Reviewer's report

Title: Arabian incense burning: a common trigger for asthma symptoms in Omani children

Version: 2 Date: 20 September 2008

Reviewer: Hanaa Banjar

Reviewer's report:

Comments to the Author:

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore):

• Background: Needs to mention the incidence of asthma in Oman.
• Subjects: Needs to mention the difference between the prevalence of asthma in Muscat and Sharqiyah.

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
• Table 2, under bakhour use at home, 3 or more times; There was no mentioning of the p-value
• Figure 1: needs to add in the legend, the meaning of the star sign on other smokes

- Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)
• Definitions: Probable asthma- Is not accurately defined
• Results:
  1. Table 2 : Can repeat the statistics to include only 2 groups: The non-asthmatic and the asthmatic excluding the probable asthmatic
  2. Table 3 and table 4 have many items repeated and can be unified in one table (e.g. Bakhour use in the room, Gender, region, father education, Mother Education, and parental smoking).
  3. Table 2 can be deleted and added to table 5
  4. PFT was not done to confirm the definition of asthma or the effect of the triggers.
  5. Authors contribution: Needs to mention them by their names but not abbreviation (as OA, AA, BM)

1. Is the question posed by the authors well defined?
Yes

2. Are the methods appropriate and well described?
No, the methods were not appropriately described. The author compared 2 districts of Oman (Muscat and Sharqiyah) which were not mentioned in the original question, and mentioned many findings for this comparison in the results and Discussions (Table 1). The Author may need to change the question to include the comparisons of the 2 districts.

The definition of possible asthma is confusing and not accurate: As it consists of children with respiratory symptoms (not defined which symptoms, is it cough, snoring, noisy breathing, or what?).

3. Are the data sound?
No. Some of the data is accurate, but there are many confusing and conflicting results, e.g.

- Table 1 in core asthma symptoms section (Night cough in the absence of cold is 17.2 in Muscat compared to 23.4 in Sharqiyah) and in another statement (sleep disturbance on night or more / week in 1.5 in Muscat compared to 0.5 in Sharqiyah)

- Table 2, the frequency of never or rarely using Bakhour per week was higher in asthmatic compared to non-asthmatic (23.3% vs. 19.8%) , at the same time frequency of using Bakhour 3 or more times per week is more frequent in asthmatic compared to Non-asthmatic (59.3% vs. 56.3)?? I can not understand these conflicting results.

- In Table 4, and page 10, 3rd paragraph: the author mentioned that “Bakhour use of 1-2 times per week was associated with lower prevalence of current asthma in simple regression analysis (OR=0.63, 95% CI 0.44-0.91), this association was not significant after adjusting for all other factors”. I conclude from this finding that there is no effect Bakhour on current asthma, which was the whole mark of the study.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
- Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data?
- The discussion was long and needs to be more concise. The conclusion is not appropriate, as the exact effect could have been measured by pulmonary function test.

6. Are limitations of the work clearly stated?
- Yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
- Yes

8. Do the title and abstract accurately convey what has been found?
- No. The study included the comparison between 2 regions in Oman, but didn’t compare other regions.

9. Is the writing acceptable?
- Yes

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**
'I declare that I have no competing interests'