Reviewer's report

Title: Incidence of chronic bronchitis among pulp mill workers with repeated peak exposures to sulphur dioxide and other irritant gases

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Reviewer: Manolis Kogevinas

Reviewer's report:

1. This is an interesting paper reporting results on irritant exposures and chronic bronchitis in paper and pulp mill workers in Sweden. The topic is important and there is actually little evidence on the effects of these type of exposures that are quite prevalent in many workplaces. I have only a few minor comments.

Minor comments

2. It would be useful to present more completely data on departments. Perhaps add a table with major departments and also those with highest probability for frequent irritant exposures. The information provided in the results is quite limited.

3. The authors have grouped ever smokers including current and ex-smokers. Ex-smokers actually seem to be different than current smokers and they report higher prevalence of peak exposures and frequent peak exposures than current smokers (see table 3). Although differences are not very big this could be related to selection out. Given the comments on the lack of an additive effect with smoking and exposure to irritants, perhaps it would be interesting to evaluate separately the exsmokers from the current smokers.

4. Page 9, comment on asthma. It would be of interest to indicate how many of the subjects reporting doctor diagnosed asthma had also chronic bronchitis.

5. An obvious comment refers to the findings on asthma and irritant exposures(see table 2). These are not commented. If the authors are preparing another paper on asthma, this is fine. If not just add also in this paper the results on asthma.

6. The authors do not comment on changes in exposure. During the period of the study there have been significant changes in production and exposures with a reduction in the use of specific chemicals including (as far as I know) chlorine and an increase in the use of other chemicals such as ozone. How much may this have affected results? If time periods of exposures and symptoms are available it might be useful to do also an analysis prior to 1990 when chlorine use (I think) was highest.

Discretionary Revisions

7. The authors have published several papers on pulp and paper workers and respiratory symptoms. It is not always easy to understand which studies include the same population. It would be helpful to indicate this in the introduction, in
case one of the earlier studies included subjects reported in this paper.

8. Related to the previous comment: in an earlier paper (Murgia, BMC PH 2011) the authors use the term “gassings”. They do not use this in the current paper. Perhaps make a reference so that the readers know how much coincidence there is in exposure assessment between studies/papers.

9. Page 5, paragraph titled “Exposure”. Probably delete the word “Objective” in the sentence “Objective information about the departments in which the subjects had worked, ….”, there is no need for that.

10. Reference 17, there is a minor typo “andchronic”

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

No competing interests