

Exposure to mite and cat allergens on a range of clothing items at home and the transfer of cat allergen in the workplace

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Background:

Clothing has been proposed as an additional source of exposure to mite and cat allergens. Dispersal of allergen into public places has also been attributed to clothing.

Objectives:

We sought to study the contribution of various types of clothing on mite and cat exposure in a domestic environment. Also, we studied the ability of clothing to transfer allergen in a workplace.

Methods:

Personal exposure to mite and cat allergen from a range of clothing was measured by using intranasal air samplers in 11 homes. Five categories of clothing were tested. Wearing no upper clothing was the sixth category tested to distinguish the contribution of clothing over ambient background exposure. An adhesive tape was used to sample allergen from the surface of clothing, and reservoir dust samples were also collected. The above techniques were also used in the workplace to examine the amount of cat allergen transferred from cat owners to non-cat owners.

Results:

The amount of mite and cat allergen inhaled differed among the clothing types worn and whether they had been washed recently. Wearing a woolen sweater increased personal allergen exposure to cat and mite allergen by a mean of 11 and 10 times, respectively. Clothing items that were less frequently washed carried more allergen whether assessed by vacuuming or sampled with adhesive tape. This corresponded to the amount of allergen inhaled. We also found that cat levels on non-cat owners' clothing increased significantly at the end of a working day, which lead to the increase in their personal allergen exposure to cat.

Conclusions:

These studies strongly support the emerging model that personal clothing is an important source of both mite and cat allergen exposure. This article also demonstrates the importance of clothing as a means of distributing cat allergen into cat-free environments.

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