Are homoeopathic remedies effective for delayed-onset muscle soreness: a systematic review of placebo-controlled trials

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Authors' objectives
To determine whether homeopathic remedies are more effective than placebo in reducing the signs and symptoms of delayed-onset muscle soreness (DOMS).

Searching
MEDLINE, EMBASE, CISCOM, and the Cochrane Library were searched from their inception to July 1997. In addition, published reviews of homeopathy and DOMS were examined, and the bibliographies of all papers found were scanned for other relevant publications. Publications in any language were considered.

Study selection
Study designs of evaluations included in the review
The included studies were clinical trials on the use of homeopathy for reducing DOMS in human volunteers, which contained a control group receiving placebo. The trials were conducted under double-blind conditions.

Specific interventions included in the review
Placebo versus Rhus toxicodendron (D2 to D8), Rhus toxicodendron D4, Arnica (D2 to D8), Arnica montana D30, Arnica montana 30C plus Rhus toxicodendron, and Arnica montana 30C plus Rhus toxicodendron plus sarcolactic acid 30C. These were taken for one day prior to exercise, for 6 to 7 days post-exercise, or for one day prior to exercise then continued after exercise until cessation of soreness.

Participants included in the review
The participants were healthy volunteers who underwent some form of exercise to induce DOMS.

Outcomes assessed in the review
The outcomes assessed were: soreness intensity (rating scale) and duration; maximal isometric muscle strength; blood tests and serum creatine kinase concentrations; mean muscle soreness during 5 post-exercise days; the number of symptom-free days; maximum soreness score; the number of days to no soreness; and the number of days of no medication.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
The methodological quality of the trials was assessed using a predefined list of criteria, where a score of greater than 54 indicated studies of higher quality (see Other Publications of Related Interest). The authors do not state how the papers were assessed for quality, or how many of the authors performed the quality assessment.

Data extraction
Data were extracted independently by both authors using a standardised form, and any disagreements were resolved through discussion.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative summary which discussed and grouped the results from the individual studies. The results were reported without the original statistical data from the individual trials.

How were differences between studies investigated?
The authors judged that there was a high level of heterogeneity between the included studies based on the differences between remedies used, administration schedules, potencies of remedies, and type of exercise used to induce DOMS.

Results of the review
Eight trials were included: 3 randomised, double-blind placebo-controlled trials (168 participants), and 5 non-randomised, double-blind placebo-controlled trials (143 participants).

The quality scores for the included studies ranged from 38 to 85, with 5 of the 8 studies scoring 38.

The 3 randomised trials reported statistically non-significant differences between the treatment and placebo groups for all outcome measures.

Three non-randomised trials reported statistically-significant differences in favour of Arnica montana and Rhus toxicodendron (D4 and D2) for 6 to 7 days post-exercise with regard to muscle strength, but these results were not demonstrated for Rhus toxicodendron D4 in a second trial. The results for Rhus toxicodendron were inconclusive for muscle soreness.

Arnica montana D3 was associated with a reduction in the duration of muscle soreness in one of the non-randomised trials.

Authors’ conclusions
The published evidence to date does not support the hypothesis that homeopathic remedies used in these studies (mainly Rhus toxicodendron and Arnica montana) are more efficacious than placebo in addressing the symptoms of DOMS.

CRD commentary
The authors included non-English trials in the review. The inclusion criteria for the individual trials and their participants were stated, and the author assessed the quality of the primary trials. It was not stated, however, how the trials were selected for inclusion or how study quality was assessed.

The authors listed the primary trials and the data extracted in tabular format, and discussed these data in the review. However, some of the participants’ details, i.e. age and gender, were not reported consistently.

The authors presented the data in a narrative format but did not report any statistical measurements that were used in the individual trials. This made it impossible to verify the results stated by the authors in this review. Heterogeneity was assessed in the narrative, based on the study characteristics used in the trials.

It was not possible to evaluate whether the authors’ conclusions were supported by their review due to the lack of primary data reported.

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

Bibliographic details
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Other publications of related interest

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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.