Reviewer's report

Title: Prevalence of Childhood Eczema and Food Sensitization in the First Nations Community of Natuashish, Labrador, Canada

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Reviewer: Srdan Banac

Reviewer's report:

Manuscript entitled “Prevalence of Childhood Eczema and Food Sensitization in the First Nations Reserve of Natuashish, Labrador, Canada” is an original article. It is a descriptive (prevalence and severity) and analytical (IgE sensitization) epidemiological study (conducted in 2008) of eczema among children (n=182; age 2-12 y) living at Natuashish - a small community in the Canadian province of Labrador which is inhabited by the Mushua Innu (n=725). These are a small ethnic group of indigenous people who used to lead a nomadic existence characterized by traditional diet (caribou meat, fish, berries). Nowadays they are settled into the community and have more “westernized“ lifestyle and diet (milk, eggs, flour) which might be hypothetical risk factors associated with a general impression about an increase in occurrence of eczema among the paediatric population of the Mushua Innu.

Current prevalence and severity of eczema were established using standardized UK diagnostic criteria and Nottingham severity score. Serum concentrations of total and specific IgE (cow milk, egg, wheat) together with blood eosinophil count were assessed and compared between children with eczema (n=22) and eczema free controls (n=40).

Calculated current eczema prevalence rate was 16,5% with significant female predominance. Majority of children with eczema (60%) suffered from moderate and severe form of the disease. In spite to the fact that quite high eczema prevalence rate was found, proportion of children with eczema who were sensitized to egg (32%), milk (23%) and wheat (5%) were lower than expected. In all but 3 of the 62 subjects (eczema group and control group) elevated serum levels of total IgE were found. On the other hand, normal eosinophil counts were found in both groups suggesting that unexpected high IgE levels are not caused by parasitic infestations .

Author has presented his original results which in my opinion are of a considerable scientific interest. It is always interesting to perform epidemiological surveys among small, usually isolated ethnic groups with specific social and cultural features, and a homogeneous genetic background. Thus, I believe that the manuscript and the results of the study are certainly worth to be published in BMC Pediatrics.

However, before the final acceptance, the manuscript requires some minor essential revisions:
1. There is no title of the Figure 1.

2. The Table 2 seems to be needless. These results (severity of eczema) should be presented textually in the Results.

3. Although the results are mainly presented using tables, condensed data about specific IgE sensitization should also be presented textually in the Results. One new sentence would be enough (like it has been done in the Abstract).

4. Percentages of children with eczema and elevated IgE levels for egg are not of the same value comparing the Table 3 (31%) and the Abstract (36%)!? 

5. The unities for subjects age (years) and for eosinophil count as well as the symbol for number of subjects (N) should be more appropriately inserted in the Tables 1, 3 and 4.

6. The title of the Table 4 should be more instructive. Study years of cited surveys should be included in the Table 4.

7. „Prevalence“ and/or „epidemiology“ as a keywords should be added.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I have no competing interests in relation to the manuscript that I have reviewed.