

The Rising Concern of the SARS-CoV-2 Omicron Subvariants and Their Hybrids

Sir,

The current rise in the number of new COVID-19 (coronavirus disease) variants is a cause for concern, and at this rate, it is hard to keep track of all the mutants and variants. With the advent of the Omicron, one of the most transmissible variants insofar, its subvariants have gripped the scientific community with fear.

The Omicron variant has equated to nearly 75% of the recent genome sequencing results submitted by India to the global database in January, compared to merely a 19% submitted in December.^[1] This indicates the transmittance efficacy and virulence of the new variants. Indian SARS-CoV-2 Genomics Consortium, the consortium of 10 central and 28 regional laboratories, announced that the Omicron variant has entered community transmission. The entirety of Omicron is made up of several sublineages, the main ones which are BA.1 (B.1.1.529.1), BA.2 (B.1.1.529.2), and BA.3 (B.1.1.529.3). The BA.2 cases have been surpassing the BA.1 subvariant in recent times.^[2]

Until recent times, the BA.2 subvariant of Omicron was considered the most transmissible variant of all. The World Health Organization (WHO) has confirmed that the BA.2 subvariant should be regarded as a variant of concern by the relevant Public Health Authorities. Based on the current data about transmittance, severity, chances of reinfection, therapeutics, and vaccine efficacies, the WHO's Technical Advisory Group on SARS-CoV-2 Virus Evolution (TAG-VE) decided that the BA.2 sublineage should remain classified as Omicron.

Studies indicate that the BA.2 is about 1.5 and 4.2 times as contagious as BA.1 and Delta, respectively, and 30% and 17-fold more capable than BA.1 and Delta, respectively, of escaping current vaccines.^[3] TAG-VE further indicated that population-level reinfection studies suggest that infection with BA.1 provides strong protection against reinfection with BA.2. Although this does not show any conclusive evidence, the severity between BA.1 and BA.2 is minimal.^[2]

Studies have indicated that primary immunization with two doses of ChAdOx1 nCoV-19 or BNT162b2 vaccines proved to have limited efficacy against the disease caused by the Omicron variant.^[4] A BNT162b2 or mRNA-1273 booster after the ChAdOx1 nCoV-19 or BNT162b2 primary course showed more immune efficacy and eventually waned over time. This indicates that the Government now needs to start finding newer methods to tackle the issue of COVID-19.^[5,6]

With the current fear over the new XE variant that the WHO has assessed as a new variant of concern, a recombinant variant of BA.1 and BA.2, the need to tackle the issue increases.^[7] The WHO indicated that the transmissibility of the XE variant was around ten times more than the BA.2 subvariant. Although it comprises a small fraction of the cases worldwide, these hybrid variants keep the scientific community on their toes. A coordinated global effort to concordantly tackle this issue with a stringer foundation needs to happen to promote global safety.

The national governments and the international consortiums and organizations need to consider the current high prevalence of Omicron cases and appropriately tackle the issue. To mitigate healthcare concerns associated with new variants, enhancing research, strengthening genomic and surveillance, disease tracking, effective vaccination, immunizations, strategic planning, and future preparedness must be prioritized and emphasized. Without adequate measures taken, the risk of introducing newer variants and subvariants into the populace could be devastating medically and economically.

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Conflicts of interest

There are no conflicts of interest.

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