Study shows asthma self-management programs improve drug adherence, disease control

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Asthma patients who spend as little as 30 minutes with a health care professional to develop a personalized self-management plan show improved adherence to medications and better disease control, according to a new study by a team of researchers at the University of California, San Francisco.

Study findings are published in the April 2009 issue of "*The* Journal of Allergy and Clinical Immunology."

May is National Asthma and Allergy Awareness Month. An estimated 20 million people in the United States have asthma and despite the availability of treatments, the disease remains poorly controlled among many individuals, according to the Asthma and Allergy Foundation of America. In 2007, the direct and indirect costs of asthma to the United States economy were $19.7 billion, reports the National Institute of Allergy and Infectious Diseases.

"Mortality from asthma is preventable. However, many patients struggle to manage symptoms on their own and often end up visiting emergency departments. Our study indicates that in a clinical setting, personalized self-management education coupled with self-monitoring may be a cost-effective way to empower patients to better control their disease," said the study's lead author Susan L. Janson, DNSc, RN, NP, a UCSF clinical specialist in pulmonary disease.

Earlier UCSF research has shown that teaching asthma patients how to self-manage their disease can improve health outcomes and that tailored education is more effective than standardized programs because patients find it more personally relevant. It has been unclear, however, which components of self-management education lead to better control of the disease, according to Janson, who also is a professor in the UCSF School of Nursing and adjunct professor in the UCSF School of Medicine.

The UCSF team conducted a 24-week randomized, controlled trial to determine if individualized instruction in asthma self-management adds significantly to the effects of self-monitoring alone on patients' adherence to inhaled corticosteroids (ICSs), medications that can help reduce inflammation in the airway and prevent asthma attacks.

In the study, 84 adults with asthma self-monitored their symptoms and kept a daily log of their peak expiratory air flow. Of that group, 45 patients were randomly selected to also receive a personal 30-minute session that included asthma information, personally relevant allergen exposure reduction, a personal action plan, and instruction in the correct use of their inhalers.

According to Janson, many people with asthma don't receive the full advantage of inhalers because they don't breathe deeply enough or sometimes swallow the medication. In addition, different models of inhalers require different techniques to operate effectively.

Members of the intervention group also were skin tested for allergies, and strategies were then developed to reduce allergens in their surroundings.

"Environmental exposure is an important factor to evaluate when asthma is out of control," said Janson. "People understandably are reluctant to get rid of a pet or spend money on dust mite covers for their beds

without knowing if animals or dust mites are aggravating the disease. A personalized approach helps patients develop skills specific to their own allergies."

During the study period, adherence to ICSs was consistently higher in the intervention group compared with the control group. In addition, participants in the intervention group experienced fewer nighttime awakenings, a marker of asthma control. Intervention participants also used rescue inhalers less frequently, experienced an increased sense of control over their asthma, and had a significant decrease in their levels of tryptase, which is released from cells in the presence of allergens.

Source: University of California - San Francisco