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The efficacy of reflexology: systematic review

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Review published: 2008.

CRD summary

This review of reflexology concluded that there is no evidence of specific benefits for any conditions, with the exception of urinary symptoms in multiple sclerosis patients. These conclusions were based on a few small studies that may have been too small to detect statistically significant differences. This should be considered when interpreting the authors' conclusions.

Authors' objectives

To assess the efficacy of reflexology in any condition.

Searching

The following databases were searched for papers published between 1996 and 2007: MEDLINE, Cochrane Library, EBM Reviews, SCOPUS, ProQuest, Chinese electronic periodical services and Wangfang. Search terms were reported. Only studies published in English or Chinese were considered for selection.

Study selection

Studies were eligible for this review if they used a controlled clinical trial design (CCT) evaluating reflexology as a standalone modality for any condition (control group was not specified). Reported outcomes had to include symptoms relief, psychological well-being, quality of life or patient perceptions of reflexology. Studies where reflexology was provided in combination with another intervention, the group size was less than 10 or the population was 'a young age group' were excluded.

The included studies were all randomised controlled trials (RCTs) comparing reflexology with no treatment or sham intervention, one study compared different reflexology techniques. The trials reported on the effects of reflexology for multiple sclerosis (MS), menopausal symptoms, bronchial asthma, irritable bowel syndrome and oedema of the feet in late pregnancy. Studies assessed a variety of outcomes and most studies assessed multiple outcomes. Most studies used weekly treatment sessions, total number of sessions ranged from two to 11 and session length was between 15 and 45 minutes. The mean age of the population ranged from 27 to 52 and all included studies looked at different medical conditions.

Two reviewers independently reviewed each study. It was not clear how disagreements were resolved.

Assessment of study quality

Two independent reviewers assessed selected studies for validity based on an evidence rating system from the United States Preventative Services Task Force (USPSTF). Internal validity was assessed based on randomisation, participation rate and description of withdrawals/drop-outs to give a rating of good (meets all criteria), fair (meets some criteria but no fatal flaw) or poor (contains fatal flaw). Research designs were classified in five levels. Only studies which achieved a rating of II-2 fair or better were included (II-2 is a well designed cohort or case-control study). In addition the authors stated that six studies were excluded due to poor internal validity.

Data extraction

For each study, pre-treatment and post-treatment means and standard deviations (SDs) were extracted for the intervention and control groups. These data were then used to calculate Cohen's effect sizes for each study. Where only median, range and sample size were available, a formula was used to estimate the mean and SDs.

The authors did not state how many reviewers extracted the data.

Methods of synthesis

Effect sizes and confidence intervals (CIs) were used to assess the benefits of reflexology and effect sizes were interpreted using Cohen's criteria. Where outcomes could not be calculated a narrative approach was used to synthesise the data.

Results of the review

A total of five RCTs were included in this review (n=251), all of which met basic quality criteria as explained in the Validity Assessment field. In all trials, the control or comparator groups received the same number and duration of contact sessions as the experimental arms. Only one trial specified the type of reflexology techniques used. Statistically significant differences were found only for measures of urinary symptoms, paresthesia and spasticity in patients with MS. No trials reported any adverse effects associated with the use of reflexology.

Multiple Sclerosis (n=53 recruited but analysis based on 27 to 43 completers): statistically significant improvements were reported for the reflexology group over calf massage in urinary symptoms, paresthesia and spasticity. However, the table of effect sizes showed only results for the urinary symptoms were statistically significant (ES = -0.91, 95% CI: -1.55, -0.23). Muscle strength improved only slightly, but at 3 months the improvement in spasticity was still statistically significant.

Menopausal symptoms (n= 69): no significant differences between reflexology and non-specific foot massage were noted in any of the outcomes measured (severity of hot flushes/night sweats, quality of life).

Bronchial asthma (n=40): no significant differences were found in lung function between reflexology and sham foot massage group.

Irritable Bowel Syndrome (n=34): no statistically significant differences were observed between reflexology and sham foot massage for abdominal pain, constipation/diarrhoea or bloating.

Oedema of the feet in late pregnancy (n=55): this trial compared lymphatic versus relaxing reflexology with rest. No significant differences were found between groups for mean ankle and foot circumference measurements following treatment.

Authors' conclusions

Reflexology has shown beneficial effects only for urinary symptoms in MS patients. There is no evidence to support specific benefits in other conditions.

CRD commentary

This review addressed a broad question with partially defined inclusion criteria. It was unclear what age range was excluded and no justification was given for excluding studies where reflexology was an addition to another treatment. Several databases were searched, but it was not clear if any attempt was made to identify unpublished literature (introducing publication bias) and the main complementary medicine database was not used (EMBASE). Overall, the chance of reviewer error and bias was reduced by having two independent reviewers carry out most stages of the process. The validity assessment may have been appropriate but was not clearly reported, so useful studies may have been erroneously excluded at this stage. A narrative synthesis based on effect sizes and significant differences was appropriate given the differences between studies. There was limited evidence about urinary symptoms in MS based on one small study that assessed multiple outcomes. In addition, no evidence of a statistically significant treatment effect in small studies does not equate to evidence of no effect. These aspects should be considered when interpreting the authors' conclusions.

Implications of the review for practice and research

Practice: The authors stated that routine provision of reflexology is not recommended

Research: The authors stated that further studies comparing reflexology with other control conditions in larger samples with more appropriate outcome measures would determine if reflexology has any beneficial effects.

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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.

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CRD has determined that this article meets the DARE scientific quality criteria for a systematic review.

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