Review of: "Misdiagnosis of Dengue Fever as Malaria and Typhoid Fever and Their Co-infection in Rural Areas of Southwest Nigeria"

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Potential competing interests: No potential competing interests to declare.

- Rash of measles and dengue is not similar, as mentioned by the author in the introduction segment. This could lead to confusion.
- It would be better to mention the proportion of dengue fever that progresses to DHF or DSS in order to form a clearer image.
- I suggest the authors mention the clinical picture of the three infections in a clearer manner, highlighting the characteristic features of each infection.

Methodology:

i. Sample collection should be described in a more systematic manner. Blood sample collection is only mentioned in the EDT vial, which cannot be used for doing blood culture, so sample collection is not very clear.
ii. The tests used for typhoid fever are very haphazardly mentioned. The criteria chosen for calling samples typhoid positive are not very clear. Whether only samples coming positive on blood culture were taken as typhoid positive or whether the RDT and agglutination test results were also taken into consideration is not clear.

In the results section:

i. Kindly confirm whether the total number of samples is 1074 (as mentioned) or is it 1047 (as the total is coming to).
ii. All the Dengue NS1 samples should have been positive by Dengue Rt-PCR.
iii. How samples are considered to be misdiagnosed here? Co-infection can be understood, but clarity is needed on the misdiagnosis part.

Discussion:

i. Reason of 28 NS1 ELISA samples not coming positive on RT-PCR is not correct, because the sensitivity of RT-PCR is much better than ELISA, so if NS1 antigen is being detected in ELISA, it should have been detected by RT-PCR.
ii. High concentration of IgM and IgG antibodies in males as compared to females cannot be rightly explained by the proportion of outdoor activities of the former, as antibody response is a host body's response, not much dependent on the antigenemia.

Conclusion:

The entire study focuses on ‘misdiagnosis’ while all the results are just showing the ‘co-infection’ of the three infections under study. So either the title and main aim should have been related to ‘co-infection,’ or the results and discussion should be able to define the ‘misdiagnosis’ with more clarity.