Purpose of the Study. Allergy to house dust mite (HDM) is an important contributor to childhood asthma, and these investigators sought to determine whether the use of mattress and pillow encasings resulted in effective long-term control of mattress HDM levels, thus reducing the need for maintenance asthma medication.

Study Population. The subjects were 60 children (5–15 years of age) with asthma and HDM allergy, in the absence of any other clinically relevant allergy. Inclusion criteria included physician-diagnosed asthma, positive HDM puncture skin test results, positive HDM bronchoprovocation results, and total HDM concentrations of ≥2000 ng/g dust from the child’s mattress. All except 4 of the study patients were treated with inhaled corticosteroids.

Methods. In this prospective, double-blind, placebo-controlled, 1-year study, children were randomized to the use of active (allergy control) or placebo mattress and pillow encasings. Baseline measures included mattress dust sampling, spirometry, and adjustment of medications. Symptom scores and peak flows were recorded throughout the study. Clinical assessments, including medication adjustments, and dust sampling were performed every 3 months. Bronchoprovocation was performed at the time of inclusion and at completion of the study.

Results. Twenty-six children in the active treatment group and 21 children in the placebo group completed the study. A significant perennial reduction in levels of HDM allergen recovered from mattresses was noted only for the active treatment group. Significant decreases in the doses of inhaled corticosteroids also were noted only for the active treatment group. There were no significant differences between the active treatment and placebo groups in any of the secondary endpoints, including peak flow and forced expiratory volume in 1 second, symptoms, and HDM bronchoprovocation results.

Conclusions. The use of mattress and pillow encasings led to significant long-term reductions in HDM allergen levels in mattresses and in the need for inhaled corticosteroids among children with asthma and HDM allergy.

Reviewer’s Comments. Greater HDM allergen exposure in childhood is associated with more severe asthma. However, it has been difficult to demonstrate in clinical studies that HDM avoidance is both achievable and associated with subsequent clinical improvement. This is not surprising, given the ubiquitous nature of HDMs and concomitant exposure to other contributing allergens. These authors chose their patient population carefully, to allow greater focus on the allergens in question. The 1-time cost of these encasings is approximately equal to the cost of 1 month of asthma drug therapy in the United States, and encasings are labor- and risk-free. They should be made available to HDM-allergic persons of all ages unless there is compelling evidence against them, which there is not currently.

Use of impermeable mattress covers brought no significant change in symptom control, pulmonary function, or inhaled corticosteroid doses among adults with asthma.

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CONTROL OF EXPOSURE TO MITE ALLERGEN AND ALLERGEN-IMPERMEABLE BED COVERS FOR ADULTS WITH ASTHMA


Purpose of the Study. To determine whether decreased exposure to house dust mites improves control of asthma among adults.

Study Population. A total of 1222 adults with asthma who were being treated with inhaled corticosteroids and required short-acting β-receptor agonist treatment more than once per day were studied.

Methods. This was a double-blind, randomized, placebo-controlled study of the use of impermeable mattress covers among adults with symptomatic asthma. House dust mite antigen levels were measured in mattress dust at baseline, 6 months, and 12 months.

Results. The prevalence of sensitivity to house dust mite allergen was ~65% in both the active intervention group (allergen-impermeable bed covers) and the control group (permeable bed covers). The concentration of house dust mite antigen for the treated group was 33% of that for the control group at 6 months, but levels were not different at 12 months. The mean morning peak expiratory flow improved significantly in both groups. There was no significant difference in inhaled corticosteroid doses.

Conclusions. Use of impermeable mattress covers among adults with asthma.

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KNOWLEDGE AND PRACTICE OF DUST MITE CONTROL BY SPECIALTY CARE


Purpose of the Study. To compare the knowledge and practice of environmental control measures in families of children with asthma who were treated by either an allergist or a pediatrician.

Study Population. The subjects were 114 asthmatic children (age range: 6–17 years; mean age: 11.2 years) with positive skin test results for house dust mites. The children were recruited from 4 pediatric practices in the Baltimore metropolitan area.

Methods. A cross-sectional study using secondary analyses of data from a clinical trial of parents and their children with asthma was performed. In the initial visit, skin testing was performed and the parent answered baseline questions related to the child’s health history. A baseline home environment evaluation consisted of 35 questions addressing the family’s cleaning habits, knowledge of environmental control measures, and self-reported changes in the home to reduce the child’s exposure to indoor allergens. A home inspection evaluated the home characteristics, as well as evidence of dust mite environmental controls (eg, mattress encasement, pillow encasement, removal of wall-to-wall carpeting, and removal of stuffed animals). Dust samples were collected and analyzed for indoor allergens with standard methods. The children were divided into 2 groups, according to whether they had been treated by an allergist. The study then
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