Review of: "SARS-CoV-2 infectivity by viral load, S gene variants and demographic factors and the utility of lateral flow devices to prevent transmission"

Eduardo Perez-Campos

Potential competing interests: The author(s) declared that no potential competing interests exist.

This is an interesting and timely work, the authors evaluated the infectivity of SARS-CoV-2 in relation to the viral load, they propose that the higher the load (viral loads of ≥10,000 RNA copies/ml (e.g., Ct ≤24.4), the greater the infectivity, also, they found that the B.1.1.7 variant increases transmission.

The authors show how the Index case Ct value was an important determinant of PCR-positive results during infection.

Furthermore, they state that lateral flow devices (LFDs) are sufficiently sensitive to detect 83.0%-89.5% of cases that spread transmission.

A limitation of the work would be how the contact of index cases defined by "in close proximity from 48h before their symptoms onset to 10 days afterward", because some people asymptomatic or paucisymptomatic could give positives Rt-PCR test for more than 30 days or have a longer duration of viral shedding [Zhou. https://doi.org/10.1016/j.ijid.2020.05.030] [Miyamae https://doi.org/10.1016/j.ijid.2020.06.020] [Qi. https://doi.org/10.1016/j.ijid.2020.05.045]

One of the several questions associated with the factors in the “contact of index cases” (85.4% PCR-positive contacts) would be: What is the blood group of the ABO system of those exposed who acquired the infection in relation to the Ct value?