
Herbal medicines for the treatment of rheumatoid arthritis: a systematic review

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CRD summary

This review assessed herbal medicines for the treatment of rheumatoid arthritis. The authors concluded that some preparations containing gamma-linoleic acid reduce pain, tender joint count and stiffness, and that herbal medicines are generally safe. The conclusion may be over optimistic because few studies were included, and the studies were small and certainly not sufficient to draw reliable conclusions about safety.

Authors' objectives

To determine the efficacy and safety of herbal medicines for the treatment of rheumatoid arthritis.

Searching

MEDLINE, EMBASE, CINAHL, the Science Citation Index, BIDS-ISI, the Cochrane Controlled Trials Register and the Cochrane Complementary Medicine Field Trials Registry were searched from 1966 to 2001 for publications in any language; the search terms were reported. The reference lists of articles obtained were checked for additional studies.

Study selection

Study designs of evaluations included in the review

Randomised controlled trials (RCTs) were eligible for inclusion. All the included trials were double-blind, all but one were placebo controlled, and two used a crossover design.

Specific interventions included in the review

Studies that compared oral or topical preparations of herbal medicines with placebo or active therapy were eligible for inclusion. The studies had to describe the dosage of the herbal preparation. Studies of Phytodolor and studies of semi-synthetic plant-based drugs were excluded. The actual interventions included were borage seed oil, evening primrose oil, blackcurrant seed oil, capsaicin, curcumin, feverfew, flaxseed oil, H15, RA-1, Reumalex and Tripterygium wilfordii Hook F. The treatment regimens varied and the duration of treatment ranged from 2 weeks to 6 months.

Participants included in the review

Patients with rheumatoid arthritis were eligible for inclusion. Details of the characteristics of the participants included were not presented systematically; aspects mentioned in the text in relation to some studies indicated that patients with active and mild disease were included.

Outcomes assessed in the review

The inclusion criteria for the outcomes were not stated. To be included, the studies had to report baseline and end point clinical data. The outcomes recorded included pain, morning stiffness, affected joint counts or scores, and global assessment. Adverse effects were also included.

How were decisions on the relevance of primary studies made?

Two reviewers applied the inclusion criteria independently and resolved any differences by discussion.

Assessment of study quality

Study quality was assessed in terms of randomisation, double-blinding and drop-outs, using a published instrument to obtain a quality score out of 5. Two reviewers applied the quality assessment criteria independently and resolved any differences by discussion.

Data extraction

Two reviewers extracted the data independently and resolved any differences by discussion. Where possible, baseline and end point data for the treatment and control groups were extracted to calculate the mean change in effect size for each study.

Methods of synthesis

How were the studies combined?

The studies were described narratively, grouped as preparations containing gamma-linoleic acid (GLA) or other herbal preparations, and further grouped by the specific herbal preparation. GLA studies that provided consistent effect size data were combined, using a meta-analysis of standardised mean differences (SMDs), to obtain pooled weighted effect sizes with 95% confidence intervals (CIs).

How were differences between studies investigated?

A statistical test of homogeneity was applied in the meta-analysis. Differences in some study characteristics were shown in a table or mentioned in the text.

Results of the review

Fourteen studies (n=645) were included.

All of the included trials were rated as high quality, scoring 3 or more out of 5.

There were 6 studies of GLA preparations, either borage seed oil (2 trials), evening primrose oil (3 trials) or blackcurrant seed oil (1 trial). The trials of evening primrose oil showed inconsistent results. The borage and blackcurrant seed oil trials were pooled in the meta-analysis; the 3 trials together included 117 patients. The pooled effect size for swollen joint count was not statistically significant. Significant differences in favour of GLA were shown for pain measured on a visual analogue scale (SMD 0.76, 95% CI: 0.38, 1.15), tender joint count (SMD 0.92, 95% CI: 0.47, 1.38) and stiffness (SMD 0.22, 95% CI: 0.02, 0.90).

There was one trial each of non-GLA herbal preparations. *Tripterygium wilfordii* Hook F showed significant improvement in tenderness, swelling, stiffness and grip strength compared with placebo (n=70). Reumalex, RA-1 and capsaicin showed significant improvement in only one measure of outcome in the respective trials. The trials of curcumin, feverfew, flaxseed oil and H15 showed no evidence of effect.

Most adverse effects reported were minor.

Authors' conclusions

There was moderate support for GLA having a medium to strong effect on reducing pain and tender joint count and a small effect on reducing stiffness in rheumatoid arthritis for those with active disease. However, there was only weak evidence for other herbal preparations. The authors also stated that, in general, herbal preparations were relatively safe.

CRD commentary

The review addressed a clear question and undertook a comprehensive search for published trials. The potential influence of publication bias (which tends to overestimate treatment effects) was not considered in the report. The authors assessed the quality of the trials, but there are more informative ways of doing it than the method they used. Hence, the quality rating may not best reflect the potential for bias in the included trials. The authors' conclusion about GLA appears to be based on the meta-analysis of standardised effect sizes. Given the small number and size of the trials, the questionable ascertainment of high quality, and the unexplored potential for publication bias in the review, the conclusion may be over optimistic. The studies included in the review are not sufficient to draw reliable conclusions about safety.

Implications of the review for practice and research

Practice: The authors stated that long-term safety data on the herbal preparations reviewed are lacking.

Research: The authors stated that further research is needed to determine the efficacy, safety and potential drug interactions of the interventions reviewed. Measures of outcome in future trials should include disability, joint pain and swelling, pain, and patient and physician global assessment.

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