

NONPRESCRIPTION MEDICINES DIGEST



September 19, 2002

Welcome to the new edition of *Nonprescription Medicines Digest*. This month, we report on interesting findings about tooth whitening and recirculated aircraft air. Additionally, we continue to highlight ways to enhance the role of the pharmacist in OTC medicine safety and in serving patients of all ethnicities.

Be sure to visit our website at www.nmafaculty.org for more research and information about developments in the world of nonprescription medicine.

NMA 2002 Conference

This year's conference is rapidly approaching. It will be September 26-28, 2002. Forty faculty from pharmacy colleges in the US and Canada will be attending. Please watch the website for conference updates and news.

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Pharmacists/Health Professionals Mobilize to Encourage Americans to "Be MedWise" about Over-the-Counter Medicines



Email this to
an associate.



With an unrestricted educational grant of \$1 million from Procter & Gamble, the National Council on Patient Information and Education (NCPIE) is launching a new initiative to encourage a dialogue between consumers and their pharmacists regarding over-the-counter (OTC) medicines.

Pictured left to right: Mary Lynn Ferguson-McHugh, P&G Vice President of North American Personal Health Care; Ray Bullman, EVP, NCPIE; and Janet Engle, President, APhA.

This program—part of the NCPIE's ongoing "Be MedWise" public education campaign—will reach consumers through retail pharmacies, clinics, and other community settings and stress that OTC products are serious medications that must be taken as directed. The program will encourage consumers to turn to their pharmacists—a highly trusted source of information—when they have questions about selecting and using OTC medications.

The Be MedWise campaign was launched in January 2002 and includes a website, www.bemedwise.org, where consumers, health professionals, educators, and the media can get detailed information about the new OTC labels and how to compare products, learn about dosages, and understand specific warnings.

[Click here](#) to read the full press release.

To learn more about Be MedWise, visit www.bemedwise.org. You can also find details and results of the OTC usage research study commissioned by NCPIE.

Clinical Trials on the Use of Whitening Strips in Children and Adolescents

Donly KG, Gerlach RW

A desire for whiter teeth has led to a more convenient method of bleaching—the strip-bleaching system. Previously, dentists used plastic trays filled with a bleaching agent that were worn overnight and resembled a mouth guard. These clinical trials indicated that strip-bleaching systems—where a gel containing hydrogen peroxide is delivered via a flexible and disposable polythene strip—are a viable and effective means of tooth whitening in children and adolescents.

Materials and Methods

Strip-based vital bleaching was evaluated in a series of three randomized, controlled clinical trials conducted by researchers at the University of Texas and Procter & Gamble. Each trial lasted eight weeks. Two different peroxide concentrations were evaluated: 5.3 percent hydrogen peroxide¹ and 6.5 percent hydrogen peroxide².

Study participation was limited to preteen and teenage volunteers who desired tooth whitening and had an average tooth shade of "A2" or darker as measured using a standard 16-step shade system³. Subjects were instructed to wear the strips twice a day for 30 minutes and evaluated every two weeks. The maxillary arch was treated for the first four weeks, and the mandibular arch was treated for the last four weeks.

Effectiveness was measured from digital images of the teeth collected at baseline and at follow up. Color values were determined for each tooth pixel in the image in international standard, three-dimensional space for light-to-dark (L^*), green-to-red (a^*), and blue-to-yellow (b^*). Color change (ΔL^* , Δa^* , and Δb^*) with bleaching was determined by comparing each post treatment visit to baseline, with negative Δb^* (reduction in yellow) and positive ΔL^* (increased brightness) representing tooth whitening.

Results

A total of 132 children and adolescents ranging in age from 10 to 18 were treated. Much of the whitening benefit was observed after the first two weeks of treatments. Both the 5.3 percent and 6.5 percent hydrogen peroxide strips yielded significant tooth whitening ($P < 0.0001$) after 14 days. However, individuals treated with the more concentrated strips experienced significantly greater reduction ($P < 0.03$) in yellowness of approximately $0.8 \Delta b^*$ compared to the lower concentration strips. Only baseline (starting) color and arch were significant contributors to the primary response variable, reduction in yellowness (Δb^*). The whitening response was greatest among children and teenagers who started with more yellow teeth. On average, the data suggested that for each unit of increased yellowness, individuals should expect approximately 0.3 units additional improvement in Δb^* . Although both arches improved in color, the response in the maxillary teeth was significantly better ($P < 0.0001$) than in the mandibular teeth.

The primary complaints about the whitening strips were tooth sensitivity and oral irritation, though no subject discontinued the treatment early due to an adverse event. Eighteen subjects (14% of the study population) reported oral irritation, and 30 subjects (23%) reported tooth sensitivity. In most cases, these events were symptomatic only, mild in severity, and were relieved upon discontinuance of the whitening agent.

Conclusion

Typically, children are not considered for esthetic treatments such as vital bleaching. However, the authors concluded that children and adolescents age 10-18 represent a population that can benefit from using hydrogen peroxide whitening strips.

Gen Dent 2002 May-Jun;50(3):242-5.

