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Respiratory infections and the prevalence of atopy in children

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To the editor:

In contrast to most other investigators,¹ McKeever et al² find that respiratory infections do not seem to protect against atopic disease. Two reasons might explain this difference: the way in which respiratory infections were identified, and the age of the children.

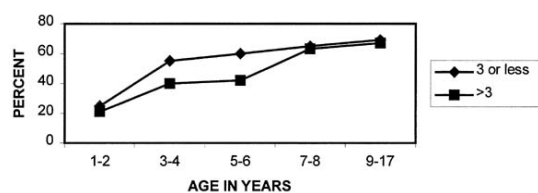
McKeever et al use the diagnosis recorded by the general practitioner as evidence of infection. We question whether this is sufficiently accurate. In cases referred to our clinic, we often find that a diagnosis of infection was made even though there was no fever and no symptom other than crying or fretfulness. We consider that histories of frequent fevers (>3 per year) or frequent colds (>8 per year) are better indicators of infection; they are the indicators used in our study.

Our population consisted of children aged 1 to 17 years who had nose or chest symptoms and were referred consecutively to our allergy clinic.³ After standard questions were asked of the parents, skin prick tests for 8 locally important allergens were performed through use of a standard method. We excluded 140 patients who either had recently taken antihistamines or did not want skin tests to be done. A total of 1120 cases remained in our

study.

Multivariate logistic regression revealed that the odds ratio (OR) for having a positive test result increased significantly with each year of age (OR = 1.15; $P = .00$) and with male sex (OR = 1.68; $P = .00$). In contrast, the ratio decreased significantly in those with >3 fevers per year (OR = 0.67; $P = .01$) or >8 colds per year (OR = 0.70; $P = .01$). These latter 2 effects were not constant across age; the effect was significantly stronger for frequent fevers in children 3 to 6 years of age (Fig 1) and for frequent colds in children 5 to 6 years of age.

Fig. 1. Percentages of patients with positive skin test results at various ages: >3 fevers per year versus ≤ 3 fevers per year.



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In summary, in our population frequent febrile episodes or colds appear to be protective against atopy, and this effect is most apparent in the 3- to 6-year age group. We speculate that McKeever et al did not find this effect because (1) the general practitioners' diagnoses were not sufficiently accurate and (2) the median age of their subjects (2.9 y) was too low for this effect to be apparent.

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