

Protection against omicron strongest with hybrid immunity

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dose had been received more than six months earlier among nearly all individuals. The effectiveness was 52.2 percent for three doses of BNT162b2 and no previous infection. The effectiveness was 55.1 and 77.3 percent for two doses and three doses of BNT162b2, respectively, and previous infection. Strong effectiveness (>70 percent) was seen against severe, critical, or fatal COVID-19 due to BA.2 infection for previous infection alone, BNT162b2 vaccination alone, and hybrid immunity. The results were similar in analyses of effectiveness against BA.1 infection and vaccination with mRNA-1273.

"Recent booster vaccination had moderate effectiveness, whereas hybrid immunity from previous infection and recent [booster](#) vaccination conferred the strongest protection against [infection](#), at approximately 80 percent," the authors write.

Hybrid immunity resulting from previous COVID-19 infection and recent booster vaccination confers the strongest protection against omicron infection, but all forms of immunity protect against severe, critical, or fatal COVID-19, according to a study published online June 15 in the *New England Journal of Medicine*.

More information: Heba N. Altarawneh et al, Effects of Previous Infection and Vaccination on Symptomatic Omicron Infections, *New England Journal of Medicine* (2022). [DOI: 10.1056/NEJMoa2203965](#)

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Heba N. Altarawneh, M.D., from Weill Cornell Medicine-Qatar in Doha, and colleagues conducted a national, matched, test-negative, case-control study in Qatar to examine the effectiveness of BNT162b2 or mRNA-1273 vaccination, natural immunity due to previous infection with nonomicron variants, and hybrid immunity against symptomatic omicron infection and severe, critical, or fatal COVID-19.

The researchers found that the effectiveness of previous infection alone was 46.1 percent against symptomatic BA.2 infection. Vaccination with two doses of BNT162b2 and no previous infection had negligible effectiveness (1.1 percent); the second

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