

On diagnostic accuracy of COVID-19

"The good physician treats the disease; the great physician treats the patient who has the disease."

Sir William Osler (1849–1919)

Dear Editor,

Suneela Garg *et al.*^[1] construct a critical interpretative synthesis of herd immunity for coronavirus disease-2019 (COVID-19) pandemic in March 2021 issue of the journal. During uncertainty at the time of this unfolding pandemic, it is useful to search, analyse and make an earnest attempt to draw some inference with available literature so as to discover the best strategy up against the scourge. When challenged with a new virus, such synthesis by screening articles, blogs and interviews may lead us a way forward out of the cycles of lockdown, containment and unlocks.

In this review, there is a heading 'Herd immunity as a preventive tool for infections.' Under this heading, the authors state a basic reproduction number against several infectious diseases. However, such comparison may provide us misleading information as the context of the surge in cases in different space-times may vary. We need to appreciate the complexity of usage of the number in different circumstances and apply it with great caution because this metric is far from simple.^[2]

Then there is another heading 'Challenges in achieving herd immunity'. There the authors state that (among) possible reasons for reinfections of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) were variable immune responses of (different) patients, re-exposure of to a new strain of virus or false-positive test results. Nevertheless, what is stated therein, a false-positive result and reinfections are two *separate* entities and a distinction needs to be made. False-positive COVID-19 result may arise due to cross-contamination in the testing lab and proper controls should be run to detect the problem early.^[3] In their comment in September 2020, British authors analyse that prolonged viral RNA shedding, which is known to last for weeks after recovery can be a potential reason for positive swab tests in those previously exposed to SARS-CoV-2. However, importantly, no data suggest that detection of low levels of viral RNA by reverse transcription polymerase chain reaction (RT-PCR) equates with

infectivity unless infectious virus particles have been confirmed with laboratory culture-based results.

In the same paragraph the authors state that so far, there is not enough evidence about the effectiveness of antibody-mediated immunity to guarantee the accuracy of an "immune passport" or "risk-free certificate" for the people to travel or declare as protected against infection and return to their jobs. While that is true, Chinese authors at Southern Medical University, Shenzhen discover that antibody tests may have an add on value in those clinically suspected patients in whom RT-PCR test results are negative.^[4] Although false-positive antibody results may be thrown up in Rheumatoid arthritis, diabetes, diffuse bronchitis and certain other illnesses; there are methods to reduce the non-specificity. Proper detection of cases of the COVID-19 helps in isolation, contact tracing and rehabilitation purposes. Also, it helps in assessing the real prevalence of the disease which in turn informs us about measuring its wider impact on our healthcare system and society at large.

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Conflicts of interest

There are no conflicts of interest.

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