

## **Katten också!**

Exponering för pälsdjur och dess konsekvenser för pälsdjursallergiska barn

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### **SAMMANFATTNING**

About 20% of the Swedish population is allergic to pets. In Stockholm about 15% are cat- and dog-owners. Many children allergic to pets can be triggered in their disease after both direct and indirect exposure to pets. Day-cares, schools and after-school recreation centres are environments where children can be indirectly exposed. By measuring health-related quality of life (HRQOL) you can get a good view of an allergic child's experiences of the disease. The overall aim with this thesis is to examine the exposure to pet allergen, the consequences of such exposure and the HRQOL in pet allergic children and their families.

The first study measured the levels of cat- and dog allergen mattresses in 70 homes with and without pets. Dust samples were collected from mattresses and textile-covered floors and analysed by ELISA for Fel d 1 and Can f 1. Concentrations of Fel d1 were found in dust from 70 mattresses and textile-covered floors and Can f1 in 69. The highest levels of cat and dog allergen were found in homes with a cat or dog. A difference was seen in the levels of Fel d 1 and Can f 1 between the homes of former pet-owners and homes without pets.

The second study investigated the presence of cat and dog allergens and the accumulation of allergen levels in sedimented mattress dust over time in 6 furniture stores with a test room where customers could try displayed mattresses. Dust was collected from 32 mattresses; factory-new and mattresses tried by customers and dust from 5 factory-new mattresses, vacuumed once a week the following 3 weeks. The dust was analysed by ELISA for Fel d 1 and Can f 1. The mattresses used by customers had been displayed for 2-78 weeks and the allergen levels correlated to the period of time that the mattresses had been tried by customers. The increase over time occurred rapidly and after 3 weeks reached concentrations that have been found in homes where furred pets were currently kept.

The third and fourth studies are based on a prospective birth cohort, BAMSE. Parents of 4,089 children born in 1994-1996 answered a questionnaire at birth on allergic disease, heredity and exposure to pets. At 1, 2 and 4 years of age the parents answered questions about symptoms after contact with furred pets. Dust samples collected from the mother's bed were analysed for Fel d 1 and Can f 1 in a subgroup. Cats were less kept in families with parental pet allergy (3%) than in families without (12%). Families with smoking mothers and those with low socioeconomic status kept cats and dogs more frequently. Levels of Fel d 1 were lower in homes with than without pet allergy. Based on questionnaire data 668 children with or without reactions to pets were identified at the age of 9 years CHQ-PF28 and a disease-specific questionnaire were completed by the parents. 131 children were considered to be allergic to furred pets; 26 to furred pets only and 105 also to pollen and/or food. The pet allergic children, particularly those with multiple reactions, scored significantly lower on items in the CHQ-PF28 scales than the controls. The families with a child with multiple reacting reported restrictions in daily life and avoidance behaviors.

This thesis highlights the great conflict for pet allergic children; pet allergen is ubiquitous in the society and impossible to avoid versus pet allergic children and their family demonstrate a reduced HRQOL due to restrictions and pet avoidance in daily life.

**Key words;** allergens, BAMSE, Can f 1, cats, child, CHQ, dogs, horses, environments, Fel d 1, heredity, HRQOL, pet allergy, prospective studies