

Evidence synthesis

Primary care

Effectiveness of honey for symptomatic relief in upper respiratory tract infections: a systematic review and meta-analysis

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Author affiliations Effectiveness of honey for symptomatic relief in upper respiratory tract infections

Abstract

Background Antibiotic over prescription for upper respiratory tract infections (URTIs) in primary care exacerbates antimicrobial resistance. There is a need for effective alternatives to antibiotic prescribing. Honey is a lay remedy for URTIs, and has an emerging evidence base for its use. Honey has antimicrobial properties, and guidelines recommended honey for acute cough in children.

Objectives To evaluate the effectiveness of honey for symptomatic relief in URTIs.

Methods A systematic review and meta-analysis. We searched Pubmed, Embase, Web of Science, AMED, Cab abstracts, Cochrane Library, LILACS, and CINAHL with a combination of keywords and MeSH terms.

Results We identified 1345 unique records, and 14 studies were included. Overall risk of bias was moderate. Compared with usual care, honey improved combined symptom score (three studies, mean difference -3.96 , 95% CI -5.42 to -2.51 , $I^2=0\%$), cough frequency (eight studies, standardised mean difference (SMD) -0.36 , 95% CI -0.50 to -0.21 , $I^2=0\%$) and cough severity (five studies, SMD -0.44 , 95% CI -0.64 to -0.25 , $I^2=20\%$). We combined two studies comparing honey with placebo for relieving combined symptoms (SMD -0.63 , 95% CI -1.44 to 0.18 , $I^2=91\%$).

Conclusions Honey was superior to usual care for the improvement of symptoms of upper respiratory tract infections. It provides a widely available and cheap alternative to antibiotics. Honey could help efforts to slow the spread of antimicrobial resistance, but further high quality, placebo controlled trials are needed.

PROSPERO registration No Study ID, CRD42017067582 on PROSPERO: International prospective register of systematic reviews (<https://www.crd.york.ac.uk/prospero/>).

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Summary box

What is already known about this subject?

- Honey is a well known lay therapy for symptoms of upper respiratory tract infections (URTIs); other medications for URTIs are ineffective and can have harmful side effects
- The use of antibiotics for URTIs is a particular problem, because they are ineffective, and contribute to antimicrobial resistance
- A Cochrane systematic review found that honey can improve cough in children; honey has not been systematically reviewed for other URTI symptoms, or in other patient groups

What are the new findings?

- Honey is more effective than usual care alternatives for improving URTI symptoms, particularly cough frequency and cough severity
- Comparisons with placebo are more limited, and require more high quality, placebo controlled trials

How might it impact on clinical practice in the foreseeable future?

- There are currently very few effective options that clinicians can prescribe for URTIs
- Honey can be used as an alternative to antibiotics by clinicians who wish to offer treatment for URTIs, which may help to combat antimicrobial resistance