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: 19 Apr 2019

Reviewer: Vaddambal Gopalakrishna Manjunath

Reviewer's report:

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Vaddambal Gopalakrishna Manjunath, MBBS, DCH, DNB (Reviewer 3):

1 In statistical methods - Please specify- Is multivariable or multivariate analysis was used as there is difference between these two, though it is used by some researchers interchangeably Multivariate analysis was done.

--accepted.

2 Whether vector survey was done in household of controls? It appears that vector survey was done only in and around the household of the cases.

Vector survey was done only in and around the household of cases.

Reviewer's comments

--Vector survey in household of the controls would have been useful as it would have given more valid data to calculate risk of infection. Rodent density may differ on various factors (e.g., socioeconomic status, storage of food grains, and type of construction of house) which may influence the vector load.

3 there is an error in table 1 in calculation of percentage

Thank you for pointing out the error. The percentage has been corrected from 61.7 to 64.1 for the category highest family education at least high school.

--accepted.

4 Please specify whether multinomial or multivariate logistic regression was used. If multinomial better to define as adjusted odds rate instead of odds ratio.
Multivariate logistic regression was used.

--accepted.

5. Though it appears there are few risk factors with increased odds rate, these has to be biologically plausibility. eg, skilled profession of father, going to school by vehicle. It would have been ideal to have the data about distance and time of travel to reach school, type of school dress/uniform (limbs exposed or not) We agree that skilled profession of father and going to school by vehicle are surprising to be among the risk factors for increased risk of scrub typhus. We believe it is because of intrinsic bias in patients with a higher SES accessing health care in a tertiary care hospital, whereas the controls were neighborhood controls. We intentionally used neighborhood controls to study the effects of the micro-environment around the houses and the differences in the behavior of children

Reviewer's comments

--Is there any data about the SES of cases and controls? As pointed out by authors cases appear to seek health care at tertiary care centre. Is there any data showing the difference between the healthcare access behavior of cases and controls? Any data regarding the time spent playing outside the house in open ground, sleeping on the mat outside the house etc as these may expose the child to chiggers. These can be listed as few limitations

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

Yes

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.

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

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