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## Correspondence



## Highly contagious but less severe COVID-19 caused by new SARS-CoV-2 sublineages may abate the pandemic

Dear Editor

Back in December 2019, when the severe acute respiratory coronavirus 2 (SARS-CoV-2) was reported initially in China, a devastating viral outbreak was unexpected. The subsequent uncontrollable spread of this virus into five continents and the predictably profound consequences of the global dissemination of the virus obliged the World Health Organization then to reclassify the outbreak as a “pandemic” in March 2020 [1]. Three years into the pandemic, SARS-CoV-2 has evolved by fast mutations, finally generating another novel variant of concern (VOC), named Omicron. Omicron, the fifth recognized VOC, was initially reported in South Africa [2,3]. Omicron is not expected to be the last SARS-CoV-2 variant; soon a new sublineage, which would likely adapt to survive better in the human host, may emerge. Thus, the future prospects of this dynamic pandemic are dictated by the evolution of new viral sublineages. Accumulation of several mutations with the viral recombination processes fuel the surge of the new SARS-CoV-2 variants [4]. Colonization in the upper respiratory tract characterizes the increasing contagiousness of the new sublineages, facilitating the viral transmission to new hosts. Given the higher transmission rates observed in Omicron surge compared with the previous variants [5], forthcoming sublineages are expected to cause a highly contagious infection that may not require hospitalization or ICU admission.

Many civilizations had been affected by pandemics throughout human history [6]. Some of the previous pandemics, including the Spanish flu, bubonic plague, HIV/AIDS, cholera, and H1N1 influenza A, have subsided but not eradicated. The COVID-19 pandemic is also optimistically anticipated to recede, albeit slowly. Nevertheless, the projected “end” of this pandemic must be defined contextually. Though predicting the future of this pandemic is premature, an immediate observation is that Omicron reaches its peaks in different countries while the mass-vaccination program is ongoing. The main casualties sadly will be individuals with underlying conditions, unvaccinated subjects, and immunocompromised individuals. Protracted COVID-19 infections of immunosuppressed individuals have been associated with within-patient viral evolution [7,8], leading to mutated variants with biological implications for the patient and the community.

Many maintain that induced immunity (by natural infection or vaccination) ensures a durable protection in a community. Notably, at the beginning of February 2022, only 61% of the world population was vaccinated with at least one dose of a vaccine. However, billions still remain at high risk of infection or re-infection. An idealistic scenario will be to rely on a higher proportion of asymptomatic cases because they develop reliable immunity against reinfections. Thus, the end of the pandemic can be speculated to be caused by a diminished version of the virus, a version that may highly disseminate globally, cause bearable less severe disease, and elicit natural protective immunity against the

virus itself. Omicron and its forthcoming sublineages are optimistically thought to achieve this. We maintain that mass-vaccination may not be the only successful countermeasure against the pandemic. In fact, the sublineages carrying the new collection of mutations may escape the neutralizing antibody responses mainly generated by their predecessors, meanwhile triggering a less severe disease.

Lastly, equitable general access to gene-sequencing technology will allow on-time identification of new SARS-CoV-2 sublineages, a wishful idea warranting an urgent shift in the policies adopted by high-income countries to more actively contribute in the global management of the pandemic. Along with emergence of highly transmissible variants of SARS-CoV-2, the pandemic has become more manageable; therefore, international efforts should be synchronized to facilitate the development of high immunization rates by equitable rollout of periodically updated vaccines. Ultimately, the era of minimized COVID-19 may coincide with reports of occasional SARS-CoV-2 sublineages among the newly born infants, like a cold.

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**Farid Rahimi:** Conceptualization, Writing – Review & editing.

**Amin Talebi Bezmin Abadi:** Conceptualization, Data Curation, Writing – Original Draft, Writing – review & editing.

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Farid Rahimi

*Research School of Biology, The Australian National University, Ngunnawal and Ngambri Country, Canberra, Australia*

Mohammad Darvishi

*Infectious Diseases and Tropical Medicinal Research Center, AJA University of Medical Sciences, Tehran, Iran*

Amin Talebi Bezmin Abadi\*

*Department of Bacteriology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran*

\* Corresponding author. Department of Bacteriology, Faculty of Medical Sciences, Tarbiat Modares University, P.O. Box 14115-111, Room 8, First floor, Tehran, Iran.  
*E-mail address:* [amin.talebi@modares.ac.ir](mailto:amin.talebi@modares.ac.ir) (A. Talebi Bezmin Abadi).