Reviewer’s report

Title: Meta-analysis of adverse health effects due to air pollution in Chinese populations

Version: 2 Date: 22 November 2012

Reviewer: Abdulbari Bener

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Re: 'Meta-analysis of adverse health effects due to air pollution in Chinese populations'
Hak Kan Lai, Hilda Tsang and Chit Ming Wong article
Journal: BMC Public Health Research
Subject: Review

Overall comments: In current study, the authors pooled up the risk estimates of adverse effects of four classical air pollutants in Mainland China, Hong Kong and Taiwan and firstly showed that the higher the annual PM10 and NO2 level, the lower was the excess risk of mortality in a meta-regression analysis. This finding is important to the understanding of the differences of the effect sizes across regions, which remain unexplained to date in the literature. This pattern indicates that the concentration response relationships were leveling off in the downward direction rather than purely linear. Similar pattern of inverse association has been observed in a cross-sectional study of lung function and exposure to indoor PM2.5 concentration. This inverse relationship could be related to a saturation mechanism occurring at lower exposure levels where both irreversible and reversible processes may simultaneously exist.

1. Title: The title is adequate.
2. Abstract: The abstract is adequately addressed.
3. Introduction: The introduction is adequate.
4. Materials and Methods: This section is presented clearly.
5. Results: The results are clearly presented and adequately addressed.
6. Discussion: The discussion is well written and adequately addressed.
7. Limitations: The authors need to report some more of the limitations of this study.
8. Conclusions:

In conclusion, this study is well written and is well designed. It addresses an important issues concerning public health topic in a very thorough and yet concise manner. It only requires some minor changes before being accepted for publication.
**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

'I declare that I have no competing interests'