Reviewer’s report

Title: Variation in dengue virus plaque reduction neutralization testing: systematic review and pooled analysis

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Reviewer: Guillermo Comach

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NO REVISIONS RECOMMENDED. MANUSCRIPT REJECTED

The manuscript entitled, “Variation in dengue virus plaque reduction neutralization testing: systematic review and pooled analysis” by Rainwater-Lovett K., Rodriguez-Barraquer I., Cummings D.A.T, and Lessler J. was reviewed.

Basically, this study is systematic review and analysis of 32 selected articles reporting PRNT results which were published and registered at the PubMed and ISI Web of Knowledge 4.0 Databases. The 32 articles were selected after a literature search of 777 publications (87 abstracts and 658 full-text) based on the following inclusion criteria: geographic variation of the study population, neutralization percentage, cell line, DENV virus concentration and strains used. As the authors stated, the objective of the study was to identify factors associated with heterogeneity in PRNT results and compare variation between strains within DENV serotypes and between articles (to capture potential inter-laboratory differences) using hierarchical models.

Though the question posed by the authors was well defined, it is one that has been similarly posed in recently published articles, including two referred in this manuscript (Thomas et al. 2009. Am. J. Trop. Med. Hyg., 81(5):825–833 and references 5 and 7). Likewise, the authors reached to similar conclusions reported by Thomas et al. (2009) based on actual experimental data - not on literature reports - merely corroborating their results without providing any additional knowledge.

The statistical analysis used (log-linear hierachical models) just corroborated the conclusions obtained with other less complicated (i.e. Multivariate mixed effects linear regression models), or even empirical observations of the daily routine virology lab work with the PRNT assay.

In conclusion, this kind of manuscript/analysis is of no value what so ever. In the end, their conclusion is that we don’t have a standardized PRNT. Yes, everybody who has used PRNT knows that. Different labs use different strains, cell lines, etc., but what they didn't (or couldn't) tell us is which assays are measuring serotype-specific antibodies and which ones (or which studies) are reporting on background noise.

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal
Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests' below