

Press releases

(1) Penn State

(2) JAMA

(3) Press Association

Contact: Megan W. Manlove

mwm18@psu.edu

717-531-8604

Penn State

Honey a better option for childhood cough than OTCs

A new study by a Penn State College of Medicine research team found that honey may offer parents an effective and safe alternative than over the counter children's cough medicines.

The study found that a small dose of buckwheat honey given before bedtime provided better relief of nighttime cough and sleep difficulty in children than no treatment or dextromethorphan (DM), a cough suppressant found in many over-the-counter cold medications.

Honey did a better job reducing the severity, frequency and bothersome nature of nighttime cough from upper respiratory infection than DM or no treatment. Honey also showed a positive effect on the sleep quality of both the coughing child and the child's parents. DM was not significantly better at alleviating symptoms than no treatment.

These findings are especially notable since an FDA advisory board recently recommended that over-the-counter cough and cold medicines not be given to children less than 6 years old because of their lack of effectiveness and potential for side effects.

The results are published by Penn State College of Medicine researchers, led by Ian Paul, M.D., M.Sc., in this month's Archives of Pediatrics and Adolescent Medicine.

In a previous study published in 2004, Paul and colleagues showed that neither DM nor diphenhydramine, another common component of cold medications, performed better than a placebo at reducing nighttime cough or improving sleep quality. However, honey has been used for centuries in some cultures to treat upper respiratory infection symptoms like cough, and is considered to be safe for children over 12 months old. Honey has well-established antioxidant and antimicrobial effects, which could explain its contributions to wound healing. Honey also soothes on contact, which may help explain its effect on cough as suggested by the World Health Organization.

In the latest study, the researchers enrolled 105 children between the ages of 2 and 18 at a single university-affiliated physician practice site. On the first night of the study, children received no treatment. Parents answered five questions about their child's cough and sleep quality as well

as about their own sleep quality. On the second night, children received either honey, artificial honey-flavored DM or no treatment about a half hour prior to going to bed. Parents answered the same five questions the following morning.

The randomized study was partially double-blinded: Medical staff did not know what treatment each participating family received when distributing their sealed syringe-containing envelope. Parents of children who received honey or artificial honey-flavored DM in a measured syringe were blinded to their treatment group. Parents of children in the no treatment group received an empty syringe, and therefore were aware of their child's treatment group.

Across the board, parents rated honey as significantly better than DM or no treatment for symptomatic relief of their child's nighttime cough and sleep difficulty. In a few cases, parents did report mild side effects with the honey treatment, such as hyperactivity.

"Our study adds to the growing literature questioning the use of DM in children, but it also offers a legitimate and safe alternative for physicians and parents," said Paul, a pediatrician, researcher and associate professor of pediatrics at Penn State College of Medicine and Penn State Children's Hospital. "Additional studies should certainly be considered, but we hope that medical professionals will consider the positive potential of honey as a treatment given the lack of proven efficacy, expense, and potential for adverse effects associated with the use of DM."

Potentially dangerous effects of DM in young children include dystonic reactions, severe involuntary muscle contractions and spasms. Further, DM is a commonly used as a drug of abuse by adolescents.

Cough is the reason for nearly three percent of all outpatient visits in the United States, more than any other symptom. It is particularly bothersome at night because it disrupts sleep. Consumers spend billions of dollars each year on OTC cough and cold medications despite little evidence that these drugs provide significant relief.

###

Contact: Megan Manlove
717-531-8604

JAMA and Archives Journals

Study suggests honey may help relieve children's cough, improve sleep during colds

A single dose of buckwheat honey before bedtime provided the greatest relief from cough and sleep difficulty compared with no treatment and an over-the-counter cough medicine in children with upper respiratory tract infections, according to a report in the December issue of Archives of Pediatrics & Adolescent Medicine, one of the JAMA/Archives journals.

"Cough is the reason for nearly 3 percent of all outpatient visits in the United States, more than any other symptom, and it most commonly occurs in conjunction with an upper respiratory tract infection," the authors write as background information in the article. Cough is usually more bothersome at night because it disrupts sleep. Although unsupported by the American Academy of Pediatrics or the American College of Chest Physicians, dextromethorphan is the most commonly used over-the-counter remedy for children's cough. "In many cultures, alternative remedies such as honey are used to treat upper respiratory tract infection symptoms including cough."

Ian M. Paul, M.D., M.Sc., and colleagues at Penn State College of Medicine, Hershey, conducted a study involving 105 children age 2 to 18 with upper respiratory tract infections who were sick for seven days or less and experienced symptoms during the night. Thirty-five children were randomly assigned to receive an age-appropriate dose of honey, 33 to receive dextromethorphan and 37 to receive no treatment for one night within 30 minutes of bedtime. The children's parents were asked to complete a survey assessing their child's cough and sleep difficulty the night before their assigned treatment and then again the night after treatment.

Honey was found to yield the greatest improvement followed by dextromethorphan, while no treatment showed the least improvement in cough frequency, cough severity, cough bothersome to child, child's sleep and parent's sleep. "In paired comparisons, honey was significantly superior to no treatment for cough frequency and the combined score, but dextromethorphan was not better than no treatment for any outcome," the authors write. "Comparison of honey with dextromethorphan revealed no significant differences."

