25% VACCINATED HEALTH STAFF GOT INFECTED: STUDY

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Currently, all the vaccines are designed to produce antibodies against the spike-protein and so high levels of antibodies against the nucleocapsid region were taken to be markers of a fresh coronavirus infection. A breakthrough infection is one where someone tests positive at least two weeks after their second dose.

Shantanu Sengupta of the CSIR-IGIB and one of the scientists who led the study said that 25% was a "conservative estimate" as many of the infections were likely asymptomatic and only a subset of them who manifested symptoms were likely to get themselves tested.

While the infections were mild it could contribute to healthcare workers unknowingly infecting patients, said Dr. Sengupta. For their analysis, the scientists relied on blood samples taken every week—upto 90—following vaccination and because this period coincided with India's second wave, where most infections were due to the Delta variant, it was most likely that these breakthrough infections too were due to the Delta variant. "Two doses of the vaccine weren't protective against infection but infection followed by vaccination—even a single dose—was significantly protective against fresh infections," he added.

Currently too, Delta and its associated lineages comprise nearly half the coronavirus infections and are believed to be driving the infection in Kerala and Maharashtra.

Those healthcare workers who were previously infected had a reinfection rate of 2.5% over the same period.

In line with emerging evidence from several countries such as the United States and Israel where in spite of half the population being vaccinated, breakthrough infections are being reported, the study underlines that India too may not be immune to the phenomenon.

"The neutralization of Delta variant by antibodies to non-Delta spike protein is greatly reduced. This means that neither prior infection by non-Delta variants, nor existing vaccines, are individually sufficient for the path to herd immunity. This also implies that masking is an essential part of any rational COVID control strategy, being agnostic to immune escape," the authors note in their study.

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