Reviewer's report

**Title:** Acupuncture for osteoarthritis of the knee: A pilot study for an open parallel-arm randomised controlled trial

**Version:** 1  **Date:** 13 March 2009

**Reviewer:** Marlene Fransen

**Reviewer's report:**

Major compulsory revisions.

1. Rename the manuscript 'Acupuncture for knee pain.....'. The proposed recruitment and screening process will not exclude participants who have knee pain with other underlying diagnoses apart from osteoarthritis, e.g. meniscal injury, ligament injury, bursitis, referred low back pain, etc.

2. Introduction: OA is not specifically a clinical syndrome. OA can be asymptomatic, only present as structural joint changes on Xray. Provide the correct diagnostic criteria.

3. Introduction: Less physical activity is not a recognised risk factor for OA incidence or progression.

4. Introduction: OA knee is not a deteriorating condition. Delete this term.

5. Introduction: While the meta-analyses were high quality, all included RCTs were not.

6. Introduction: The RCTs with 'usual care' as the control group, were not comparing acupuncture with usual care, but comparing acupuncture and usual care with usual care alone. This also applies to your proposed study design. The proposed study is not comparing acupuncture with usual care, as the protocol is not prohibiting patients allocated to acupuncture from receiving any form of usual care. The research question this proposal aims to answer is regarding the effectiveness of acupuncture in addition to usual care, compared with usual care alone.

7. Introduction: Studies that have followed patients with knee OA up for 3 to 6 months (Witt 2005, Berman 2004, Scharf 2006) have demonstrated no significant sustained benefit from acupuncture. The statement should therefore more appropriately be: There is evidence of no long term benefit from acupuncture, rather than 'insufficient evidence'. This can be followed up by reasons why you feel the evidence is inconclusive.

8. Introduction: If six sessions with a physiotherapist is considered 'best practice' as part of usual care in the UK, then the study design incorporating usual care plus physiotherapy for all allocation arms seems strong, rather than weak. Such a study design would also greatly reduce the drop out of patients in the control group. The evaluation of the relevance of this study needs to be omitted – the argument is weak.
9. Introduction: If the proposed study will uniquely conform to NICE guidelines, as stated at length in the last paragraph, the study protocol will need to include validated measures of co-morbidity (presence and severity).

10. Design: The usual care has not been restricted to GP usual care later in the study. Delete the qualifier ‘GP’ from the comparison.

11. Design: RCTs have shown no difference between acupuncture and ‘sham acupuncture’, when patients were truly blinded to this allocation.

12. Participant recruitment: Need to specify the severity, frequency and currency of knee pain eligibility criteria to be used. Could participants simply have stiffness without pain? Could participants be eligible if only having pain once a week? etc. Need this information to evaluate generalisability of results.

13. Outcome measures: More detail required here. Qualify these are self-reports, describe the scoring used, number of responses required, likert or VAS versions, etc.

14. Intervention: The initial 0 to 3 month recall period is lengthy for patients to remember all medications and health care services utilised. The 3 to 12 month recall would be extremely vulnerable to marked under-reporting. You will need to use monthly diaries, with frequent telephone reminders to prompt recording, to collect these data with some level of confidence for the health economic analysis.

15. Recruitment and baseline data: The fact that this ‘proof of concept’ study was restricted to the fastest respondents has implications for the demonstrated adherence and follow-up rate. It is very likely that the demonstrated adherence and follow-up rate is higher in this group of ‘eager’ volunteers, compared to later volunteers.

15. Recruitment and baseline data: Delete the ‘GP’ qualifier.

16. Outcomes at 3 and 12 months. Was the person conducting the outcomes assessment blinded to treatment allocation? Even with self-report, the presence of an assessor aware of treatment allocation can induce a Hawthorne effect.

17. Outcomes: What variables were included in the regression model? How were the factors chosen?

18. Please combine Tables 3 and 4 (do not need Total column in any of the tables).

19. WOMAC stiffness and WOMAC global no longer used in arthritis research. Delete as superfluous and adding to increased risk of type 1 error.

20. Sample size: Need to account for more than 20% loss to follow-up at 1 year, according to the results of your pilot. The suggested provision of incentives if likely to be balanced by the likely higher followup/adherence in this ‘eager’ sample.

21. Sample size: With a no acupuncture control group, you need to account for some cross-over – controls accessing acupuncture. – in your sample size calculation.

22. Sample size: A stronger study design, and an analysis more meaningful for
clinicians and health economists (cost-effectiveness analysis), would be to base your sample size on treatment responder analysis: comparing the proportion of participants defined as treatment responders according to the OARSI-OMERACT criteria.

23. Sample size: If one of the prime aims of the proposed research is to conduct a health economic analysis using health utilities (QALYs), you should be calculating the sample size required to detect a meaningful difference in this outcome (EQ-5D or SF-12).

I feel the proposed study will always be criticized if a sham acupuncture control (possibly necessitating an acupuncture ‘naïve’ sample) is not utilised. As you state, people are more likely to volunteer for an acupuncture study if they have positive expectations of acupuncture. People allocated to no acupuncture are usually ‘not happy’, influencing responses to questionnaires (and the likelihood of follow-up, as your pilot study demonstrates). If the proposed study provides evidence of benefit at 1 year, we are all still left with the uncertainty as to whether the benefit was due to the specific acupuncture protocol/theory or simply needling/attention (not requiring highly trained acupuncturists).

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests