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: 4 Date: 7 January 2011

Reviewer: Astrid E Fletcher

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Major compulsory revisions

1. While the addition of information in Table 4 has improved understanding of the distribution of fuel use in the study, there are striking differences in fuel use between men and women. For example no men use cow dung with wood and only 2 men use cow dung in combination with other fuels. The majority of men report no exposure to any cooking fuels at all. Because of these differences there is inconsistency in the reference groups in the ORs for men and women in table 4. For women the reference group is those who use only wood, while for men the reference group is those who use no fuels. However the majority of the analyses shown in other tables combine the results for men and women and include those men who used no fuels with the never group of other types of fuels. I suggest that the ORs should be removed from table 4 and the data provided only for descriptive purposes. Since so many men do not report any cooking fuel exposure (reflecting the lack of cooking) the analyses should also be run separately for women only, and reported in an additional table. As a further point on this in the Discussion the authors should consider their exposure based on personal use of cooking fuel since the men in the “no fuel group” clearly would have lived in households with cooking fuels. The difference between personal and household exposures should be discussed.

On page 14 the authors state that sex was not a modifying effect in the analysis by fuels but it would be difficult to test this given the differences in fuel use. The authors should explain how they did this or the statement should be modified.

2. The results in the text and tables (including the abstract) should include the exact exposure and comparator groups, for example since there are no people who only use cow dung, the odds ratios are based on the use of cow dung with either wood or with wood and rice straw compared to those who use only wood or wood and rice straw or none.

3. Since the group in this study who use cow dung also use fuels with increased ORs (i.e. wood or rice straw), it is likely that the results are biased in some way by incomplete adjustment for wealth or some other factor due to ownership of buffalo. The authors do address this possibility in their discussion but a stronger statement on the potential bias should be included in the conclusions of the Abstract. The last sentence of the Conclusions should be removed because the
potential biases do not warrant this sentence.

4. References. The authors have too many references on factors that are not central to the study question or are set in very different populations. There are too few references on the health effects of biomass fuels, especially studies carried out in Bangladesh or northern India where biomass fuels use is common. Some examples are:

Bikis et al Indoor air pollution from particulate matter emissions in different households in rural areas of Bangladesh Building and environment 2008

Dasgupta et al Indoor air quality for poor families: new evidence from Bangladesh. Indoor Air 2006

Parikh et al. Exposures from cooking with biofuels: pollution monitoring and analysis for rural Tamil Nadu, India, Energy 26 (2001),

I suggest they carry out a more in depth review of this area which would better inform the study discussion.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests