Is reflexology an effective intervention? A systematic review of randomised controlled trials

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CRD summary
The author concluded that the current evidence did not convincingly demonstrate that reflexology was an effective treatment for any medical condition. The limitations in the reporting of the review methods and trial results make it difficult to verify the reliability of the author's conclusion.

Authors' objectives
To evaluate the effectiveness of reflexology for the treatment of any medical condition.

Searching
MEDLINE, EMBASE, CINAHL, British Nursing Index, AMED, and the Cochrane Library were searched for studies from inception to February 2009 in any language. Search terms were reported and reference lists of all articles and the author's department files were handsearched. Abstracts and full publications were eligible.

Study selection
Randomised controlled trials (RCTs) that evaluated reflexology delivered by trained reflexologists to patients with specific medical conditions were eligible for inclusion. Trials of non-reflexology foot-massage and those of healthy volunteers were excluded.

The included trials evaluated reflexology given over one to 30 sessions, where reported. Control interventions included placebo reflexology, conventional care, attention control, relaxation, and muscle relaxation. More than one trial evaluated participants: with asthma; after an operation; with multiple sclerosis; and undergoing palliative cancer care. A variety of other conditions were evaluated in single trials. Outcomes measures included biochemical and physiological parameters, symptoms, and measures of pain, well-being and quality of life. Full details of medical conditions, control interventions, and outcomes were reported.

The author did not state how papers were selected for the review, nor how many reviewers performed the selection.

Assessment of study quality
Two reviewers independently assessed validity using the Jadad criteria (randomisation, blinding, and withdrawals); studies were considered to be double-blind if the patient and the outcome assessor were blinded to the treatment group.

Data extraction
The data for relevant outcomes were extracted. The author did not state how many reviewers performed the data extraction.

Methods of synthesis
The trials were combined in a narrative synthesis and differences between the trials, with respect to study quality, type of control, sample size, and medical condition, were discussed.

Results of the review
Eighteen RCTs were included (n=949 participants). Sample size ranged from 12 to 243 and only five trials had more than 50 patients. The duration of follow-up, where reported, ranged from none to six months; in 13 trials it was three months or less.

Five trials suggested positive effects from reflexology, 12 found no evidence of effectiveness, and one trial's results were not clear. Methodological quality was generally poor. Two of the nine RCTs that scored three or more out of five on the Jadad scale reported positive effects for reflexology and seven reported no effects.

Three of the nine placebo-controlled trials reported positive effects of reflexology (control of premenstrual symptoms,
improved quality of life in palliative cancer care, and improved multiple sclerosis symptoms); six trials did not report any therapeutic effect. The two largest trials (n=130 and 243) reported negative effects and no effects.

The results were contradictory for asthma and multiple sclerosis (one positive and one no-effect trial for each condition). Two of three trials of cancer suggested benefit and the other found no difference. Neither of the two trials of postoperative patients reported a positive effect.

**Authors' conclusions**
The best evidence to date did not convincingly demonstrate that reflexology was an effective treatment for any medical condition.

**CRD commentary**
The review question was clearly stated and the inclusion criteria were appropriately defined. Several relevant sources were searched and attempts were made to minimise language bias. Omitting Chinese databases from the search may have led to the omission of some trials. The extent of attempts to minimise publication bias was not clear. Methods were used to minimise reviewer errors and bias in the assessment of validity, but it was not clear whether similar steps were taken in study selection and data extraction. Only RCTs were included and trial validity was assessed, but the results were only reported as a score. The results were generally reported in statistical significance rather than actual values which means it is not possible to verify the reported findings. In view of the differences between trials, a narrative synthesis was appropriate and differences between trials were discussed.

The limitations in the reporting of the review methods and trial results make it difficult to verify the reliability of the author's conclusion.

**Implications of the review for practice and research**

**Practice:** The author did not state any implications for practice.

**Research:** The author stated that future trials might test the various theories to explain the actions of reflexology by rigorously controlling for a placebo effect.

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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.