

Journal Review II

By Ron Feise, DC

Paul IM, Beiler J, McMonagle A, Shaffer ML, Duda L, Berlin CM Jr. Effect of honey, dextromethorphan, and no treatment on nocturnal cough and sleep quality for coughing children and their parents. *Arch Pediatr Adolesc Med* 2007;161:1140-6.

SYNOPSIS: This was a blinded, randomized, clinical trial that compared the effects of a single nocturnal dose of buckwheat honey or honey-flavored dextromethorphan (DM) with no treatment on nocturnal cough and sleep difficulty associated with childhood upper-respiratory-tract infections. One hundred five children aged 2 to 18 years with upper-respiratory-tract infections, nocturnal symptoms, and illness duration of 7 days or less participated. A single dose of buckwheat honey, honey-flavored DM, or no treatment were administered 30 minutes prior to bedtime.

Differences in symptom improvement were detected between treatment groups, with honey consistently scoring the best and no treatment scoring the worst. In paired comparisons, honey was superior to no treatment for cough frequency and the combined score, but DM was not better than no treatment for any outcome.

RESEARCH QUALITY:

Overall, this study had good methodological rigor.

Additional quality features: 1) appropriate design, blinding and controls; 2) clearly stated inclusion and exclusion criteria; 3) concealed randomization assignment; 4) thoroughly described treatment methods; 5) valid, reliable, and relevant primary outcome measure; 6) suitable measurement period; 7) ac-

ceptable sample size; 8) groups clinically similar at the start of the trial; and 9) no loss to follow-up.

CONCLUSION: Honey provided the most favorable symptomatic relief for a child's nocturnal cough and sleep difficulty due to upper-respiratory-tract infection.

COMMENTS: *Upper-respiratory-tract infections and cough are a common occurrence for which consumers spend billions of dollars per year on over-the-counter (OTC) medications for cough.*¹ *Paul found that neither DM nor diphenhydramine was superior to placebo for outcomes related to cough and sleep quality.*² *Furthermore, DM for treatment of cough in childhood is not supported by the American Academy of Pediatrics or the American College of Chest Physicians.*^{3,4}

DM is associated with numerous reports of serious adverse events described in the medical literature, such as dystonia, anaphylaxis, and bullous mastocytosis with standard doses, and dependence, psychosis, mania hallucinations, ataxia, somnolence, insulin-dependent diabetes mellitus, peripheral neuropathy, cerebellar degeneration, megaloblastic anemia, and death with higher doses. Further, DM is increasingly being used as a recreational drug of abuse, particularly by adolescents.

In contrast to DM, honey is generally recognized as safe, with the exceptions of the risk of infantile botulism for children younger than 1 year and the rare risk of grayanotoxin-mediated syndrome characterized by salivation, emesis, circumoral and extremity paresthesias, hypotension, bradycardia, and, occasionally, cardiac rhythm disturbances.^{5,6}

*This is a good example of how evidence-based principles and procedures can help practitioners select effective and safe treatment. Chiropractors who embrace evidence-based practice not only improve patient outcomes, but they also increase market share.*⁷

Warning. Health care professionals should not automatically use information from research studies (especially abstracts) to make decisions about patient care, because health care literature suffers from inconsistent quality and frequently distorts research findings. To improve the likelihood of applying valid/appropriate research conclusions to your practice and to avoid invalid/inappropriate research findings, health care professionals should use reviews that apply the following model: **Critical Appraisal & Previous Relevant Evidence (CAPRE)**. Reviewers using this model do the following: 1) formally report upon the quality of the research methods; 2) estimate the impact of bias upon the study's conclusion; and 3) connect the present study with previously published research. ■

This review is an excerpt from Direction of the Evidence, published by the Institute of Evidence-Based Chiropractic, whose aim is the integration of science into chiropractic practice in order to improve patient outcomes. Dr. Feise can be reached at rjf@chiroevidence.com.

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