



Comparing prevalence of house dust mite sensitization in Malagasy and Italian school-age children

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BACKGROUND & AIMS

Previous epidemiological studies showed a low prevalence of allergies in rural areas of Africa. House dust mite (HDM) is the most common allergen all over the world, with a high prevalence of hypersensitivity among children in school age from urban areas of western countries. Prevalence of hypersensitivity to house dust mite among Malagasy children is not known.

Our aim was to compare house dust mite sensitization prevalence, evaluated through skin prick test (SPT), among Malagasy and Italian school age children.

METHODS

It was a cross-sectional study. Children aged 6-10 years from a public school of Ambanja, a small town in a rural area in the north of Madagascar, and subjects of the same age from a primary school in Udine, North-east of Italy, were enrolled. A convenience sampling was applied. Data were collected in March 2013 in Italy and in October 2013 in Madagascar, during a health campaign. Every child underwent skin prick tests for *Dermatophagoides Farinae* (DF) and *Dermatophagoides Pteronissis* (DP), according to current EAACI procedural recommendations to SPT for aeroallergens¹. Commercially available extracts (Stallergenes®) of DP and DF were used. Children who had taken oral antihistamines in the previous seven days were excluded. The presence of a wheal with a diameter ≥ 3 mm fifteen minutes after the test was considered as a prick test positivity.

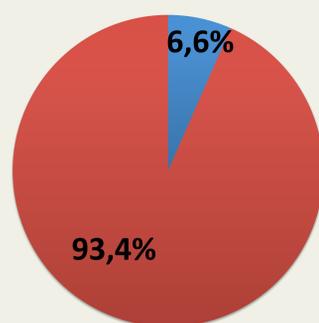
Malagasy children with SPT positivity and their school teachers were interviewed through a closed questionnaire about clinical history suggesting allergic rhinitis (conjunctivitis) and/or asthma. Children with prick test positivity for *Dermatophagoides Pteronissis*, *Dermatophagoides Farinae* or both were classified as sensitized to house dust mite.

RESULTS

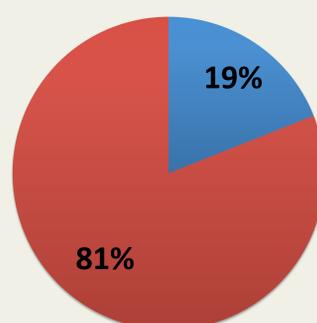
A total of 617 children were included, 288 Italians and 329 Malagasy. The median age was 8 years and 6/12 (Italian group: 8 years and 3/12; Malagasy group: 8 years and 8/12). The prevalence of SPT positivity for house dust mite among Malagasy children was 6,6%(22/331), of which 5/22 had asthma and 8/22 had history suggestive of allergic rhinitis. In the Italian group 19% (57/288) were sensitized to house dust mite

PREVALENCE OF SKIN PRICK TEST POSITIVITY TO HOUSE DUST MITE (HDM) AMONG MALAGASY AND ITALIAN SCHOOL AGE CHILDREN

MALAGASY CHILDREN
(n. 329)



ITALIAN CHILDREN
(n. 288)



■ sensitized to HDM
■ NOT sensitized to HDM

CONCLUSIONS

This study shows that house dust mite sensitization in school-age children living in a rural area in Sub-Saharan Africa is much less common than in children of same age from an highly industrialized urban area of a western country, confirming previous data from literature

Bibliography

Bousquet J. et al. Practical guide to skin prick tests in allergy to aeroallergens. *Allergy*. 2012 Jan;67(1):18-24