Rare 'breakthrough' COVID infections in vaccinated are milder: study

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(HealthDay)—Folks who suffer a rare "breakthrough" coronavirus

infection after getting the Pfizer or Moderna vaccine will not get as sick and, importantly, are much less likely to pass the coronavirus on to others, a new study shows.

It's very unlikely that a person will become infected with COVID-19 after getting one of the messenger RNA (mRNA) vaccines, which provided 91% effective protection among the vaccinated people included in this study.

But those who got COVID-19 despite their vaccination wound up having milder symptoms over a shorter period of time compared to those who weren't inoculated, researchers reported July 1 in the *New England Journal of Medicine*.

Vaccinated people who caught COVID-19 also had a 40% lower viral load during their infection, compared with unvaccinated people.

"If you were at least partially vaccinated, you had less virus in you for a shorter period of time than those that hadn't been vaccinated, which means that they would be less likely to be passing the virus on to anyone else," said researcher Dr. Jefferey Burgess, associate dean for research at the University of Arizona's College of Public Health, in Tucson.

According to Dr. Amesh Adalja, a senior scholar with the Johns Hopkins Center for Health Security, in Baltimore, the findings "should give people a lot of confidence about COVID-19 vaccines. When the very rare breakthrough infections occur they are really not clinically meaningful, as the severity and infectiousness is greatly attenuated—even in not fully vaccinated individuals."

The study involved 3,975 health care workers, first responders and other essential and front-line employees who were prioritized for receiving an mRNA vaccine. Participants included 3,179 adults who got one or two

shots, along with 796 people who went unvaccinated.

The researchers tracked all these people from mid-December to mid-April to determine how well the Pfizer and Moderna vaccines work.

Quite well, as it turns out. Out of the entire group, 156 unvaccinated people became infected with COVID-19, compared with only five fully vaccinated and 11 partially vaccinated people.

A full two-dose course provided 91% protection, and even just one dose gave 81% protection, the researchers calculated.

If a vaccinated person did get infected with COVID-19, they were 58% less likely to suffer a fever or chills, the results showed.

Instead, they usually had cold-like symptoms (such as the sniffles), spent two fewer days sick in bed, on average, and had an overall length of illness that was six days shorter than folks who eschewed vaccination.

This study took place before the advent of the Delta variant, which is 50 to 80 percent more transmissible than the original Alpha strain of COVID-19, noted Dr. Tina Tan, a professor specializing in pediatric infectious diseases at Northwestern University's Feinberg School of Medicine, in Chicago.

Burgess couldn't say how the new strain would impact the protection reported in the study.

"I'm a little hesitant to go out on a limb on that, because we're still learning about the Delta variant," Burgess said. "I can say that from what I've seen in other studies, two doses of these messenger RNA vaccines are protective against the Delta variant."

Adalja sounded a more confident note regarding mRNA vaccine protection against Delta.

"I do not believe the Delta variant poses a problem for the vaccines, and those who develop rare breakthrough infections post-vaccination are likely to have clinically insignificant disease that is not contagious," Adalja said.

More information: The U.S. Centers for Disease Control and Prevention has more about COVID-19.