

Letter to Editor

Childhood immunization and atopic disease: Authors' reply

Editor

We thank Johannes C. van der Wouden and Roos M.D. Bernsen (1) for the opportunity they offered us to further discuss the reasons for abstaining from vaccination in our sample of French teenagers. Theoretical reasons include medical contraindications for the use of vaccination but also ideological reasons. The study of medical contraindications showed that none of the non-vaccinated teenagers included in our sample had records of bronchiolitis, obstructive bronchitis, pneumonia, acute bronchitis or parasitosis potentially or other diseases related to IgE production and allergic diseases. Only past year wheezing of the child could be considered in our analysis as chronic wheeze was not available in our dataset. Past year wheezing was more frequent in vaccinated than in non-vaccinated individuals (16.7% vs. 8.3% respectively). No influence of parental asthma was observed. Ideological reasons why parents refused vaccination are heterogeneous in France. Main reasons encompass personal, religious and philosophical convictions influencing lifestyle, diet, education, behaviour, health management..., which could not have been investigated in the absence of standardized instruments. However, some of these factors have been related to an increase of infections which are antagonist to the development of allergic disease (the so-called Hygiene Hypothesis) (2). In no way, the absence of appropriate information on the reasons why children were not vaccinated in our sample invalidates our findings showing that immunized teenagers reported less frequently atopic diseases than non-vaccinated teenagers, which is extremely important in terms of public health. The same message is provided by the MIRIAM study from Augsburg, Germany, which allowed more stable estimations of the relationships between vaccinations and asthma and allergies due to the

high proportion of non-vaccinated children they have. In the MIRIAM study, pertussis vaccination was protective (OR significantly < 1) against lifetime asthma and symptoms of eczema in boys. We also have found a sex ratio in the relationship between vaccinations and allergies in favour of boys. So far, data had not been stratified on sex in previous studies, which had prevented comparisons. This could be due to the fact that asthma and allergies occur earlier in life in boys, when vaccinations could better promote Th1 proliferation. In contrast with previous data including ours, the MIRIAM study failed to substantiate a protective effect of the BCG vaccination on asthma and allergies. However, there was no significant increase in the risk of asthma and allergies among vaccinated children, which deserves to be underlined. Prospective data are needed to assess whether there is a causal relationship between immunization and the development of asthma and allergies, as most of the published data are longitudinally retrospective.

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