Reviewer’s report

Title: Low seroprevalence of Zika virus infection among adults in southern Taiwan

Version: 0 Date: 30 Jul 2019

Reviewer: Nancy Leung

Reviewer's report:

The authors conducted a cross-sectional serosurvey for dengue virus infections based on convenient sampling of healthy adults in Taiwan after a dengue epidemic in 2015 as reported in their earlier study [Chien et al BMC Infect Dis 2019], and participants whose remaining sera had sufficient volume were included in the present study to determine the seroprevalence of ZIKA virus infection.

My major concern is the generalisability of the study results to conclude 'low seroprevalence of ZIKA virus infection among adults', and the conclusion of 'undetected indigenous ZIKA transmission might have occurred in Taiwan'.

Regarding the generalisability, the characteristics of the included participants between the original vs. the present samples reported in Table 1 in the earlier study and the present study respectively seems to be quite different, which may impact the extent of the interpretation of the 0% anti-ZIKV IgM and 4.2% anti-ZIKV IgG to represent ZIKV seroprevalence in adults in the present study. Could the authors comment on whether the two groups of participants are similar, and if not how would it affect their conclusion?

It seems to be insufficient evidence to base on only one individual with PRNT90 titer ratio >=4 and self-report of exposure including travel history to suggest there is undetected indigenous transmission. Could the authors comment on the sensitivity/ specificity of the test results, and suggest additional future studies to evaluate whether there is undetected indigenous transmission?

Minor comments:

page 7 line 113: missing reference

page 8 line 136: Please add the information of would there be any systematic reasons/ selection leading to some samples with adequate residual volume left

page 9 line 156: Please add the information about the scenarios where the titer could not be calculated by the software

page 10 line 169: Although the samples were collected after a dengue outbreak, DENV IgG 42.5% seems a bit high for a non-endemic country - any possible reasons?

page 28 Table 2: Please kindly add more results in 3 additional columns: sex, ELISA ZIKA IgM and ELISA ZIKA IgG
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.

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.

Not relevant to this manuscript

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

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