Author's response to reviews

Title: Effectiveness of Interventions to Reduce Indoor Air Pollution and/or Improve Health in Homes using Solid Fuel: Protocol for a Systematic Review

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Author's response to reviews: see over
The Editor
Systematic Review

January 26, 2015

Dear Editor:

RE: MS: 1618395903143231 - Effectiveness of Interventions to Reduce Indoor Air Pollution and/or Improve Health in Homes using Solid Fuel: Protocol for a Systematic Review

Please find below our point-by-point responses to reviewers comments.

MS: 1618395903143231
Effectiveness of Interventions to Reduce Indoor Air Pollution and/or Improve Health in Homes using Solid Fuel: Protocol for a Systematic Review
Reginald Quansah, Caroline A Ochieng, Sean Semple, Sanjar Juvekar, Jacques Emina, Frederick A Armah and Isaac Luginaah

"General Comments:
There remains an issue with search dates regarding when searches were conducted and when they will be conducted. This need to be corrected.

Thank you for this observation. We started the search in September 2013 and updated the search in November 2014. We will also update the search in Feb 2015.

Specific Comments:
Please include "lower and middle income countries" in your title
Thank you for this suggestion. We have modified the title accordingly. The new title of the revised manuscript is “Effectiveness of Interventions to Reduce Indoor Air Pollution and/or Improve Health in Homes using Solid Fuel in Lower and Middle Income Countries: Protocol for a Systematic Review”

**Line 50: It should read that the search was conducted in September 2013 and updated in November 2014 (and include any further search updates in 2015).**

Thank you for this important suggestion. We have modified line#49-52; 115-117 of the revised manuscript to read……………… OVID Medline, Ovid Embase, SCOPUS and PubMED searches were conducted in September 2013 and updated in November 2014 (and include any further search updates in 2015).

**Line 58: What policies do you foresee this review influencing?**

We appreciate this comment. Biomass and solid fuels are seen as a necessary fuel for 3 billion people that currently rely on it, because it is not possible to switch this population to clean energy in the near future. The focus has therefore been on increasing efficiency of its use to minimize indoor air pollution and other negative impacts. This review will inform policy aimed at improving health and well-being of the poor. We have clarified this issue in line#59-60. We stated that…. The findings from this review will be used to inform future IAP interventions and policy ……………..on poverty reduction and health improvement in poor communities who rely on biomass and solid fuels for cooking and heating.

**Line 66: Can you mention, aside from mortality, how human health is affected?**

Household fuel use has been associated with several diseases and has been summarized in several reviews (e.g. Fullerton et al 2008); Smith et al 2004). These include but not limited to COPD, asthma, ARTI in children, tuberculosis, asthma, cataract and cancer. In the revised manuscript we stated that……. Current epidemiological evidence suggests that indoor air pollution (IAP) from the use of solid fuel contributes importantly to ………..the global burden of mortality and morbidity (e.g. chronic obstructive pulmonary disease) (line#70-72)

**Line 67-69: Current epidemiological evidence cited is from 2002, is there more current data available?**

Thank you for this observation. We have updated our citation in line#72 of the revised manuscript as suggested. We have cited….. Rylance J, Fullerton DG, Semple S, Ayres JG. The global burden of air pollution on mortality: the need to include exposure to household biomass fuel-derived particulates. Environ Health Perspect 2010 118:A424; Gordon SB, Bruce NG, Grigg J, Hibberd PL, Kurmi OP, Lam KB et al. Respiratory risks from household air pollution in low and middle income countries. Lancet Respir Med. 2004, 2:823-860; and the most recent Global Burden of disease report. [Lim SS, Vos T, Flaxman AD, Danaei G, Shibuya K, Adair-Rohani H et al. 2012. A Comparative Risk Assessment of Burden of Disease and Injury Attributable to 67 Risk

**Line 100-102:** The definition of intervention should be in the Intervention section.

We have moved the definition of intervention from line#104-106 to line#139-141.

**Line 108:** The abstract states that the literature was searched Sep 2013, but under Search Strategy the pilot search was in Oct 2013. Please correct as the literature search should be performed after a pilot search.

Based on your previous comment (line#50 above), we have corrected this error. The sentence in the abstract (line#50-52) and the main text (line#115-117) now read…..the searches were conducted in September 2013 and updated in November 2014. We will also include any further updates in Feb 2015.

**Line 111-112:** This line states that the search will be run in Nov 2014 which has already passed; will you be updating your search in 2015?

Thanks for this comment. We have clarified this issue in line#115-116. This sentence now reads…..We will also include any further updates in Feb 2015.

**Line 125-126:** Do you mean by stating that you are excluding all controlled experimental studies that you are excluding all studies not conducted in a home? It would be better to just state this.

Thank you for this suggestion. We have modified the sentence to read…….. We will exclude all studies not conducted in homes (line#130).

**Line 165-183:** What will you do once you have the risk of bias assessment? Will you include studies with high risk of bias?

If we obtain sufficient study for a quantitative analysis we will conduct either a sensitivity analysis or a subgroup analysis to understand how the different risk of bias category influence the overall summary estimate.

**Line 173:** Can you include the form from the previous study in the supplemental materials?

We have include our previous extraction form as additional file in the revised manuscript (page#x).

**Line 191:** What will you do if you find many studies of the same outcome? How will you handle clinical and/or statistical heterogeneity? What sensitivity analyses are you planning to conduct?
We will conduct a subgroup analysis and the variables we will focus on would be age, gender, geographical location, intervention type, study design and risk of bias score. For sensitivity analysis we will carry out an influence analysis to determine outliers and how influential studies may affect the validity and robustness of our conclusions.

Table S1: Search terms 28-43 are likely not limiting your search at all as some terms are quite broad. I think this is fine since I would not recommend limiting your search at all beyond types of IAP you are interested in.

On the behalf of the team,

Sincerely yours,

R.Q