

Letter to the editor

Dear Sir,

In the recent short communication by Bornehag et al. (Allergy 2003; 58:939–944), the authors report results from a cross-sectional questionnaire survey of preschool children and conclude that a seemingly protective effect of pet keeping is largely explained by avoidance behaviour. The authors are right in that pets are not randomly distributed in the society. Many factors, including the presence of allergy in the family may affect a family decision to have furred pets. It is, therefore, necessary to control for such selection mechanisms when evaluating the impact of pet exposure early in life on subsequent development of asthma and pet allergy. The paper by Bornehag et al. does not provide any new insight into the issue whether pet exposure early in life significantly affects the development of allergic disease.

The authors tried to control for selection bias by introducing the variable 'avoidance behaviour', by which they mean parents choosing not to have a pet because of allergic disease in the family. In Table 2 of their communication, they stratified for current furred pet keeping and 'avoidance behaviour' and not surprisingly observed a higher prevalence of allergic diseases in those not having a pet currently, and in

those with 'avoidance behaviour'. They then adjusted for 'avoidance behaviour'. As this variable was based on decisions both before and after the time point for exposure, i.e. at time of birth, their conclusion is misleading. If the authors wanted to study the impact of pet keeping at birth, the variable 'avoidance behaviour' should include only family decisions before or at the time of birth. Events after the birth of the child, e.g. eliminating the pet because the child became allergic, should not have been included in the variable 'avoidance behaviour' at birth. If the authors wanted to analyse current or previous pet keeping in relation to current (or future) allergy, all events that may affect current pet keeping should be included in the variable 'avoidance behaviour'. Thus, the variable 'avoidance behaviour' as defined by the authors is not suitable for analysis of the role of pet keeping at birth. Consequently, the authors need to re-analyse their data before making any conclusion regarding pet keeping at birth.

Furthermore, all the children in the study were in preschool age and over 50% <4 years old. At this age, wheezing and rhinitis are mainly induced by infections and allergic symptoms, like 'rhinitis on pet exposure' is relatively uncommon. Children developing allergy at such early age are

often more heavily atopic than the general population and children who develop disease later in life, thus enhancing the effect of avoidance behaviour. These facts make the age group studied by Bornehag et al. less suitable for any studies of a possible tolerance induction by exposure to pets early in life. In our study [Ref. (3) in the paper] the protective effect of pet keeping at birth on asthma and sensitization was obvious at 12–13 years of age, i.e. at an age when asthma is mainly of allergic origin (pet allergy most common). Furthermore, prospective studies of tolerance induction in Australia and in Estonia versus Sweden, demonstrate the dynamics of this process and the fact that the first 3–4 years of life is too short a period for assessing tolerance induction.

Bill Hesselmar MD, PhD
Queen Silvia Children's Hospital
416 85 Göteborg, Sweden
E-mail: bill.hesselmar@vgregion.se

Prof. Bengt Björkstén
Karolinska Institutet
171 77 Stockholm, Sweden
E-mail: bengt.bjorksten@cfa.ki.se