Reviewer's report

Title: Self-rated Health among Mayan Women participating in a Randomised Intervention Trial reducing Indoor Air Pollution in Guatemala

Version: 2 Date: 1 April 2008

Reviewer: Sean Semple

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This intervention study examines changes in self-reported health status among women in Guatemala who receive an improved stove to reduce their exposure to indoor air pollution levels. It is an excellent addition to the literature and provides a novel evaluation of such interventions from the point of view of the women who use the cooking instruments. The paper is well constructed and gives a thorough description of the methodology used and the results obtained. I have few criticisms but would like the authors to consider the following two major points and several more minor items that may help clarify a couple of areas:

Major points

1. There is no discussion about the possible influence of pregnancy on self-reported health status. The paper states that at baseline interview about two-thirds of both the intervention and control groups were pregnant but that less than 13% were pregnant at 18-month follow-up (there is no data presented to demonstrate the difference in the numbers pregnant in intervention/control groups at follow-up). The possible role of pregnancy on the improvement in health of both groups should be discussed. The Leinonen study cited on page 12 looks at changes in health over five years in an elderly population- this study was among young women in their late 20's- it would be useful to cite data on self-reported changes in health in women of a comparable age.

2. While I agree that the plancha is likely to be the cause of the improved health it may be argued that it is the indirect effect of factors such as ‘increased social status’ and the intervention groups desire to ‘please the study team’. The advantage of this study is that it builds upon previous work and findings showing reduced exposure levels and so the weight of evidence begins to indicate that the health benefits are a real result of the plancha reducing personal exposures among these women. However I think the final sentence of para 2 on page 12 should be moderated accordingly to introduce the possibility of bias- discussed very clearly and well- at the beginning of page 13. The authors may wish to cite or examine the discussions (see HEDON website- find address) on the introduction of bias by participants who wish to provide the study team with the answers they believe they want.

Minor points

1. Page 9- last para. “nearly all”- 84/98? Actually should this be 84 of 89- is there a typo at the top of table 4 where it states 98 women using the plancha. If it is
84/89 then I can agree with “nearly all” - I prefer percentages in the text rather than having to guess at what terms like “nearly” mean.

2. Page 9 – last para. “Unprompted” - what information was provided to participants in the recruitment process. Were they told that the plancha would reduce smoke levels or was likely to reduce smoke levels in their kitchen?

3. Page 10 para 2 mentions that some women described reduced light from the fire. Did this lead them to use additional lanterns/lamps that perhaps emitted more particulate matter?

4. Page 10, para 3. “very few” - how many? The paper would benefit from a table of the results described in this paragraph.

5. Page 10, last line. (difference non significant) - give the p=0.141 and then at the start of the following page give p<0.0001.

6. Page 11- para 1. “was seen as far more important” - looking at the description of the questions in section C on page 7 it is difficult to see how this conclusion can be reached. The participants may have been reporting the symptoms they most associated with improved health but importance was not rated.

**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 declare that I have no competing interests.