影響台北地區家戶中過敏原之因素---初探性研究

Factors associated with household allergens in the Taipei area-A preliminary study

中文摘要

相關文獻指出台灣地區因高溫、高濕度環境，十分適合塵?、真菌、細菌等微生物生長。而研究發現塵?過敏原（尤其是 Der p 1 和 Der f 1）和兒童氣喘的發生有很高的相關性，家中主要的暴露來源是床鋪，如何減少床鋪中塵?過敏原（Der p 1 和 Der f 1）濃度是一項重要的環境衛生課題。

本研究針對大台北地區 30 個家戶在 2004 年 12 月及 2005 年 4 月進行調查，利用問卷蒐集居家環境、寢具、家具材質、清理方式及頻率、個人及家人健康狀況等相關資訊。此外蒐集客廳和臥房中的家塵樣本，分析塵?過敏原（Der p 1 和 Der f 1）及可培養真菌的濃度，並測量環境中溫度、濕度和二氧化碳濃度。利用統計模式評估影響塵?過敏原（Der p 1 和 Der f 1）與真菌濃度分佈的相關變項。研究結果顯示床鋪中 Der f 1 及 Der p 1 濃度的幾何平均值各爲 7.04 及 2.70 μg/g，總真菌濃度爲 55247CFU/g，出現頻率最多的菌屬是 Penicillium。有使用地毯、居住年數較短、屋齡較短、家中有過敏性疾病的人數較多、經常清理枕頭、近期清理的枕頭（≦1 週）及經常清洗被套（≦1 個月）與低塵?與真菌過敏原濃度相關。本研究提供大台北地區過敏原的分佈情形，以及與過敏原相關的環境及居家狀況因子。未來應該進行長期追蹤性的調查，找出有效減少居家過敏原暴露的方法。

英文摘要

High temperature and relative humidity in Taiwan provides appropriate environmental conditions for microbial growth, including dust mites, fungi and bacteria. Studies have shown that dust mite allergens (especially Der p 1 and Der f 1) are highly correlated with childhood asthma, and bed is the major exposure source at home. Therefore, how to reduce dust mite allergen levels in bed becomes an important environmental issue.

We studied 30 households in the Greater Taipei area from December 2004 to April 2005. Questionnaires were used to collect information on home environments, types of beddings and furniture, cleaning methods/frequencies, and personal and family health. We collected dust samples from living rooms and bedrooms to analyze dust mite allergens (Der p 1 and Der f 1), and culturable fungi. Temperature, relative humidify, and carbon dioxide were measured concurrently. We used multiple regressions to evaluate the associations between allergens and environmental factors. According to our results, the geometric means of dustborne Der p 1 and Der f 1 in bed were 7.04 and 2.70 μg/g, respectively. The average total fungal concentration in bed was 55247 CFU/g. Penicillium was the fungal genus recovered most frequently in bed. Lower dust mite and fungal levels were associated with carpet presence, shorter house age and living period, more family members with allergic disease, frequently and recently cleaned pillows, and regularly cleaned quilt cover.

This study provides the distributions of allergens in the Greater Taipei area, and the environmental and household factors correlated with allergen levels. More follow-up studies should be conducted in the future in order to explore effective methods to reduce home allergen exposure.