Reviewer's report

Title: 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: 1 Date: 20 Feb 2019

Reviewer: Ranjan Premaratna

Reviewer's report:

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

Thank you for sending the above article for review. Authors have carried out the study over two years to identify risk factors for scrub typhus in children using index cases who are children less than 15 years with confirmed scrub typhus admitted to a tertiary care hospital (CMC) and compared relevant risk factors with age matched controls selected from the community in the vicinity of the index patients.

I have following concerns over the outcome of the study.

Authors seems to have collected parameters that probably represent of socio-economic status of the household rather than their detailed behavioral patterns; with the argument that age match would include a study sample with similar behaviors. However illnesses such as scrub typhus is linked with exposure risk; such as bushes, scrub land etc. Therefore, a study that look into childrens' behavior in greater datail; ie how much time they spend in the garden / in agriculture activities / fields/ where they play, the school environment, types of sports they are involved in and garments they wear during such activities would have been more useful.

Although the sex match has not been carried out, probably presuming multivariate analysis would not influence the final outcome, I am under the impression that authors should have selected a sex matched controls. This is because, the garments they wear (female / males) may have an influence on acquisition of vector borne illnesses such as scrub typhus.

They also discuss that, the index patients would represent a more affluent and a biased sample as this sample has been obtained from a tertiary care hospital (CMC), probably this fact must have contributed to the outcome. What is the likelihood that the vehicles they use to travel to school would get exposed to small domestic / wild rodents?

The discussion should be mainly on the outcome of multivariate analysis rather than the univariate analysis and conclusions should be arrived at based on such analysis.
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.

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

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