

Author's response to reviews

Title: Health effects of ambient air pollution - - recent research development and contemporary methodological challenges

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Author's response to reviews: see over

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The Environmental Health Editorial Team

Dear Editors,

Re: MS1241341651180714 entitled “Health Effects of Low Level Exposure to Ambient Air Pollution – recent research development and contemporary methodological challenges”

Thank you very much for your letter of August 4th, 2008 and the attached referees’ comments. Please find enclosed a copy of our revised manuscript with the following changes, according to reviewers’ suggestions and comments:

In response to Dr. Kristie Ebi’s comments

We have modified paragraph 5 in section 2.1 (page 5) to show that many studies have examined displacement but no evidence was found so far for the harvesting effect. We deleted section 3.2 entitled Mortality Displacement (page 11). Thanks.

In response to Dr. Craig Hansen’s comments

1. We chose particulate matter and ozone in Table 1 because the two pollutants are important toxic agents and widely examined in the air pollution literature. We modified the paragraph to explain why we selected particulate matter and ozone (page 3).
2. Birth outcome studies in air pollution field emerged since the last decade. The process of data collection is like “retrospective cohort”, but outcomes and exposures are consisted of daily records, and therefore data also have time-series characteristics in a sense. In addition, data analyses of birth outcome studies generally use logistic regressions or linear regression. The statistical methods are different from cohort studies in which proportional hazard regression model is one of important characteristics. Therefore, we consider the birth outcome design as a hybrid design and this review just classified it as one method, i.e., birth outcome studies. We considerably revised the paragraph and moved the paragraph to section 2.5 (page 9-10) entitled Birth Outcome Studies.

3. We have considerably modified the last paragraph of section 3.2 Uncertainty and bias and added the last three paragraphs to discuss potential spatial confounding for the birth outcomes studies in section 3.2 (page 14-15), in which we also mentioned that studies have adjusted for many potential confounders related to delivery information. Therefore, the review has balanced different study design.
4. As above, we considerably expanded birth outcome study part and discussed the geographic variance in detail (page 9-10, 14-15). We did not discuss other issues about birth outcome studies because Ritz et al. (2008) discussed birth outcome studies (cited). If birth outcomes studies take a large weight, it will cause a new unbalance.
5. We corrected the minor essential revisions. Thanks.

We greatly appreciate the opportunity of resubmitting our work and look forward to your decision.

Yours sincerely,

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