Title: Association between pet ownership and asthma, rhinitis and eczema in Chinese schoolchildren

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Body: Introduction: The association between pet ownership in childhood and asthma and allergies is very controversial. Our objective was to determine the effects of exposure to cat or dog allergens or both cat and dog allergens on asthma, rhinitis and eczema in a large number of schoolchildren in Shijiazhuang City in Hebei Province in China, which is part of a major longitudinal Chinese study on childhood asthma and allergies. We studied 10824 schoolchildren, boys and girls, aged 6-18 years. We used the ISAAC questionnaire and we added questions regarding pet ownership. The prevalence rates of asthma and rhinitis symptoms were higher in children exposed to cats and dogs compared with children not exposed to cats and dogs (wheeze ever 6.1% vs 5.6%; current wheeze 2.4% vs 1.7%; exercise-induced wheezing 4.7% vs 2.9%, P<0.001; cough 12.5% vs 10.9%, P=0.05; ever rhinitis 18.9% vs 12.5%, P<0.001; current rhinitis 13.1% vs 8.8%; rhinoconjunctivitis 3.3% vs 2.1%; hay fever 5.1% vs 4.1%, P=0.06, respectively). However, the prevalence of eczema was higher in children not exposed to cats and dogs compared with those exposed to cats and dogs (11.7% vs 10.5%, P=0.07). Children exposed to dogs had higher prevalence rates of most allergic disorders compared with children exposed to cats. The present study confirms the association between pets ownership and asthma and allergic symptoms in children and the protective effect of pet ownership on eczema.