

The Appropriateness of Using Fixed Assay Cut-offs for Estimating Seroprevalence [Letter]

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Dear editor

We read this study¹ with great interest. This study aimed to investigate the seroprevalence of West Nile Virus (WNV) antibodies in humans, horses, and pigeons in the Eastern Province of Saudi Arabia. The results showed that the percentage of anti-WNV antibodies in the experiment including humans was found to be 9.6% (3.1% in females and 6.5% in males). This is an interesting finding due to the high prevalence of antibodies detected in human blood samples.

However, we have several points we wanted to mention regarding this study.

1. The cut-off value of seropositive WNV antibodies might need to be discussed in the text. Since there are no definite rules of the choice of the cut-off value,² the researchers followed the manufacturer's guides. According to previous studies,³ the change of cut-off value might also change the sensitivity and specificity of the ELISA test.
2. There is a possibility that detection method might influence the results. The authors have already mentioned the difference of ELISA and microneutralization assay. A study⁴ carried out the comparison of different methods for detecting antibody titers in the same blood sample, which is also a referential experiment for WNV future studies.
3. The quantitative detection of WNV antibodies might be reasonable for the prediction model setting of population titer. Currently, we follow the rule of 95% range as a fixed value. If the population-based data can be acquired, the comparison and data retrieval might be possible.
4. Past research⁵ has identified that WNV might be transmitted through blood donation. Several confirmed cases in America have identified bloodborne transmission. The researchers could collect the clinical data of blood transfusions to determine the possibility of this route.

Nevertheless, thanks to the authors, we have evidence of anti-WNV antibodies detected in humans and pigeons. In future practice, the high seroprevalence of animals, such as horses and pigeons, should be taken into consideration in terms of the possibility of animal-human transmission. Besides, the blood bank might also need to confirm the possibility of bloodborne transmission.

Disclosure

The authors report no conflicts of interest in this communication.

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