Reviewer's report

Title: Diet, occupational exposure and early asthma incidence among bakers, pastry makers and hairdressers

Version: 2 Date: 8 March 2012

Reviewer: Jacek Mazurek

Reviewer's report:

The manuscript would be a valuable contribution to the field. However, there are important methodological issue (please see comments below) that need to be addressed. Thank you very much for allowing me to review this manuscript.

Major Compulsory Revisions

1. The authors report that “among hairdressers, vitamin A and D intakes are greater among cases than among controls” while the results of multivariate analysis showed that BMI and the score of exposure intensity are predictors of OA. The authors should clarify their message.

2. Can some of the findings (e.g., higher intake of vitamin A among hairdressers) be explained by the fact that vitamin A use is promoted for hair growth and hairdressers might tend to use vitamin A more frequently? Additional analyses (or results if they were done) should be conducted.

3. Although the authors address some limitations of the study (small number of observations) it should be noted that the authors examined the association of nutrition intake history that was collected for the 12 months prior to the medical visit with the OA. However, “Respiratory symptoms had begun between less than 1 year to 7.4 years prior to the medical visits.” Thus, dietary habits might be a result of asthma or they might be not related.

4. p.4.l.24 Please explain how the putative OA cases were identified. It is not clear how the OA diagnosis, telephone screening, medical visit, and selection of cases are related. Was the OA diagnosis made at the time of medical visit (March 2009–July 2010) or earlier?

5. p.9.l.16 What variables remained in the model? Were the vitamins included? Please explain how the model was developed.

6. Did the food questionnaire collect information on vitamin supplements (in particular vitamin A, C, D, and E)?

7. Did the authors consider vitamin intake effect modification of the association between OA and sector? If so, please provide results of this assessment.

8. p. 8.l.4. It is not clear what variables were examined/used in developing logistic regression model. What was the basis for selection of specific variables? For example, it is not clear if the authors considered gender (ORs in Table 2 were not adjusted for sex).
9. p.8.l.23 The authors report that they reconstructed work history and collected information on the time sequence of symptoms. It would be nice if the authors report results. How many study participants left their sectors/occupations after/because of developing OA? Have any participants work while having OA? What was the duration of employment to the onset of asthma symptoms?

Minor Essential Revisions

1. p.3.l.24 please revise the sentence: “The role of antioxidants (vitamins A, C, E) or of vitamin D is still questioned because of methodological weaknesses, and contradictory hypotheses were reported”.

2. p.4.l.6 “of personal characters”

The word “character” refers to 1.qualities of personality; 2.what makes something different; 3.morally good qualities; 4.unusual person; 5.someone in book, movie, etc.; 6.someone’s reputation; 7.letter/number/symbol

It appears that the authors should use the word “characteristic” which is defined as:

a particular quality or feature that is typical of someone or something: “In the future parents may be able to choose their children’s physical characteristics.”

the main/defining/distinguishing characteristic: “A purple rash is one of the distinguishing characteristics of the disease.”

3. p.5.l.20 “The same two first criteria were used to select controls. The latter…” not clear what criteria are considered; not clear what is “the latter” referring to; please revise.

4. p.5.l.25 “material” should be “device”?

5. l.26 “to avoid measurement bias” — were the measurements taken by the same person, in the same conditions, etc.?

6. p.6.l.3 “…or in case of a history of treatment for allergy or desensitisation” — do the authors refer to case-patients selected for the study?

7. p.7.l.12 “performance“ — It’d be nice if the authors use epidemiologic definitions while referring to “reproducibility and validity” of the questionnaire.

8. p7.l.24 Please check the instructions for authors or http://www.sas.com/presscenter/guidelines.html for referencing data analysis performed with SAS® software.

9. p.9. ll.2-8 It’d be nice if the ORs in Table 2 with p-values <.05 are clearly marked.

10. p.9.l.15 Specify group (i.e., cases) with greater prevalence of symptoms

11. p.11.l.23 No need to capitalize “odds ratio”

12. p.12.l.25 There are some studies examining risk for asthma associated with nutrition. The authors may need to be more specific here.

13. p.13.l.11 An extra period

Table 1
14. Please check and correct format
15. Please explain values for age, height, and weight, exposure duration (mean, median?) and their corresponding values in square brackets (SE?)
16. Because nutrition intake is of the authors' interest and would be helpful in understanding the study results please provide this information for cases and controls.
17. Provide information on the statistical test used
   Table 2
18. Please specify “atopy” (personal vs familial).
   Table 3
19. No need for italicization.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests.