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Asthma medicines often not prescribed as national guidelines recommend

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More than a decade after national guidelines were issued for asthma treatment, some patients still don't receive prescriptions for the inhalers that experts say offer the safest and most effective long-term control of the disease, a new study suggests.

Physicians' prescribing practices based on expert recommendations improved between 1998 and 2002 overall. But the study showed the use of the medications that are considered most effective in controlling the condition began to decline after 2003, leading researchers to suspect doctors might be too cautious in their prescribing practices.

Treatment disparities based on age and race were also evident. The elderly and minorities tended to be less likely to be prescribed the long-acting controller medications called for in the guidelines, according to Ohio State University research examining prescribing trends over a seven-year period.

Patients also were still being prescribed short-term symptom relief medications that "are so outdated, they hardly even deserve to be prescribed anymore," said senior study author Rajesh Balkrishnan, the Merrell Dow professor of pharmacy at Ohio State. "The guidelines stress that patients who are asthmatic need to be on some type of controller medications. Just using symptomatic relief medications is not enough."

The guidelines, issued by the National Heart, Lung and Blood Institute (NHLBI) in 1997, recommend using long-term controller medications

for patients with persistent asthma and short-term reliever medications for acute symptoms only.

Physician training could affect prescribing practices, Balkrishnan said. Only a third of the patients in the survey were treated by lung or allergy specialists. That suggests most asthma patients are treated by generalists who might need to be further educated about asthma and other specialty medical conditions to prescribe the most effective treatments.

“Just putting out these guidelines may not be enough. I think physicians need to be educated about the importance of properly medicating asthma patients, and patients need to be educated about the treatment alternatives available to them,” Balkrishnan said. “The fact that readily available medicines to control asthmatic symptoms are still being underused in spite of the existence of national guidelines is of concern.”

The research is published in the current issue of the journal *Annals of Allergy, Asthma and Immunology*.

Balkrishnan and colleagues examined data from more than 800 million asthma-related visits to doctors’ offices between 1998 and 2004 taken from the National Ambulatory Medical Care Survey, which tracks Americans’ annual outpatient medical visits.

More than 22 million people in the United States have asthma, including 6.5 million children, according to the Centers for Disease Control and Prevention. Asthma is a chronic disease that causes soreness and swelling in the airways carrying air into and out of the lungs. Common symptoms are wheezing, coughing, chest tightness and trouble breathing. An estimated 4,000 people die of asthma attacks each year.

The national guidelines are called the Expert Panel 2 Guidelines for the Diagnosis and Management of Asthma, or EPR-2 guidelines. In addition

to recommending the use of long-term controller medications, they emphasize that environmental controls to relieve symptoms and patient education should supplement medication therapy for asthma patients. EPR-3 guidelines were issued in 2007 with similar, but updated, recommendations.

The 1997 EPR-2 guidelines specified that anti-inflammatory medications, such as inhaled corticosteroids (which reduce inflammation and affect the immune system), leukotriene modifiers (which target inflammation in the airway linings) and mast cell stabilizers (which fight effects of allergens), should be doctors' first choices to treat underlying chronic inflammatory processes in asthma.

Inhaled corticosteroids are considered the most effective long-term asthma control for all age groups. Reliever medications that should be used for only acute symptoms include short-acting beta-agonists that relax muscles in the airways, anticholinergic agents that inhibit nerve impulses, and systemic corticosteroids.

The study looked at trends and comparisons among different kinds of patients and different kinds of physicians. The researchers could not accurately estimate the number of patients who received specific types of medications because they had information for just one visit per patient, rather than entire prescribing histories for patients, based on the survey nature of the data.

The trend analysis showed that asthma patients overall had 3.3 times higher odds of being prescribed controller medications in 2002 than did asthma patients visiting doctors in 1998. But over the course of the time period analyzed, patients over age 65 had 54 percent lower odds of receiving controller medication compared with patients between the ages of 35 and 64. And patients listed in the "other" race category in the survey, potentially patients of Asian or Hispanic background, were only

40 percent as likely to receive controller medications as were white patients. Such disparities were not evident when prescriptions for African-American and white asthma patients were compared.

Changes in the treatment landscape could be a complicating factor in physicians' ability to stay up to date on preferred treatments, the researchers noted. During the time period analyzed, a new kind of controller medication – a long-acting beta agonist – was federally approved for asthma treatment. Within just a few years, however, this agent came under scrutiny because of its apparent cardiovascular risks to some patients after long-term use.

Balkrishnan noted that costs should not have a significant influence on which medication is prescribed, because even the most expensive of the commonly prescribed controller medications are covered by private and public insurance, such as Medicare and Medicaid. Of the patients in the study, 89 percent were covered by some type of insurance.

Because there is no known prevention or cure of the disease, Balkrishnan said, the principal concern is that the treatment that many asthma patients receive doesn't match what national experts recommend to keep the condition under control.

"There has been no systematic attempt made to actually ensure that these guidelines are adhered to," he said. "Concerted education efforts are needed because these guidelines don't seem to be influencing physician behavior as a whole in the United States."

Source: Ohio State University