

## Letter to the Editor

# Vaccination remains the first choice to control the spread of delta and other variants of severe acute respiratory coronavirus virus 2 (SARS-CoV-2)

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*To the Editor*—Since severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) first entered the population, the massive and rapid spread of the coronavirus disease 2019 (COVID-19) pandemic has led to the emergence of many variants, resulting in genetic diversity. Currently, there are 4 globally recognized variants of concern (VOCs).<sup>1</sup> Among them, the delta VOC has spread to >80 countries worldwide; it is even more transmissible than other variants and becoming the dominant strain of the disease worldwide.<sup>2</sup>

Safe and effective vaccines are significant tool to control the pandemic. As of July 19, >340 million doses have been administered globally and >169 countries have reported vaccinations.<sup>3</sup> Recently, the Public Health England study found that people who have had 1 vaccine dose are 75% less likely to be hospitalized by the delta VOC compared with unvaccinated individuals. In addition, recent studies conducted in Europe showed that both the Oxford–AstraZeneca and Pfizer–BioNTech COVID-19 vaccines were effective in reducing the risk of SARS-CoV-2 infection and COVID-19 hospitalization in people infected with the delta VOC.<sup>4</sup> Although the vaccines protect well against severe disease and death, they may not effectively prevent spreading COVID-19 to others. The association between vaccination and the spread of the delta VOC has caught our attention.

First, the delta VOC has moderate resistance to the vaccine. Compared with the alpha variant, the effectiveness of the COVID-19 vaccine against the delta VOC decreased. According to Israel Ministry of Health, the effectiveness of the COVID-19 vaccine in preventing infection and symptomatic illness has decreased to 64% since June 6 with the spread of the delta variant in Israel.<sup>5</sup> Because variants may cause breakthrough cases, vaccinated patients may not present with severe symptom or may even be asymptomatic, leading to transmission in the community,<sup>6</sup> whereas certain populations may have less lasting immunity through vaccination, including elderly patients and patients with certain underlying medical conditions, such as multiple

myeloma.<sup>7,8</sup> Moreover, there is also a concern that protective immunity of vaccination may decline after 6 months.<sup>9</sup> All of these could increase the risk of transmission of the delta VOC, especially for people who are not vaccinated, who may be at greater risk under such circumstances. All of these factors contribute to the continuing uncertainty related to the pandemic.

Second, epidemiological analyses indicate that the delta VOC is more infectious. Recent studies suggest that its interactivity is likely to be at least 60% higher than the alpha VOC, with higher risk of transmission to close contacts.<sup>4</sup> Clusters of infection cases may arise among unvaccinated people, which may add to the risk of transmission of the delta VOC.

Third, the imbalance in vaccination rates may increase the risk of delta VOC transmission. Africa, where <2% of the population is vaccinated against SARS-CoV-2, is suffering the worst surge in COVID-19 cases since the pandemic began due to the delta VOC. Not only have hospitalizations increased >40% in recent weeks but also delta VOC has been detected at least 10 countries.<sup>4,10</sup> People in areas with low vaccination rates and insufficient access to vaccines are likely to be most affected by the delta VOC. The more massive and rapid the transmission, the more variants may emerge.<sup>1</sup>

In summary, with the emergence of the delta VOC and other new variants, people who are not vaccinated will face greater risk; thus, every effort should be implemented to encourage vaccination and provide access to the vaccines. In addition, wearing a face mask and maintaining social distance in public should still be considered despite vaccination status due to the imminent possible surge of cases secondary to the new variants.

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