

Efficacy and Safety of Eucalyptus for Relief Cough Symptom: A Systematic Review and Meta-Analysis

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Abstract : Cough is the common symptom of the respiratory tract infections or non-infections; the duration of cough indicates a classification and severity of disease. Herbal medicines can be used as the alternative to drugs for relief of cough symptoms from acute and chronic disease. Eucalyptus was used for reducing cough with evidences suggesting it has an active role in reduction of airway inflammation. The present study aims to evaluate efficacy and safety of eucalyptus for relief of cough symptom in respiratory disease. Method: The Cochrane Library, MEDLINE (PubMed), Scopus, CINAHL, Springer, Science direct, ProQuest, and THAILIS databases. From its inception until 01/02/2019 for randomized control trials. We follow for the efficacy and safety of eucalyptus for reducing cough. Methodological quality was evaluated by using the Cochrane risk of bias tool; two reviewers in our team screened eligibility and extracted data. Result: Six studies were included for the review and five studies were included in the meta-analysis, there were 1.911 persons including children (n: 1) and adult (n: 5) studies; for study in children and adult were between 1 and 80 years old, respectively. Eucalyptus was used as mono herb (n: 2) and in combination with other herbs form (n: 4). All of the studies with eucalyptus were compared for efficacy and safety with placebo or standard treatment, Eucalyptus dosage form in studies included capsules, spray, and syrup. Heterogeneity was 32.44 used random effect model ($I^2 = 1.2\%$, $\chi^2 = 1.01$; P-value = 0.314). The efficacy of eucalyptus was showed a reduced cough symptom statistically significant (n = 402, RR: 1.40, 95%CI [1.19, 1.65], P-value < 0.0001) when compared with placebo. Adverse events (AEs) were reported mild to moderate intensity with mostly gastrointestinal symptom. The methodological quality of the included trials was overall poor. Conclusion: Eucalyptus appears to be beneficial and safe for relieving in respiratory diseases focus on cough frequency. The evidence was inconclusive due to limited quality trial. Well-designed trials for evaluating the effectiveness in humans, the effectiveness for reducing cough symptom in human is needed. Eucalyptus had safety as monotherapy or in combination with other herbs.

Keywords : cough, eucalyptus, cineole, herbal medicine, systematic review, meta-analysis

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