"While our findings and the absence of contemporary studies supporting the use of dextromethorphan continue to question its effectiveness for the treatment of cough associated with upper respiratory tract infections, we have now provided evidence supporting honey, which is generally regarded as safe for children older than 1 year, as an alternative," the authors conclude. "While additional studies to confirm our findings should be encouraged, each clinician should consider the findings for honey, the absence of such published findings for dextromethorphan and the potential for adverse effects and cumulative costs associated with the use of

dextromethorphan when recommending treatments for families.â€

###

(Arch Pediatr Adolesc Med. 2007;161(12):1140-1146. Available pre-embargo to the media at www.jamamedia.org.)

Editorâ€™s Note: This work was supported by an unrestricted research grant from the National Honey Board, an industry-funded agency of the U.S. Department of Agriculture. Please see the article for additional information, including other authors, author contributions and affiliations, financial disclosures, funding and support, etc.

=====

Press Association

1 HEALTH Honey Embargoed to 2100 Monday December 3
HONEY BEST FOR KIDDIES' COUGHS SAY RESEARCHERS

By John von Radowitz, PA Science Correspondent

Natural honey is a better remedy for children's coughs than expensive over-the-counter medicines, researchers said today.

A dose of buckwheat honey before bedtime easily outperformed a cough suppressant widely used in commercial treatments, a US study found.

Dextromethorphan (DM) is the active ingredient in many cough mixtures sold in chemists and supermarkets, including honey-flavoured products. But the new findings, reported today in the journal Archives of Pediatrics and Adolescent Medicine, suggest that parents who buy them might be wasting their money.

Honey did a better job of reducing the severity, frequency and bothersome nature of night-time cough from upper respiratory infection. It also had a positive effect on the sleep quality of both children and their parents.

Unlike honey, DM made no significant difference to symptoms compared with offering no treatment at all.

Honey has been used in folk medicine for centuries not only to treat coughs and bronchitis but to assist the healing of wounds. For coughs it is often mixed with other natural remedies such as lemon, ginger, and even brandy. Honey is well known to have antioxidant and antimicrobial effects, which could explain why it is good for wounds.

Part of its ability to alleviate coughs may be due to the way it soothes on contact.

Dr Ian Paul, who led the researchers from Penn State College of Medicine in Hershey, Pennsylvania, said: "Our study adds to the growing literature questioning the use of DM in children, but it also offers a legitimate and safe alternative for physicians and parents.

"Additional studies should certainly be considered, but we hope that medical professionals will consider the positive potential of honey as a treatment given the lack of proven efficacy, expense, and potential for adverse effects associated with the use of DM."

DM can occasionally cause serious side effects in children, including severe involuntary muscle contractions and spasms, said the researchers.

Cases of teenagers using the drug to get "high" were also common, they added.

Dr Paul's team recruited 105 children and teenagers with upper respiratory tract infections, aged between two and 18, who were experiencing symptoms during the night.

The study ran over two nights. On the first, none of the participants were given any treatment.

On the second, they were divided into groups who received either honey, an artificial honey-flavoured DM medicine, or no treatment about half an hour before bedtime. Parents answered questions about their child's cough symptoms and sleep quality, as well as their own ability to sleep.

Medical staff were kept in the dark about which treatment each participating family was given. Syringes, distributed in sealed envelopes, were used to deliver measured doses of honey or DM medicine. Parents of children receiving no treatment were given empty syringes, and knew which group they had been placed in. The study was therefore "partially double-blinded".

Overall, parents rated honey as significantly better for the relief of their children's symptoms than DM or no treatment.

Paired comparisons showed that honey yielded the greatest improvement, followed by DM, while no treatment had the worst outcome. However, the improvement over no treatment seen with DM was not significant.

In a previous study published in 2004 the same researchers showed that neither DM nor another common component of cold medications, diphenhydramine, was better at reducing night-time cough symptoms than a non-active "dummy" placebo treatment.

The Proprietary Association of Great Britain (PAGB), which represents makers of over-the-counter medicines, said drug regulators around the world supported the use of non-prescription

cough remedies and clinical studies backed the effectiveness of their active ingredients.

It insisted that cough products were "both safe and effective".

Research carried out for PAGB in 2005 showed that in 86% of cases people used over-the-counter (OTC) cough mixtures to treat coughs, while 8% sought advice from a doctor or pharmacist.

Ninety per cent of users thought cough medicines were effective.<QA1> Sheila Kelly, executive director of the PAGB, said: "Parents faced with a child who is suffering from cough and cold symptoms know how distressing it can be. Having access to safe and effective paediatric cough and cold remedies is essential.

"Those on the UK market have demonstrated their efficacy through decades of use and their acceptance by the Medicines and Healthcare products Regulatory Agency (MHRA) means parents can continue to rely on these OTC cough and cold remedies when treating their children. If they have any concerns they should seek advice from their doctor or pharmacist."
ends