



HerbClip™

Mariann Garner-Wizard
John Neustadt, ND
Cathleen Rapp, ND

Shari Henson
Heather S Oliff, PhD
Densie Webb, PhD

Brenda Milot, ELS
Marissa Oppel, MS

Executive Editor – Mark Blumenthal

Managing Editor – Lori Glenn

Consulting Editors – Dennis Awang, PhD, Steven Foster, Roberta Lee, MD

Funding/Administration – Wayne Silverman, PhD

Production – George Solis/Kathleen Coyne

FILE: ■ Echinacea (*Echinacea* spp.)
■ Common Cold
■ Systematic Literature Review

HC 020161-299

Date: February 28, 2006

RE: Literature Review of the Effectiveness of Echinacea in Treating and Preventing the Common Cold

Linde K, Barrett B, Wölkart K, Bauer R, Melchart D. Echinacea for preventing and treating the common cold (review). *The Cochrane Library*. 2006;1:1-39.

Echinacea preparations are widely used by consumers and practitioners in the United States and Europe for preventing and treating upper respiratory tract infections (URTIs) such as the common cold. Despite the popularity of this herb, available evidence from clinical trials of its effectiveness is inconsistent. The assessment of *Echinacea*'s effectiveness is complicated for several reasons: three different species (*E. angustifolia*, *E. purpurea*, and *E. pallida*) are used medicinally; different parts of the plant (root, herb, flower, or whole plant) are used in different preparations; different extraction methods are used in production; and some products contain other plant extracts or homeopathic components. The objective of this updated review was to evaluate whether evidence exists from randomized controlled trials that *Echinacea* preparations are more effective than no treatment, more effective than placebo, or about as effective as other treatments in preventing and treating the common cold. An interesting aspect of this updated review is the inclusion of pharmaceutical experts to better examine outcome data from primary studies.

The authors conducted a literature search to identify randomized controlled trials of the effectiveness of *Echinacea* preparations in treating and preventing nonspecific viral and other types of URTIs. To be included in the review, the studies had to contain clinical outcome measures related to the occurrence (prevention studies) or the duration or severity (treatment studies) of infection. Studies of combinations of *Echinacea* with other herbs were excluded. The following databases were searched: the Cochrane Central Register of Controlled Trials (2005), PubMed (1997 to April 2005), EMBASE (1998 to June 2005), AMED (through August 2005), and the Centre for Complementary Medicine Research (1988 to May 2005). At least two authors independently assessed the quality of the identified trials for eligibility in this review. For the prevention trials, the outcomes of interest were the number of subjects with one or more colds, the duration of the colds, and

the severity of the colds. For the treatment trials, the outcome measures were total symptom scores, nasal symptoms, and the duration of the colds.

Sixteen studies met the inclusion criteria: five from the United States, five from Germany, three from Canada, two from Sweden, and one from Russia. Most of these studies were rated as being of "reasonable to good methodological quality." Two of the studies were classified as prevention trials, five as self-treatment trials, nine as treatment trials; there was a total of 20 experimental groups in the 16 trials reviewed. In the two prevention trials, no significant differences between the *Echinacea*-treated and placebo groups were found with regard to the number of participants with colds or the duration or severity of the colds. One treatment trial with a no-treatment comparison group showed a trend towards better symptom scores in children with colds who received a freshly expressed juice preparation of *E. purpurea*. One trial that tested the efficacy of pressed juice from the aerial part of *E. purpurea* in preventing "the full picture of a cold" in persons with early cold symptoms showed a significant effect over placebo. Of six trials that measured the effects of five different *Echinacea* preparations on the severity and duration of colds relative to the effect of placebo, only two showed a significant effect over placebo. In the only trial reviewed that compared the effectiveness of *Echinacea* with that of a non-*Echinacea* intervention (an herbal preparation containing extracts of andrographis [*Andrographis paniculata*] and eleuthero [*Eleutherococcus senticosus*]), the results showed that the non-*Echinacea* intervention decreased the severity of cold symptoms in children significantly better than did a pressed juice extract of *E. purpurea*. Of the 16 trials reviewed, the primary authors and the reviewers both concluded that nine showed significant effects over placebo, one showed a trend in favor of the *Echinacea* preparation, and six showed no significant differences between the *Echinacea*-treated groups and the comparison groups.

The main findings of this systematic review were as follows:

- 1) the variety of commercially available *Echinacea*-containing products assessed contained different amounts of bioactive compounds and cannot be considered biochemically comparable.
- 2) the methods used to assess cold variables were highly variable.
- 3) most of the trials reviewed had reasonable to good methodology based on assessment of two independent reviewers using the Jadad method.¹
- 4) preparations based on the aerial parts of *E. purpurea* "[may] be effective in the early treatment of colds in adults, but results are not fully consistent." There is no clear evidence that other preparations work or that children benefit.
- 5) adverse side effects associated with *Echinacea* preparations were infrequent or minor and mostly similar to placebo. Rashes were reported in one trial in children.

The findings were not easy to interpret because of the heterogeneity of the products tested, because other unpublished and probably negative trials exist that were not identified, and because the results of the placebo-controlled treatment and self-treatment trials were "clearly positive...or negative." The authors expected that a larger number of trials would show "less extreme results."

The authors note that it is important that consumers be aware of the great differences between *Echinacea*-containing products and that most of these products have not undergone clinical testing. A German drug regulatory agency recommends that *Echinacea* preparations not be taken for longer than eight weeks at a time given the lack of data on long-term use. Because of the widespread use of *Echinacea* products, "further research is clearly desirable." Note that this article contains several pages of tabular data containing detailed characteristics of the 16 studies reviewed, including the specific *Echinacea* preparations studied, dosages, treatment periods, and subject data. Some characteristics of other trials of *Echinacea* that were not included in this review are also listed.

—Brenda Milot, ELS

Reference

1Jadad AR, Moore RA, Carrol D, et al. Assessing the quality of reports of randomized trials: is blinding necessary? *Controlled Clin Trials*. 1996;17:1-12.

The American Botanical Council has chosen not to reprint the original article.

The American Botanical Council provides this review as an educational service. By providing this service, ABC does not warrant that the data is accurate and correct, nor does distribution of the article constitute any endorsement of the information contained or of the views of the authors.

ABC does not authorize the copying or use of the original articles. Reproduction of the reviews is allowed on a limited basis for students, colleagues, employees and/or members. Other uses and distribution require prior approval from ABC.