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Evaluation of Impermeable Covers for Bedding in Patients with Allergic Rhinitis

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ABSTRACT

Background Encasing bedding in impermeable covers reduces exposure to house-dust mites, but the clinical benefit of this intervention as part of mite-avoidance measures for patients with allergic rhinitis is not known. We performed a multicenter, randomized, placebo-controlled trial of one year of use of impermeable bedding covers in the bedrooms of patients with rhinitis who were sensitized to house-dust mites to determine the effects on the signs and symptoms of disease.

Methods Three participating university medical centers enrolled 279 patients with allergic rhinitis who were randomly assigned to receive impermeable or non-impermeable (control) covers for their mattress, pillow, and duvet or blanket. At the start of the study, all participants received information on general allergen-avoidance measures. The severity of rhinitis was measured on a rhinitis-specific visual-analogue scale and by means of a daily symptom score and nasal allergen provocation testing. We also measured the concentrations of *Dermatophagoides pteronyssinus* (Der p1) and *D. farinae* (Der f1) in dust from patients' mattresses, bedroom floors, and living-room floors at base line and after 12 months as a measure of the efficacy of the

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Results A total of 232 patients completed the study. There was a significant reduction in Der p1 and Der f1 concentrations in the mattresses of the impermeable-cover group, whereas there was no significant reduction in the control group. However, there was no significant effect on the clinical outcome measures. Analyses of subgroups defined according to age, level of exposure, type and severity of sensitization, or characteristics of the patient's home had similar results.

Conclusions Mite-proof bedding covers, as part of a structured allergy-control program, reduced the level of exposure to mite allergens. Despite the success of the intervention, this single avoidance measure did not lead to a significant improvement of clinical symptoms in patients with allergic rhinitis.

Source Information

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