Reviewer's report

Title: Personal carbon monoxide exposure, respiratory symptoms, and the potentially modifying roles of sex and HIV infection in rural Uganda: a cohort study

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Reviewer: A. Chuturgoon

Reviewer's report:

The authors present results from biomass-endemic regions in Uganda focusing on the feasibility of using ambulatory carbon monoxide (CO) monitoring systems to identify an individual's personal CO exposure, and associated adverse respiratory symptoms in participants. Results were stratified based on the individual's sex and HIV status.

This study raises issues currently affecting the African continent, including HIV/AIDS, adverse respiratory health and ambient and indoor air pollution. Such studies on the African continent are scarce and the authors make a significant contribution with this study. The conceptualized idea of this paper is good and the paper is well written.

Comments:

The HIV status of the study population was determined but not the Tuberculosis status. The authors state in the conclusion: "Alternatively, air pollution exposure may increase the risk of pulmonary tuberculosis through smoke-induced endothelial and alveolar damage that facilitates mycobacterial infection[53, 54] and/or altered antimycobacterial innate immunity.[55] Thus, air pollution exposure may potentiate baseline tuberculosis risk among PLWH,[56] which may underlie the increased respiratory symptom burden among PLWH as compared to HIV-uninfected participants exposed to air pollution. We did not test for tuberculosis in the cohort, so we could not evaluate the potentially mediating effect of pulmonary tuberculosis on the relationship between CO exposure and respiratory symptoms."

The test for tuberculosis should have been done. Then the data could be analysed as: co-infection with HIV and TB; TB infected only; etc. TB is the biggest driver of respiratory issues.

Please check list of references because in some instances page numbers for articles are missing.

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