Reviewer’s report

Title: Chronic respiratory disease among the elderly in South Africa: Any association with mine dumps?

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Reviewer: Bill B Brashier

Reviewer’s report:

I read the manuscript by Nkosi et al, and I congratulate the author to identify novel risk factors for epidemiologically relevant respiratory diseases, in countries where mine dumping is a significant problem. However, certain relevant changes in the manuscript are deemed important before accepting it for publication in Journal.

Major compulsory revision

Introduction:

The introduction requires clear revamping as the study entitles and revolves around mine dumping.

The introduction starts well with epidemiological relevance of respiratory diseases and probable risk factors, but it does not indicate that why does the author thinks that mine dump can be a potential source of air pollution. Are air pollutants from mine dumps characterised particularly in context to respiratory health? The air pollution implication of mine dumps need to be described in this section.

Further as population selection was elderly, why did author select elderly population? The changes in the lung health with age also needs to be discussed.

Methods:

This is a plain questionnaire based study, however, was the randomly based selection of homes was conducted in a radial fashion of homes around the dump or was this unidirectional selection. This is important as the wind direction could also be an important contributor. If the wind direction has potential to transfer the pollutants. However this may not change the results but is relevant.

Why was not COPD described?

Further for quality control the fieldworkers randomly selected 10% of homes and re-administered the same questionnaire on the same previously interviewed participants to verify their responses was stated. However, its not clear that what % of deviations within the interviews were considered unacceptable.

Also were the question translations validated for the population. If not please discuss why the author did not do this, and then why the results should be reliable. Also, since the dump exposed versus unexposed was predetermined
basis of the study this could have biased the interviewers towards more positive response in the exposed areas, please explain.

Results.
Please remove table 4 from the second last- paragraph 4th line of results as there is no table 4 in the manuscript.
Also the OR have been adjusted which is appropriate, however it is important to also tabulate unadjusted OR. The comparison of adjusted and unadjusted OR can be important to see the influence of different factors on mine dump exposure Odds.

Minor compulsory revision
Discussion
One of the limitation is also not using spirometry, please add this.

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.