Acupuncture for treating hot flushes in men with prostate cancer: a systematic review
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CRD summary
The evidence for the effectiveness of acupuncture in the treatment of hot flushes in prostate cancer patients was inconclusive and further research was required. Despite the questionable assessment of study quality, the authors’ cautious conclusions appeared to reflect the limited evidence and are likely to be reliable.

Authors’ objectives
To evaluate the effectiveness of acupuncture in the treatment of hot flushes in prostate cancer patients.

Searching
MEDLINE, EMBASE, CINAHL, PsycInfo, The Cochrane Library (2008, Issue 4), five Korean medical databases and four Chinese medical databases were searched from inception to December 2008 for articles in any language. Search terms were reported. Authors’ files and relevant journals were handsearched. Dissertations and abstracts were included where sufficient information existed to enable critical evaluation of the report.

Study selection
Prospective clinical studies of acupuncture as a sole or adjunct treatment for hot flushes in prostate cancer patients were eligible for inclusion. The main outcome of interest was vasomotor symptoms.

Included studies were of manual acupuncture alone, manual acupuncture plus electro-acupuncture or auricular acupuncture in once- or twice-weekly sessions. Duration of treatment ranged from 10 to 14 weeks. Some studies included patients who also received gonadotrophin releasing hormone, androgen deprivation therapy or leutinising hormone receptor hormone. Two studies were of patients who had undergone castration therapy. Outcomes reported in the review were patient-reported hot flush frequency, hot flush severity, a composite hot flush score and adverse events measured using diaries or the Expanded Prostate Cancer Index Composite. Follow up ranged from immediately following treatment to 12 months. Included studies were carried out in USA, Sweden and UK.

It appeared that two reviewers independently selected the studies for review.

Assessment of study quality
The methodological quality of the included studies was determined using a modified Jadad scale, which assessed randomisation, blinding and withdrawals, and gave a maximum score of 5. One point was given for outcome assessor blinding, given that it was not possible for therapists to be blinded to the use of acupuncture.

Two reviewers independently assessed the methodological quality of the included studies. Disagreements were resolved through consultation with a third reviewer.

Data extraction
Two reviewers independently extracted the data. Disagreements were resolved through consultation with a third reviewer.

Methods of synthesis
The studies were combined in a narrative synthesis.

Results of the review
Six studies were included for the review (n=132). One randomised controlled trial (RCT) (n=31) and five uncontrolled observational studies (n=101). One RCT scored 5 on the Jadad and five observational studies scored 1. Dropout rate ranged from 0% to 50%. Three observational studies were only available in abstract form.
The RCT reported that the frequency of hot flushes at 12 weeks reduced by 50% or more in 47% of patients who received manual acupuncture alone (p=0.001) and 57% of patients who received manual acupuncture plus electro-acupuncture (p=0.002) compared to baseline levels. A more than 50% reduction in distress at 12 weeks compared to baseline was observed in 50% of patients treated with manual acupuncture plus electro-acupuncture (p=0.003) and in 60% of patients treated with manual acupuncture alone (p=0.001).

There continued to be a significant reduction in distress for patients treated with manual acupuncture and those treated with manual acupuncture plus electro-acupuncture at 12 months follow up (p=0.036 for manual and p=0.016 manual plus electro). There were no significant differences between the groups in terms of hot flush frequency or severity at 12 months.

The three observational studies reported beneficial effects of acupuncture on hot flush frequency either at end of treatment or at follow-up (p values ranged from p≤0.01 to p≤0.05). One study reported that hot flush severity significantly reduced with manual acupuncture during the day (p≤0.05) and during the night (p≤0.05).

Two studies reported mild adverse events of fatigue, haematoma, treatment-related distress and transient increase in vasomotor symptoms. One study reported no adverse events.

**Authors' conclusions**
The evidence for the effectiveness of acupuncture in the treatment of hot flushes in prostate cancer patients was inconclusive. Further research was required.

**CRD commentary**
The review addressed a clear question with appropriate inclusion criteria. Several relevant databases were searched for articles in any language, which minimised the risk of language bias. It appeared that limited attempts were made to identify unpublished data, so publication bias could not be ruled out. It appeared that appropriate steps were taken at all stages of the review process to minimise the possibility of reviewer error and bias. Studies were assessed using a modified Jadad scale, but this tool appeared largely inappropriate since all but one study were uncontrolled observational studies. The decision to combine studies in a narrative synthesis was appropriate. Despite the questionable assessment of study quality, the authors’ cautious conclusions appeared to reflect the limited evidence and are likely to be reliable.

**Implications of the review for practice and research**
**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that well-designed RCTs with adequate power, appropriate dosing, that used validated outcome measures and with placebo or sham controls were needed. Future research should adhere to CONSORT and STRICTA guidelines in the reporting of trials.

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