objectives  
To assess the effectiveness of acupuncture for treatment of symptoms of osteoarthritis of the knee.

Searching  
MEDLINE (1966 to 2006) and CINAHL (1982 to 2005) were searched for studies published in English; search terms were reported. Bibliographies of retrieved articles were scanned for relevant studies.

Study selection  
Randomised controlled trials (RCTs) of the effects of needle or electroacupuncture on symptoms of osteoarthritis of the knee were eligible for inclusion. Studies of bee venom acupuncture were excluded. Pain was the main outcome measure and was reported using a variety of scales and measures in the included studies. Some studies also reported other outcomes, such as physical function and patient global assessment. All participants had been diagnosed through radiographic evidence and/or according to American College of Rheumatology criteria. Needle acupuncture was the commonest intervention used; four studies supplemented needle acupuncture with electroacupuncture and three studies used only electroacupuncture. Comparator treatments included sham acupuncture (delivered using varying methods), diclofenac, wait-list control, transcutaneous electrical nerve stimulation (TENS), education, placebo, ice massage and standard care (individually or in combination). The number of sessions ranged from six to 23. Treatment periods ranged from less than four weeks to 26 weeks.

The authors stated neither how studies were selected for the review nor how many reviewers performed the selection.

Assessment of study quality  
The authors did not appear to formally assess study quality, but they reported on degree of blinding, level of acupuncturist training and sometimes on the number of patients who completed studies.

Data extraction  
Results of comparisons within trials were extracted as being statistically significant or not statistically significant.

The authors stated neither how data were extracted for the review nor how many reviewers performed the data extraction.

Methods of synthesis  
Studies were combined in a narrative synthesis presented by outcome.

Results of the review  
Ten RCTs (n=1,456) were included in the review. Sample sizes ranged from 24 to 570 participants. One study was double-blinded and nine were single-blinded. In five studies acupuncture was delivered by trained professionals (this issue was not reported in the remaining five studies).

In eight out of 10 studies acupuncture led to a statistically significant reduction in pain compared with control treatments. Five out of six studies reported a statistically significant improvement in physical function following acupuncture treatment. One study reported a greater improvement in patient global assessment which was statistically significant in favouring treatment with acupuncture. Another study reported no significant difference. The third did not
Authors' conclusions
There was evidence that acupuncture was an effective treatment of pain and physical dysfunction associated with osteoarthritis of the knee.

CRD commentary
The review addressed a clear question supported by appropriate inclusion criteria. Only two databases were searched for studies published in English, so relevant studies may have been missed and the review could have been subject to publication and/or language bias. No attempts appear to have been made to minimise the risks of reviewer error and bias (such as by using two independent reviewers) when selecting studies or extracting data. No formal quality assessment (for example, of methods of randomisation or allocation concealment) was made, which made it difficult to assess the reliability of the primary evidence. Generally the studies had small sample sizes; just under half recruited 40 or fewer participants and many larger studies used three or four treatment groups (the numbers randomised to each arm were not presented). The decision to report results simply as being statistically significant or not statistically significant precluded an assessment of effect size in individual studies. This made it particularly difficult to interpret the results in light of the considerable clinical heterogeneity between studies. Overall, this review had several methodological flaws and the authors conclusions are not likely to be reliable.

Implications of the review for practice and research
Practice: The authors stated that acupuncture should be considered a viable adjunct or alternative treatment of knee pain and dysfunction associated with osteoarthritis of the knee.

Research: The authors did not state any implications for research.

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AccessionNumber
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.