Zinc and the common cold: a meta-analysis revisited

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Authors' objectives
To evaluate the effect of treating colds with zinc gluconate.

Searching
MEDLINE was searched from 1966 to 1998 (search terms provided) and a supplementary search was performed by a librarian. Other sources searched were the National Institute of Health database of funded studies (1972 to 1998), the Cochrane Controlled Trials Register and relevant papers.

Study selection
Study designs of evaluations included in the review
Randomised placebo controlled trials.

Specific interventions included in the review
Zinc gluconate (4.5mg to 23.7mg) or zinc acetate (9mg-10mg). The control group was placebo.

Participants included in the review
Patients with community acquired colds. Studies of volunteers who were inoculated with the rhinovirus were excluded.

Outcomes assessed in the review
Incidence of any cold symptom at one week.

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 studies were scored for quality using the Chalmers criteria. Articles were stripped of identifying features and reviewed by two investigators.

Data extraction
Data were extracted by committee consensus in an unblinded manner. Additional data that were extracted included: country of origin, funding sources, study population, disease characteristics, nature and dose of intervention, duration and success of follow-up. Study investigators were contacted for data that were either ambiguous or not directly retrievable from the text.

Methods of synthesis
How were the studies combined?
Summary incidence and odds ratios (ORs) were calculated, and the studies pooled using the random-effects model of DerSimonian and Laird.

How were differences between studies investigated?
Unweighted data were tested for homogeneity using the methods of Mantel-Haenszel. There was significant homogeneity in the results so a random-effects model was used. The possibility of publication bias was assessed using the methods of Egger et al (see Other Publications of Related Interest no.1).
Results of the review
Eight RCTs with a total of 890 participants were included.

Quality:
The trials had consistent, moderate-quality scores and there was good inter-rater agreement on study quality (k=0.73).

Publication bias:
The possibility of publication bias was assessed and rejected (p=0.09).
The summary OR for the incidence of any cold symptom at one week was 0.52 (95% CI: 0.25, 1.2).

Authors’ conclusions
Despite numerous randomised trials, the evidence for effectiveness of zinc lozenges in reducing the duration of common colds is still lacking.

CRD commentary
This review has a clear objective and well-defined inclusion criteria. The search strategy is adequate, and the possibility of publication bias is explored. Although the authors report extracting data on a number of variables from the studies, these are not reported in tables. Overall, the conclusions follow on from the results of the review.

Implications of the review for practice and research
Practice: The evidence for effectiveness of zinc lozenges in reducing the duration of common colds is still lacking.

Research: The authors do not state any implications for further research.

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Other publications of related interest


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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.