Reviewer’s report

Title: Association between long-term exposure to ambient air pollution and prevalence of diabetes mellitus among Malaysian adults

Version: 0 Date: 29 Aug 2019

Reviewer: Chris Lim

Reviewer's report:

This study looks at the associations between multiple air pollution and diabetes prevalence in Malaysia using the National Health and Morbidity Surveys undertaken in 2006, 2011, and 2015. This study was done in an understudied region in terms of health effects of air pollution. However, as there have been numerous recent studies looking at more pertinent endpoints (e.g. diabetes incidence in longitudinal studies or biomarkers in cross-sectional studies), examining prevalence with small study size and limited risk factors is a major limitation.

Major comments:

Abstract, Results: Odds ratios for air pollution-associated ORs should be reported, not just the diabetes prevalence.

Throughout the manuscript, the authors do not clarify and differentiate between diabetes prevalence and incidence. References are also wrongly cited (e.g. Liang et al., 2019; Puett et al., 2011; Renzi et al., 2017) as looking at prevalence although they examine diabetes incidence. For example, in Line 450, authors state that "Similar ORs of the pollutants and prevalence of diabetes (1.011 and 1.015) were reported by Renzi et al," although they are HRs for incidence. Please refer to Pearson study to look at how to tailor language to report air pollution-diabetes prevalence findings.

More effort could be given to explain the large differences in findings across the time. What could be the potential reasons?

Susceptible populations could be identified via interaction tests.

Minor comments:

Line 178 - Could report what % of populations are within certain distance of the monitors.

Level of interest

Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests
Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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