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LETTER TO THE EDITOR

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The post-Omicron situation: The end of the pandemic or a bigger challenge?

Dear Editor,

Omicron commenced the new wave of COVID-19 with an unprecedented speed.[1] For instance, Iran which is recently experiencing the new Omicron wave, had 701 confirmed cases on January 8, 2022, while this number increased by more than 54 times in less than one month to 38 160 confirmed cases on February 2, and is still increasing.[2]

Fortunately, this variant affects the lower respiratory tract less than the Delta variant and causes milder disease with lower hospitalization and mortality rates.[3,4] However, the general population and health officials are worried about the unrivaled transmission rate and immune evasion of the omicron that may substantially increase the casualties.[1] To make matters even worse, the studies suggest that full-dose vaccinations may be insufficient and booster doses are required for adequate protection.[3] Therefore, a high boosted population will be important to combat this wave, as based on the data presented by the Centers for Disease Control and Prevention, the booster doses can cut down the mortality 97-fold.[5] On the other hand, administering booster doses and preventive measures will not substantially benefit most of the countries that are already in their Omicron wave.[6] The Omicron wave has its concerns, but another question is remaining: What will happen to the human-COVID-19 interactions after this wave?

Two main scenarios are suggested thus far, although few expert opinions exist:

One possible trajectory is that the future variants and subvariants will continue to cause the upcoming pandemics for some time, gaining mutations that may boost their transmissibility, mortality, or immune evasion.[7,8] Until now, Omicron has mutated to develop three lineages of BA.1, BA.2, and BA.3, and future mutations with more concerning characteristics are possible.[8,9] Delmicron was also proposed as a new candidate variant that may cause the next pandemic wave, starting from North America and Europe.[10] This variant was thought to be a combination of the Omicron and Delta variants, rumors of which exist in the worldwide news.[10] Although there is a possibility that future mutations lead to the variants bearing the characteristics of both Omicron and Delta variants, Delmicron seemed to be merely the coinfection of Delta and Omicron variants in a patient, similar to "flurona" that was the simultaneous COVID-19 and influenza coinfection.[10] The next variant of concern may even "come out of nowhere," as many scientists supposed the next variant would emerge from the Delta, but it was not exactly the case with the Omicron.[11] Therefore, careful studies and monitoring are required to discover the new arising variants and verify the news of the novel variants, including Delmicron.

The other prediction is best described in a commentary article by Professor Christopher JL Murray, published in *Lancet*.[6] The author argued that the enormous and unprecedented wave of Omicron infections will boost global immunity at the highest level since the initiation of the pandemic. This event will, in turn, cause a low post-Omicron-wave SARS-CoV-2 transmission; and thanks to the novel treatments and vaccines for the emergent variants, the COVID-19 will shift from a global pandemic to a recurrent and less-broad disease with possible seasonality as an endemic status that can be managed by the healthcare systems, similar to the likes of influenza, other coronaviruses causing the common cold, or even respiratory syncytial virus, and so forth, depending on the future scenario.[11] In this regard, Eguia et al. found a resemblance between the evolutionary pathways of SARS-CoV-2 observed during these 2 years and the seasonal coronavirus 229E; the immunity towards 229E waned over time and reinfections occurred, causing numerous endemic but mild infections.[12] The statistics illustrate that vaccines are helping us reach this milestone. As of March 12, an enormous 10.7 billion vaccine doses are administered worldwide.[13] The data of the COVID-19 fatality ratio from the United Kingdom published on March 10 reported a fall of COVID-19 lethality to below the levels of influenza due to the vaccinations, booster doses, and the less lethality of the Omicron, while SARS-CoV-2 had more than 20 times higher fatality than influenza in the early 2021.[14] The administration of booster doses in Qatar also resulted in 49.4% effectiveness against the Omicron infection and 76.5% effectiveness against its hospitalization and mortality.[15] It seems that the world is preparing for this scenario, sooner or later, as the World Health Organization scientists began discussing the time and situation on which they can declare the end of the global pandemic.[16]

However, the last updated data from the United Kingdom is concerning. The week of March 10–16 saw a 49.2% rise in the COVID-19 cases, and March 6–12 showed a 20.9% increase in the COVID-19 hospitalization in the United Kingdom compared to the previous week.[17] Whether it is due to a new variant, a waning immunity, or any reasons is yet to be deciphered, but it signals that the end of the pandemic might not be the case in the near future, and lots of work is needed to achieve our common goal. Furthermore, many countries have low vaccination rates. In Africa, the lowest vaccinated region, only 11.7% of the population are fully vaccinated, let alone the huge number of people who have not received the booster doses.[13] Such gaps in vaccination rates may be an important obstacle in ending the global pandemic and cause further disease spread. All in all, the

exact prediction of the future might not be yet possible, but in any case, we need to monitor the upcoming variants carefully, keep researching for the best vaccines and treatment options against them, and encourage the general population to adhere to the safety measures released by the health officials.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

This manuscript contains no data to be shared.

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