Chinese herbal medicines in the treatment of acute respiratory infections: a review of randomised and controlled clinical trials

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Authors' objectives
To review clinical trials of Chinese herbal medicines (CHMs) in the management of acute respiratory infections (ARIs).

Searching

The search terms included: 'CHMs' and 'acute respiratory infections' (or 'bronchiolitis', 'pneumonia' or 'viral infections'); 'random allocation'; 'treatment group/control group'; 'CHMs group'/Western medicine group'.

Study selection
Study designs of evaluations included in the review
Studies in which a control group was used to compare CHMs with placebo or Western medicine.

Specific interventions included in the review
CHMs (herbal tea, herbal aerosol, herbal injection, herbal patent medicine, topical herbal preparations) in comparison with a placebo or 'Western medicine' (antibiotics, cough mixture, antiviral agents) for treating ARIs. Treatment duration was three to seven days for upper respiratory tract infections, and more than seven days for lower respiratory tract infections.

Participants included in the review
Outpatient and inpatient, adults and children with a diagnosis of acute respiratory infection including both upper and lower respiratory tract infections.

Outcomes assessed in the review
Outcome measures were not specified a priori. The studies reported in the review used various outcomes including: cured/effect; fever removed; cough/wheeze relieved; sore throat/tonsillitis relieved; chest crackles resolved; hospitalisation; laboratory test (X-ray or white cell count) and side-effects recorded.

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 reviewers performed the selection.

Assessment of study quality
The quality of the studies was assessed from four perspectives: patient allocation, treatment description, outcome assessment and data analysis. The authors do not state how the papers were assessed for quality, or how many of the reviewers performed the quality assessment.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction. Data were extracted on: study design (patients, sample size, setting, patient allocation, blinding and days of
outcome observed), intervention (experimental group, control group), outcome measures and analysis (baseline data compared, outcome compared, t or P value reported).

**Methods of synthesis**
How were the studies combined?
A narrative approach was used to summarise and synthesise study results.

How were differences between studies investigated?
Differences between the studies were discussed for each section (e.g. patient allocation, data analysis).

**Results of the review**
Twenty-seven studies fulfilled the inclusion criteria: ten studies involved upper respiratory tract infections (1991 participants) and seventeen involved lower respiratory tract infections (at least 2130 participants).

CHMs were reported to have a significantly higher effect rate in 15 of 22 studies. Generally, CHMs were reported to produce greater improvement in clinical symptoms and physical signs and a shorter hospital stay.

Five out of seven studies testing Maxingshigangton and all studies using Shuang Huang Lian reported better treatment effects on bronchiolitis and pneumonia.

**Authors’ conclusions**
Because the trial methodology of the studies was often inadequate or insufficiently documented, it is difficult to recommend the use of CHMs in ARIs. More rigorous evaluation of CHMs is needed, as they are becoming popular treatments in many countries.

**CRD commentary**
Overall the methodology of this review was adequate but compromised by the poor quality of the included studies. It addressed a clear review question and included appropriate inclusion/exclusion criteria. The literature search was adequate though no attempts were made to locate unpublished data leading to possible publication bias. The authors provided no information on how the studies were selected for the review or how quality was assessed. There was also no explanation of how they extracted data from the studies. Appropriate data was presented for individual studies but the specific type of CHM used was not reported. The authors draw suitable conclusions from their results and include good recommendations for further research.

**Implications of the review for practice and research**
Practice: The authors state that because the trial methodology of the studies was often inadequate or insufficiently documented, it is difficult to recommend the use of CHMs in ARIs.

Research: The authors state that their analysis indicates the need for more rigorous evaluation of CHMs, including descriptions of their derivation, preparation, standardisation, potency, safety and efficacy, if they are to meet modern Western criteria for use.

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