

Dust mites outlast heroic efforts to help asthma patients

April 16 2008

Asthma sufferers might as well stop wasting energy and money on labor-intensive or costly interventions to get rid of household dust, according to a new review of studies.

“We can conclude with confidence that there is no need to buy expensive vacuum cleaners or mattress covers or to use chemical methods against house dust mites, because these treatments do not work,” said lead author Peter Gotzsche, M.D.

Some people with asthma are allergic to tiny eight-legged arthropods known as house dust mites and the allergens from these mites can bring on asthma attacks. Unfortunately, the 54-study review of 3,000 asthma patients finds that no chemical or physical intervention to reduce exposure to house dust mites is effective.

Gotzsche, director of The Nordic Cochrane Centre in Copenhagen, Denmark, said that thousands of specialists have been speculating about this problem and trying all sorts of interventions for many years, but have not found the right answer yet.

Gotzsche and colleagues conducted their first systematic review in 1998; they have updated their review with new studies several times.

Studies, which ranged from about two weeks to two years duration, employed a variety of interventions. Some studies used chemicals to kill mites, while others used physical interventions such as encasing

mattresses and pillows in covers that mites cannot get through. Other studies called for frequent laundering of bed linens in hot water or bleach; beating cushions outside; and removing toys, plants and furniture from a home.

Although it seems counterintuitive that such intensive efforts to control dust mites were unproductive, the findings are consistent and clear.

“If you are wondering why it is that mattress covers and the other strategies are not effective, the likely answer is that all these treatments do not have a large enough effect on the occurrence of allergens from house dust mites,” Gotzsche said. “The level of allergens is so high in most homes that what remains after the treatment is still high enough to cause asthma attacks.”

He said that even very low allergen concentrations can affect bronchial distress among sensitive individuals, and most homes host many mites and mite allergens. In addition, mite-sensitive individuals are often sensitive to other allergens, so that successful elimination of a single allergen might have limited benefit at best.

Some of the included studies had obtained reductions of more than 50 percent, and some considerably more, but even reducing environmental allergens by 90 percent is insufficient, Gotzsche said. Before interventions can work, you must reduce allergens far more than you can obtain with the interventions studied thus far.

Gotsche is critical of 2007 U.S. guidelines from the National Asthma Education and Prevention program, whose Asthma Action Plan for patients recommends interventions such as encasing mattresses and pillows in special dust-proof covers, and washing sheets, blankets and stuffed toys in hot water every week.

“Reviews and guidelines should reflect the facts,” he said. “It is difficult, perhaps, to realize that we cannot really do anything, but there is no evidence to support these guidelines and they are misleading. It is about time specialists start becoming honest with patients.”

Gotzsche described witnessing efforts to market \$10,000 vacuum cleaners to vulnerable parents of children with asthma. These machines were not even better than cheap ones at removing dust, he said.

“Parents are sometimes fooled by reckless tradesmen, but it is better not to waste money on interventions that don’t work,” he said.

Noreen Clark, Ph.D., professor of public health at the University of Michigan, described this as an important review. Clark, who also serves as national program director for the Robert Wood Johnson Foundation Allies Against Asthma program, said that when a doctor recommends a management strategy that is difficult to carry out and it fails to produce the desired result, the patient loses confidence in other effective things the doctor has recommended.

“Patient treatment and counseling should focus on a few things that evidence shows will be significant in getting the disease under control,” Clark said. “This study suggests that trying to reduce exposure to dust mites by covering mattresses, using ionizers, washing bedding at high temperatures, and so on, will not help and should not be on the list.”

Source: Center for the Advancement of Health

Citation: Dust mites outlast heroic efforts to help asthma patients (2008, April 16) retrieved 20 May 2024 from <https://medicalxpress.com/news/2008-04-mites-outlast-heroic-efforts-asthma.html>

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