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RESPONSE TO LETTER

The Appropriateness to Use Fixed Assay Cut-Offs for Estimating Seroprevalence [Response to Letter]

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Dear editor

We were glad to read the letter to the editor by Da et al[1] on our study.[2] This indicates that our study attracted interest and added a value to the scientific community. We thank the colleagues for the constructive points they raised. We do have a common ground on some of the points however; other points were not so accurate. To enrich the scientific discussion, our reply to the raised points is as follows:

1. It is very well expected that the cut-off value affects the sensitivity and the specificity of an assay. Therefore, a fixed and defined rules for setting up the cut-off value should be followed throughout any assay to avoid interlaboratory variations and to make results comparable between different studies. The cut-off value in our assay is based on cut-off calibrators that are run with each experiment. Such procedure further minimizes the intraassay variability contrary to using fixed assay cut-off value that does not take into account the run-to-run variability. We disagree with our colleagues that "there are no definite rules of the choice of the cut-off value". The cut-off value development, its quality control, and its calculation were very well described by the manufacturer. Hence, we felt that it is sufficient to refer the reader to the manufacturer's instructions.

2. We agree with our colleagues on this point. We have stated the limitations of testing for WNV antibodies clearly and in many locations in the paper. We have also discussed these limitations in light of the assay procedures and epidemiological context.

3. As mentioned in the manuscript, our study is the first to estimate the seroprevalence of WNV antibodies in human and pigeons in the country. So, there is no population-based data available. However, the quantitative antibody detection approach is an interesting possibility and could be considered for future studies.

4. To confirm the transmission of WNV through blood donation, we have to confirm the presence of the WNV nucleic acid or its antigens in the donor blood samples, which was out of the scope of our study.

Disclosure

The authors declare no conflicts of interest in this communication.

References

1. Da Y, Wu Y, Quan P. The appropriateness to use fixed assay cut-offs for estimating seroprevalence.
2. Alkharsah KR, Al-Afaleq A. Serological evidence of West Nile virus infection among humans, horses, and pigeons in Saudi Arabia. *Infect Drug Resist*. 2021;14:5595–5601. doi:10.2147/IDR.S348648

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