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ORIGINAL ARTICLE

Evaluation of the level of house dust mite allergens, Der p 1 and Der f 1 in Iranian homes, a nationwide study

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KEYWORDS

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Abstract

Background: Exposure to house dust mites (HDMs) is a major risk factor for the development of allergic symptoms. HDMs are worldwide in distribution. Assessing these allergens in each area is a critical step in evaluating the risk of sensitisation and controlling allergic symptoms. The aim of the present study was to evaluate the level of major HDMs, Der p 1 and Der f 1, in various parts of Iran.

Methods: In 2009, 257 dust samples were obtained from living rooms' carpets in seven cities throughout Iran with different geoclimatic conditions. The level of Der p 1 and Der f 1 was measured by commercial ELISA.

Results: Detectable level of Der p 1 and Der f 1 were only found in Gorgan and Sari, two cities near the Caspian Sea with moderate temperatures and high relative humidity. In both of these cities, Der f 1 was more frequent than Der p 1 (100% vs. 85%) and was found to be at a higher level than Der p 1 (geometric mean 3128 vs. 439 ng/g dust, $P < 0.001$).

Conclusion: The results of this study confirm that house dust mites in Iran are restricted to the Caspian Sea coastal areas, and in other parts, due to seasonal variations of temperature and humidity mites are not able to grow well and therefore are not an important risk factor for sensitisation and respiratory allergies.

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Introduction

Allergic disorders are among the major health problems in the world and many epidemiological studies have reported a dramatic increase in prevalence and other allergic diseases over recent decades.¹⁻³ The fact that the preva-

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