

Letter to the editor

House dust mite allergy: complete removal of the provoking allergen is a primary therapeutic approach*

*Comment on 'Gøtzsche PC, Johansen HK: House dust mite control measures for asthma: systematic review, *Allergy* 2008'

Recently, Gøtzsche and Johansen published an updated systematic review on the effect of house dust mite avoidance measures in mite-sensitive individuals with asthma (1, 2). In their two meta-analyses of randomized controlled trials, peak flow measurements, asthma symptom scores, and medication usage showed no significant improvement in the intervention group. The authors concluded that chemical and physical methods aimed at reducing exposure to house dust mite allergens cannot be recommended.

Unfortunately, they rely on the intervention as such, irrespective of a proven allergen-diminishing effect. As Gøtzsche and Johansen stated, in only 18 trials a reduction of house dust mite exposure was achieved, while 29 studies failed to demonstrate a reduced mite allergen load and a further 10 reports did not comment on this point. The fact that a stratified analysis of trials with and without effective house dust mite allergen reduction is not included is surely an omission on the part of this review, which cannot really be justified by the lack of a gold standard for measuring mite allergen exposure.

Three further aspects arise when evaluating the included studies with large populations:

1. Woodcock (3) analysed data from 1122 patients with asthma (18–50 years) and found that only 65% ($n = 732$) had an allergic sensitization

to house dust mites. Even if this subgroup of sensitized individuals was considered separately, no information about the clinical relevance of house dust mite sensitization is reported. In general, a differentiation between sensitized and allergic individuals is essential for a proper assessment of house dust mite avoidance measures.

2. De Vries (4) reported no difference in peak flow measures in 126 patients with asthma sensitized to house dust mites. In this trial, the concentration of mite allergen was remarkably low. Approximately 2/3 of households had mite concentrations below 2000 ng/g dust. By comparison, other trials reported mean mite concentrations of 9000 ng/g dust (5). Therefore, it may not have been possible to achieve a relevant mite exposure.
3. In the largest pediatric trial of Halcken et al. (5), which reported a significant mite-allergen reduction, the intervention group needed a significantly diminished daily dose of inhaled corticosteroids; this is clinically relevant, especially in children.

Taken together, the meta-analyses of Gøtzsche and Johansen do not put the impact of mite-allergen avoidance itself into question. The authors concede that it seems 'inherently implausible to suggest that complete removal of a major provoking agent would be ineffective' (1). Nevertheless, the authors conclude that chemical and physical methods aimed at reducing exposure to house dust mite allergens are ineffective and cannot therefore be recom-

mended. Their summary would only be justified, if

- patients were allergic to house dust mites and not just sensitized. Obviously, the outcome of allergen avoidance can only be assessed in individuals with clinical symptoms;
- all trials were conducted in an environment providing a meaningful mite-allergen burden;
- a stratified analysis of trials with and without effective house dust mite avoidance measures were performed;
- a stratified analysis for children, adolescents and adults were performed. This is of considerable importance, because allergen avoidance might have different disease-modifying effects in children and adults.

Therefore, we suggest that measures for mite-allergen avoidance should still be recommended if (i) an individual is sensitized to house dust mites, (ii) a relevant house dust mite exposure exists and (iii) the individual has corresponding allergic symptoms.

Like Gøtzsche and Johansen, we see the limitations of the results from available trials so far. However, further properly designed clinical trials are warranted before giving up reasonable recommendations.

M. V. Kopp¹, B. Niggemann², J. Forster³
¹Zentrum für Kinder- und Jugendmedizin, University of Freiburg, Freiburg; ²Hedwig-von-Rittberg-Zentrum, DRK Kliniken Berlin Westend, Berlin; ³Kinderabteilung St Hedwig, St Josefskrankenhaus, Freiburg, Germany

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