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## ORIGINAL ARTICLE

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## An Evaluation of *Echinacea angustifolia* in Experimental Rhinovirus Infections

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### ABSTRACT

**Background** *Echinacea* has been widely used as an herbal remedy for the common cold, but efficacy studies have produced conflicting results, and there are a variety of *echinacea* products on the market with different phytochemical compositions. We evaluated the effect of chemically defined extracts from *Echinacea angustifolia* roots on rhinovirus infection.

**Methods** Three preparations of *echinacea*, with distinct phytochemical profiles, were produced by extraction from *E. angustifolia* roots with supercritical carbon dioxide, 60 percent ethanol, or 20 percent ethanol. A total of 437 volunteers were randomly assigned to receive either prophylaxis (beginning seven days before the virus challenge) or treatment (beginning at the time of the challenge) either with one of these preparations or with placebo. The results for 399 volunteers who were challenged with rhinovirus type 39 and observed in a sequestered setting for five days were included in the data analysis.

**Results** There were no statistically significant effects of the three *echinacea* extracts on rates of infection or severity of symptoms. Similarly, there were no significant effects of treatment on the volume of nasal secretions, on polymorphonuclear leukocyte or interleukin-8 concentrations in nasal-lavage specimens, or on quantitative-virus titer.

**Conclusions** The results of this study indicate that extracts of *E. angustifolia* root, either alone or in combination, do not have clinically significant effects on infection with a rhinovirus or on the clinical illness that results from it.

### Source Information

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