Reviewer’s report

Title: Incident Mycobacterium tuberculosis Infection in Household Contacts of Infectious Tuberculosis patients in Brazil

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Reviewer: Mengistu Legesse Dadi

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Reviewer Report

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Title : Incident Mycobacterium tuberculosis Infection in Household Contacts of Infectious Tuberculosis Cases in Brazil

Authors: Edward C. Jones-López1, Carlos Acuña-Villaorduña1, Geisa Fregonà2, et al.

Reviewer: Mengistu Legesse

General comments

The aim of the study was to describe individual characteristics of a cohort of household contacts with TST conversion and compare them to contacts that were TST-positive at baseline, and those that remained persistently TST-negative. Among 838 household contacts involved in the study; 523 (62.4%) contacts were TST-positive (≥10mm) at baseline, 62 (7.4%) were TST converters, and 253 (30.2%) remained TST-negative (<10mm). While the research idea was interesting, the study was not properly designed, the methods and the results were not clear presented, and it is difficult to follow and understand. The title (Incident Mycobacterium tuberculosis Infection in Household Contacts of Infectious Tuberculosis Cases in Brazil) does not coincide with the results of the study. What is meant by incident M.tuberculosis infection in household contacts? Among the 62 TST converters, the majority (69%) were positive by IGRA at baseline and these IGRA positive individuals cannot be considered as incident cases. Moreover, the majority of the contacts who were found positive for Mtb infection by TST either at the baseline (81%) or the converters (87%) had BCG scar. Because of this, the results of TST is not dependable to report incident of Mtb infection in countries where the coverage of BCG vaccination is high. IGRA testing was done at 8-12 weeks before TST placement to minimize boosting. It is not clear why the authors could not perform the TST on the same day (at least within a week) after collection of blood for IGRA, and why it essential to wait for about two-three months after performing IGRA? It is also not clear, why the authors could not involve community controls?

Therefore; it is difficult to recommend this work for publication in its current form
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Acceptable

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