



## Letter to the Editor

**Sexual transmission of arboviruses: More to explore?**

Sir,

Very recently the WHO Zika Sexual Transmission Research Group framework (Kim et al., 2018), as well as other authors (Kumar, 2018), have had discussions regarding the pending issues for establishing pathways and transmission rates of this virus by sexual contact. It has been hypothesized, right after the beginning of the outbreak in Latin America and the Caribbean, that this would be of importance and may play an even more important role in maintaining endemic rates during interepidemic periods, especially when taking into account the long persistence of the Zika virus (ZIKV) in semen. And that more research regarding the biological, immunological, epidemiological and public health implications of it is required. We would like to emphasize results about the possibility that sexual transmission could be of relevance for other arboviruses.

After the large epidemics of Zika from 2014 to 2016, interest on its sexual transmission has been observed from multiple related studies, formulating the question of the possible detection of other arboviruses in sexual fluids and their transmission in that way. In 2016, chikungunya virus (CHIKV) RNA was detected in Brazil from semen through RT-PCR, 30 days after exposure (Bandeira et al., 2016). In 2018, dengue virus (DENV) RNA was detected in semen at 37 days of follow-up in a patient returning from Thailand (Lalle et al., 2018), and yellow fever virus (YFV) RNA was isolated from the semen of a convalescent patient from Brazil (Barbosa et al., 2018). DENV was not isolated in cell culture and unfortunately CHIKV and YFV culture from semen samples was not performed. Although it was not proven that such fluids were infectious, this raised concern about the possibility of the potential sexual transmission of CHIKV, DENV, and YFV, and highlights the importance of broadening the WHO Zika Sexual Transmission Research Group framework for assessment of this risk not just for ZIKV but for other arboviruses. As the expert group stated, basic science, mathematical modelling and animal and epidemiological studies have a complementary role in the understanding of these questions, and the adaptation of the framework could serve for anticipating the sexual transmission of other pathogens (Kim et al., 2018). In addition, possible sexual transmission for laboratory confirmed Crimean-Congo hemorrhagic fever virus (CCHFV) as well as West Nile Virus (WNV) (Kelley et al., 2016; Pshenichnaya et al., 2016) cases have also been reported.

Finally, this brings into question how generalizable these findings are to other arboviruses, and should make us aware that latent threats, like other emerging arboviruses (i.e. Mayaro, Oropouche, Sindbis, Usutu, Spondweni), could present with previously unreported ways of transmission, and that clinicians

as well as scientists should be prepared for its detection and reporting, since this would have significant implications for global health.

**Conflict of interest**

Authors declare no conflict of interest.

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**Ethical approval**

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