LETTER TO THE EDITOR

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Healthcare Workers Should Be Inoculated with the Highest Effective Vaccine Available

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The burden of COVID-19 on healthcare workers (HCWs) is increasing day by day, particularly in countries with high incidence. Turkey was the fourth leading country after India, the USA and Brazil that reported the highest daily case numbers by April 2021 (1). Turkey's Ministry of Health did not share the number of HCWs infected with SARS-CoV-2, however the Turkish Medical Association declared the number of HCWs who died because of COVID-19 as 418 by May 4, 2021.

The first SARS-CoV-2 vaccine administered on January 14, 2021 in Turkey was CoronaVac. Approximately 10 million people already got the 2nd dose vaccine; 5 million will get the second dose soon by May 4, 2021. Healthcare workers were the first vaccinated group in Turkey; however, we could not reach the exact number of HCWs who had received two doses. Almost all HCWs were administered CoronaVac because it was the only available vaccine in Turkey then. From April 2021, vaccination continued with the BNT162b2 vaccine.

In our hospital, 633 out of 3600 HCWs were diagnosed as COVID-19 since the beginning of the pandemic. Although most of them were symptomatic, only two had severe disease, and no one died. Two-thousand-one-hundred-seventy-three of 3600 HCWs (60.3%) were inoculated with two doses of CoronaVac. As the first shots were administered in mid-January, they were assumed to be protected from the beginning of March 2021. By May 4, 62 HCWs had positive PCR test for SARS-CoV-2. Among these 62 HCWs, 39 (62.9%) were fully vaccinated, 20 (32.2%) were unvaccinated, and 3 (4.8%) had only one dose.

During the third wave of the pandemic, acquisition of COVID-19 among fully-vaccinated HCWs is worrisome and worths attention. Thirty-seven (94.8%) out of 39 fully vaccinated HCWs and 19 out of 23 (58.9%) HCWs who were unvaccinated or had only one dose were symptomatic, but mild disease. However, routine screening of HCWs is not performed in our hospital, therefore asymptomatic SARS-CoV-2 infections could be missed.

The efficacy rate of CoronaVac vaccine in phase 3 trial in Turkey was reported as 83.5% for preventing PCR-confirmed symptomatic COVID-19 (2). Different resources had

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previously announced that the CoronaVac vaccine was approximately 50% effective in reducing asymptomatic and mild-moderate cases and was more effective in reducing severe and critical diseases so that hospitalizations and deaths (3). This is, of course, very important for patient management but because of the low level efficacy in reducing transmission and mild disease, fully vaccinated people still have a high probability of contracting and spreading the disease.

In studies about mRNA vaccines, the rarity of positive test results after vaccination suggests that the efficacy of these vaccines is maintained outside the trial setting (4). For example, in a prospective cohort of 3950 HCWs weekly tested for SARS-CoV-2 for 13 consecutive weeks under real-world conditions, mRNA vaccine effectiveness of full immunization was 90% against COVID-19 regardless of symptoms. In addition, vaccine effectiveness was 80% after the first dose (5). Another study recently demonstrated that inoculation of HCWs with BNT162b2 vaccine reduced new cases significantly in an active hospital setting in a community with a high incidence of COVID-19 cases in which B.1.1.7 variant was detected in the majority (6).

In conclusion, published scientific data obtained from real world, the BNT162b2 vaccine seems more effective than the CoronaVac vaccine in contracting and spreading COVID-19, particularly among HCWs. Therefore, inoculating HCWs with such an effective vaccine is essential for the continuity of health systems. As WHO declared, "Keep healthcare workers safe to keep patients safe".

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