1. Crest Whitestrips, Procter & Gamble, Cincinnati, Ohio
2. Crest Professional Whitestrips, Procter & Gamble
3. Vident, Brea, California

Cultural Competence in Pharmacy Practice

Zweber A

As our population becomes increasingly diverse, cultural competence in a pharmaceutical care practice is crucial. According to the author, in addition to understanding drug action, metabolism, and economics, pharmacists need to understand how individuals make healthcare choices, which are often influenced by a customer's heritage. Cultural background can affect a patient's definition of quality of life and drug therapy choices, and, without making generalizations, pharmacists must consider a variety of factors—including education, family structure, income levels, and personal and cultural influences—when discussing healthcare decisions.

Health Perception and Treatment Choices

Being aware of traditional family roles in healthcare decision making can help pharmacists recognize patterns and prevent conflicts. In some Hispanic families, for example, the grandmother or mother is responsible for healthcare decisions, whereas in some Southeast Asian cultures the oldest male makes these decisions. In many cultures, elder family members, priests, or spiritualists may be consulted for illnesses. Allowing clients to openly discuss their beliefs in a non-threatening environment will allow incorporation of their beliefs and practices into a reasonable and collaborative care plan.

Traditional Medicine and Therapies

In a multicultural population, pharmacists are often faced with a patient's use of home remedies, including herbs, foods, traditional healing therapies, and rituals. Fortunately, it is now common to ask patients about nonprescription and alternative medicine use. As long as the alternative treatment poses no harm to the patient, the author suggests integrating it with conventional therapy to allow the patient to maintain a measure of control while increasing their acceptance of contemporary treatment.

Communication

Because of the potential technical language barrier between medical professionals and lay people, the author urges pharmacists to pay attention to their use of scientific terms when speaking with patients. She cites this step as one of the first to bridge the communication gap. She also recommends learning simple phrases in the native language of non-English-speaking clients who commonly visit the pharmacy and learning their interpretation of nonverbal signs such as eye contact and personal space. Clients of different cultures may misinterpret what is common to us, and these miscues may result in frustrating or awkward encounters for both parties.

Conclusion

The author includes a list of 12 strategies that can improve cultural competence in pharmacy. These include examining your own cultural background, learning about the cultures you serve, and demonstrating sincere interest in your client's culture. She describes cultural competency as an evolving process, but one that can improve health outcomes, decrease frustration associated with communication failures, and ultimately improve customer satisfaction by providing accessible and friendly pharmaceutical care to multicultural clients.

Aircraft Cabin Air Recirculation and Symptoms of the Common Cold

Zitter JN, Mazonson PD, Miller DP, Hulley SB, Balmes JR

In recent years, new commercial aircraft have been designed to recirculate cabin air, leading to concerns of an increase in the transmission of infectious disease among passengers. Previous aircraft designs used only fresh air, whereas the new designs recirculate approximately 50 percent of the cabin air to increase fuel efficiency. In a recent study, the authors concluded that recirculated air did not increase the incidence of colds or upper respiratory tract infection (URI) symptoms in passengers.

Materials and Methods

The study was conducted between January and early April 1999 with 1,100 passengers traveling from the San Francisco Bay area in California to Denver, Colorado. Participants had to be 18 years or older, English speaking, willing to complete a brief questionnaire in the boarding area, and willing to complete a follow-up telephone questionnaire five to seven days after the initial contact.

Participants could not have engaged in air travel during the previous week (including connections that day), had plans for additional air travel before the follow-up interview, or had a cold when the initial questionnaire was distributed.

To sample evenly between airplanes that used fresh and recirculated air, as well as to control for differences in aircraft, the study targeted only Boeing 727s and 737s, as well as DC-10s. 727s and 737s are designed similarly, with the exception that 727s use fresh air and 737s use recirculated air. DC-10s use either fresh or recirculated air, depending on when the aircraft was built.

In the follow-up questionnaire, symptoms that suggested the presence of a URI were assessed using the questionnaire developed by Jackson, et al. The least restrictive definition was the self-report of a cold. The next most restrictive definition was the self-report of a cold and a runny nose, which highly correlates with the clinical diagnosis of a URI. The most restrictive definition of a URI was a Jackson score higher than 13 (consisting of the sum of eight respiratory symptoms, including headache, sneezing, chilliness, sore throat, malaise, nasal discharge, nasal obstruction, and cough, each measured from 0 to 3).

Results

Of the original 1,501 participants enrolled in the study, follow-up data was collected on 1,100. A total of 516 (47%) of the 1,100 respondents traveled aboard airplanes with fresh-air ventilation and 584 (53%) traveled on planes with recirculated-air ventilation. There were 196 passengers on DC-10s and 904 on 727 or 737 models. Of the 240 flights studied, 114 (46%) used fresh-air ventilation systems, whereas 136 (54%) used recirculated air systems.

Proportions of the three URI-symptom outcomes among passengers flying on the

two types of airplanes (fresh, recirculated) were compared without adjustment for group differences. There were no significant differences for any of the outcomes. Self-reported colds occurred in 21 percent of passengers in airplanes with fresh air and 19 percent of passengers in airplanes with recirculated air ($P=0.34$). Self-reported colds and a runny nose occurred in 11 percent and 10 percent of these passengers, respectively ($P=0.7$). Jackson scores higher than 13 occurred in 3 percent of both groups ($P>0.99$).

Conclusion

No evidence was found to indicate that aircraft cabin air recirculation increases the risk for URI symptoms in passengers traveling aboard commercial jets.

JAMA July 2002;288(4):483-486.