Effects of pets on asthma development up to 8 years of age: the PIAMA study

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Abstract:

Background:
Recall bias may provide discrepant relationships of pet exposure with sensitization and asthma development. We studied prospectively effects of pets at home on development of sensitization, asthma and respiratory symptoms from birth up to age 8 years. Methods:
Event history analysis was performed on annually registered data of 2951 children, participating in the PIAMA birth cohort study. Results:
Children with a cat or dog at home at 3 months of age had a significantly lower prevalence of sensitization to inhalant allergens at age 8, but not of asthma. A cat decreased the risk of house dust mite sensitization at age 8 [odds ratio (OR) = 0.68, 95% confidence interval (CI) 0.49-0.95], a dog of pollen sensitization (OR = 0.49, 95% CI: 0.29-0.83). A cat or dog at home did not significantly affect asthma incidence in each subsequent year. From 2 years of age onwards, the incidence of wheeze (OR = 1.52, 95% CI: 1.12-2.05) and a dry cough at night (OR = 1.28, 95% CI: 1.05-1.57) was higher in children with a dog, whereas removal of a dog increased the risk of developing asthma symptoms. Comparing analyses using prospectively and retrospectively collected data on diagnosed asthma showed important recall bias. Conclusions:
Our prospective study shows a protective effect of early presence of pets at home on sensitization to inhalant allergens, but no prevention of asthma development. Furthermore, children with pets had more frequent transient or intermittent asthma symptoms. Parental report of asthma by recall may provide spurious results of these associations.

Keywords: asthma; cats; children; dogs; sensitization

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