Reviewer’s report

Title: Risk Factors for Acquisition of Scrub Typhus in children admitted to a tertiary care centre and its surrounding districts in South India: A Case Control Study and Vector Survey

Version: 2 Date: 10 Apr 2019

Reviewer: Ranjan Premaratna

Reviewer's report:

Risk Factors for Acquisition of Scrub Typhus in children: A Case Control Study and Vector Survey

Thank you for sending the revised paper for review. Authors seem to have addressed some of the points raised in the previous review. May I suggest following essential revisions for it to be suitable for publication in BMC Infectious Diseases.

Change Title to read as: Risk Factors for Acquisition of Scrub Typhus in children admitted to a tertiary care centre and its surrounding districts in South India: A Case Control Study and Vector Survey.

I am concerned over the methodology in selecting controls;

As authors have agreed, there seems to be a methodological error in selecting the study populations. The cases seems most probably representing a higher socio-economic background due to many reasons. [if authors have included a table to highlight the true numbers of cases and controls with their social status this error would have been clearer]; "belonging to a middle or high socio-economic stratum, father having a skilled occupation, living in a house with plastered walls, living in a house with more than 2 rooms, having furniture to sit and cots for sleeping, having piped drain for sullage, having a toilet, owning a pet, using sitting on furniture, usually sleeping on a cot, and going to school by a vehicle." Therefore inclusion of above data in the discussion may not be appropriate; authors may consider removing the univariate analysis based discussion.

An inclusion of a map to show the geographical region highlighting the water bodies etc and indexed patients would be helpful. "The presence of a water body within 100 meters of the house"; authors should highlight what these water bodies are; there can be garden ponds in affluent houses; or are they water streams? Reservoirs? Paddy field related irrigation canals?

The argument of exposure to a mite island is likely to be valid if several patients present at the same time and when they have had an activity in a single given location or if one patient comes with multiple eschars.
The acquisition of scrub typhus through pets goes with the same argument; as given in authors reply: "The transmission of scrub typhus is from the bite of a chigger infected with Orientia tsutsugamushi. The chigger seeks a mammalian host and humans are accidental hosts. Transmission does not occur from a rodent to human. Instead, humans get infected instead of a rodent. Hence, exposure to a rodent on the way to school does not matter to transmission”.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Unable to assess

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

Yes

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

Yes

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 recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal