CRD summary
The review concluded that there was no consistent evidence that acupuncture was effective for treating menopausal vasomotor symptoms compared to sham acupuncture or hormone therapy; further research was warranted. The review was well conducted in most respects and these cautious conclusions appear reliable.

Authors' objectives
To determine the effectiveness and tolerability of acupuncture for reducing menopausal vasomotor symptoms.

Searching
Nineteen electronic databases were searched to July 2008 (these included The Cochrane Library, MEDLINE, EMBASE, AMED, CINAHL, PsycINFO, Current Controlled Trials, NCCAM, www.library.nhs.uk/cam/, Japan Science and Technology Information Aggregator Electronic and several Korean and Chinese databases). Relevant journals and proceedings of professional meetings were handsearched. References of relevant publications were checked. Search terms were reported. The search was not restricted by language.

Study selection
Randomised controlled trials (RCTs) that compared acupuncture with no treatment, placebo, medication or non-pharmacological interventions for severe vasomotor symptoms in perimenopausal or postmenopausal women were eligible for inclusion. Studies of any form of traditional or contemporary acupuncture were eligible, provided the points of stimulation were acupuncture-related.

The primary review outcome was frequency and severity of vasomotor symptoms, either self-reported or measured with a validated tool. Secondary outcomes were sleep, quality of life and adverse events. Studies that combined acupuncture with other therapies or compared different forms of acupuncture or different acupoints were excluded. Studies of women with past or current breast cancer were excluded.

Mean age of women in the included studies ranged from 46 to 57 years. They received various types of acupuncture, such as individualised, standardised and semi-standardised (set acupoints plus individually chosen points). Treatment frequency varied widely. Treatment duration ranged from one to three months. Treatment procedures were generally consistent with the recommendations of guidelines and other reviews. Controls received sham or non-penetrating acupuncture, standard drugs or oryzanol (rice bran oil).

The most commonly reported outcomes were frequency and severity of hot flushes and vasomotor symptom scores based on the Kupperman index. Studies were set in China, USA, Sweden and Korea.

A single reviewer conducted initial study selection and conferred with a second reviewer where there was uncertainty.

Assessment of study quality
Validity assessment was based on Cochrane criteria and included allocation concealment, use of intention-to-treat analysis, blinding, equivalence of care between groups, withdrawals, description of inclusion criteria and reporting and timing of outcomes.

Two reviewers independently assessed study validity.

Data extraction
Risk ratios (RRs) were extracted or calculated for dichotomous outcomes and mean differences for continuous outcomes, with 95% confidence intervals (CIs). It was planned to formally assess publication bias and conduct sensitivity and subgroup analyses, but these were not carried out as there were too few studies. Primary study authors
were contacted for more information if required.

The authors did not state how many reviewers performed data extraction.

**Methods of synthesis**
Studies were not pooled statistically due to clinical heterogeneity and the small number of studies. Instead, they were combined in a narrative synthesis organised by the type of comparison.

**Results of the review**
Eleven RCTs were included (n=764, range 24 to 166). Four trials described adequate allocation concealment, four used intention-to-treat analysis, seven blinded participants and/or outcome assessors, six described acceptable withdrawal rates and all or most met other quality criteria.

Acupuncture reduced hot flush severity significantly more than placebo, but did not significantly affect hot flush frequency or quality of life (one RCT). There was no statistically significant difference between acupuncture and sham acupuncture for hot flush severity or frequency (four RCTs each), sleep (one RCT) and quality of life (one RCT).

Two of three RCTs reported that acupuncture improved vasomotor symptoms significantly more often than hormone therapy (mean difference 1.40 and 1.80), but there was no significant difference in hot flush severity or frequency, sleep and quality of life (one RCT each).

In two RCTs acupuncture was significantly more likely than oryzanol to improve vasomotor symptoms (RR 1.83 and 1.74) and sleep (RR 3.58 and 3.38). Acupuncture was significantly more effective than wait list control for reducing hot flush frequency (p<0.05) and severity (p=0.02) (one RCT).

Six RCTs reported adverse events. There were minimal events in three RCTs and no serious events in the other three.

**Authors’ conclusions**
There was no consistent evidence that acupuncture was effective for treating menopausal vasomotor symptoms compared to sham acupuncture or hormone therapy; further research was required.

**CRD commentary**
The objectives and inclusion criteria of the review were clear. Relevant sources were searched without language restrictions for published and unpublished studies. Steps were taken to minimise the risk of reviewer bias and error by having more than one reviewer independently undertake validity assessment. Initial stages of study selection were undertaken by a single reviewer and it was unclear how many reviewers were involved in data extraction. The decision not to pool the studies statistically appeared appropriate given their clinical and methodological differences. Reasons for differences in study findings were explored. The included studies were small and many were poor quality. Better-quality studies were not given priority in the interpretation of findings.

The review was well conducted in most respects and the authors’ cautious conclusions appear reliable.

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

**Research:** The authors stated that high-quality RCTs of acupuncture for menopausal vasomotor symptoms were required and should use non-penetrating placebo needles in the control group. Studies should investigate which type of acupuncture was suitable for a particular condition and whether cointervention with herbal medicine was beneficial.

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