Review

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Evaluation of echinacea for the prevention and treatment of the common cold: a meta-analysis

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- PMID: **17597571**
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Erratum in

- Lancet Infect Dis. 2007 Sep;7(9):580

Abstract

Echinacea is one of the most commonly used herbal products, but controversy exists about its benefit in the prevention and treatment of the common cold. Thus, we did a meta-analysis evaluating the effect of echinacea on the incidence and duration of the common cold. 14 unique studies were included in the meta-analysis. Incidence of the common cold was reported as an odds ratio (OR) with 95% CI, and duration of the common cold was reported as the weighted mean difference (WMD) with 95% CI. Weighted averages and mean differences were calculated by a random-effects model (DerSimonian-Laird methodology). Heterogeneity was assessed by the Q statistic and review of L'Abbé plots, and publication bias was assessed through the Egger weighted regression statistic and visual inspection of funnel plots. Echinacea decreased the odds of developing the common cold by 58% (OR 0.42; 95% CI 0.25-0.71; Q statistic p<0.001) and the duration of a cold by 1.4 days (WMD -1.44, -2.24 to -0.64; p=0.01). Similarly, significant reductions were maintained in subgroup analyses limited to Echinaguard/Echinacin use, concomitant supplement use, method of cold exposure, Jadad scores less than 3, or use of a fixed-effects model. Published evidence supports echinacea's benefit in decreasing the incidence and duration of the common cold.

Figures

Figure 1

5

Echinacea purpurea flower

Figure 1

13

Echinacea purpurea flower

Figure 1

Echinacea purpurea flower

Figure 2

5

Study identification, inclusion, and exclusion

Figure 2

13

Study identification, inclusion, and exclusion

Figure 2

Study identification, inclusion, and exclusion

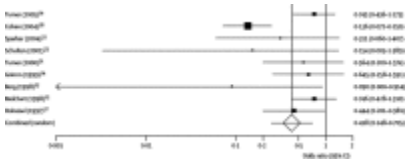

Figure 3

5

The effect of echinacea on…

Figure 3

13

The effect of echinacea on incidence of common cold The squares represent individual…

Figure 3

The effect of echinacea on incidence of common cold The squares represent individual studies and the size of the square represents the weight given to each study in the meta-analysis. Error bars represent 95% CIs. The diamond represents the combined result. The solid vertical line extending upwards from 1·0 is the null value.

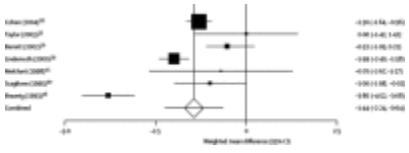

Figure 4

5

The effect of echinacea on…

Figure 4

13

The effect of echinacea on duration of common cold The squares represent individual…

Figure 4

The effect of echinacea on duration of common cold The squares represent individual studies and the size of the square represents the weight given to each study in the meta-analysis. Error bars represent 95% CIs. The diamond represents the combined result. The solid vertical line extending upwards from 0 is the null value.

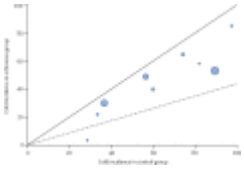

Figure 5

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L'Abbé plot for incidence of…

Figure 5

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L'Abbé plot for incidence of common cold Each dot represents an individual study.…

Figure 5

L'Abbé plot for incidence of common cold Each dot represents an individual study. Symbol size represents sample size.

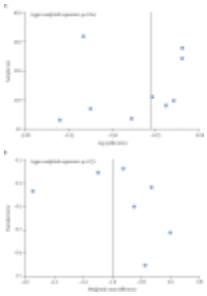

Figure 6

5

Funnel plots of common cold…

Figure 6

Funnel plots of common cold incidence and duration (A) Incidence of cold. (B)…

Figure 6

Funnel plots of common cold incidence and duration (A) Incidence of cold. (B) Duration of cold. Vertical line represents the combined effect observed in the analysis.

Comment in

- Benefit of echinacea for the prevention and treatment of the common cold?

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