Reviewer’s report

Title: Use of traditional cooking fuels and the risk of young adult cataract in rural Bangladesh: a hospital-based case-control study

Version: 1 Date: 9 July 2010

Reviewer: Hannah Kuper

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This is an interesting paper demonstrating an association between cooking fuels and cataract.

Major Compulsory Revisions

1. The paper would benefit from editing to make it substantially shorter. In particular, the results and discussion sections are both too long, and both need to be reduced by at least one quarter in length.

2. Methods. Detail is required on how the diagnosis of lens opacity was made (who by, what equipment, which criteria), and whether the controls were also examined in a similar manner to exclude the diagnosis.

3. Selection bias. The possibility of selection bias due to selection of controls and the possible implications of this question needs to be considered in more detail in the discussion. Please also state the level of non-response among cases and controls in order to allow assessment of the extent of selection bias.

4. Although it is useful to demonstrate differences between the two types of controls in table 1, in the subsequent tables these control groups should be combined as they show similar patterns. This would greatly simplify the paper. The authors can then state in the text any large differences between the two control groups in comparison with the cases, but avoid being too speculative.

5. The reader needs to understand more about the characteristics of the users of these different types of fuel in order to identify alternative reasons for the positive association between wood or dry leaves or use of rice straw with cataract, but a protective effect of cow dung. Could the authors include a table comparing (for cases and controls) the socio-demographic characteristics of different fuel users?

Minor Essential Revisions

1. Throughout the authors refer to the identification of “risk” of cataract, whereas they are identifying the “odds”.

2. Abstract. Please clarify in the methods that case status was dependent on lens opacity plus visual impairment.

3. Introduction. Paragraph 3 (describing results of the national survey) is much too long. There is no need to give both the crude and age-standardised results. The final sentence about neighbouring countries is not necessarily relevant as it
relates to different age ranges.

4. Introduction, final paragraph, 3rd line from bottom. Even in your age group this is still probably age-related cataract so please rephrase this sentence.

5. Methods. “Case recruitment” section, line 5. This should be “Visual Acuity Chart or” not “and or”.

6. Methods. “Non-cataract eye-disease controls” The sentence “controls of either type who were not willing to participate... were excluded” is obvious and does not need to be stated.

7. Methods. “Non-cataract eye-disease controls” 4 lines from bottom. Please correct this to read: “Matching was done to allow control for the potential confounders”

8. Methods. “Data collection” section. The final section on informed consent needs to be included under the ethics section.


10. Results. As specified above, the results section is much too long.

11. Results, paragraph 3 needs to be merged with paragraph 1 as both relate to table 1.

12. Results, paragraph 5. Unclear what is meant by case status was #3.

13. Results, paragraph 9. Section on how the model was fitted needs to be moved to the methods section.

14. Discussion. As specified above, the discussion section is much too long. This section also needs to be restructured so that the authors specify upfront that a positive association was identified between wood or dry leaves or use of rice straw with cataract, but a protective effect of cow dung.

15. Discussion. The authors devote more than a page to the discussion of other risk factors for cataract in relation to the existing evidence from the literature. Since this is not the key message of the paper I suggest that the authors reduce this to one paragraph only.

16. Discussion, limitation section. Inaccuracy of recall would likely lead to bias, albeit it non-differential misclassification bias, which as the authors point out would underestimate the results towards the null. Please correct this section which says that it is unlikely that recall misinformation was biased (I think they mean differential).

17. Discussion, page 18, paragraph 2. I suggest that the authors combine the two control groups for the analyses and so this paragraph would be redundant.

18. Discussion, final sentence. Given the unexpected findings and lack of biological support, I believe that their recommendation is premature.

19. Tables. The authors need to cite p-values to 2 decimal places only, throughout. OR with 95% CI are more informative than p-values and should replace the p-values.

20. Table 1. This table is very busy and needs to be reduced. For instance, the
sections on BMI, hypertension, diabetes and myopia are not critical to the analyses and can be removed from the tables and merely mentioned in the text.

21. Table 2. The authors should combine the two control groups for the purpose of this table, and cite in the text that the associations were similar when using the two control groups. Gas and kerosene use was so low that it can be merely cited in the text rather than included in the table.

22. Tables 4 and 5. Please combine the two control groups.

23. Figure 1 is not needed and can be discarded.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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.