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**If you have COVID, it's rare you won't have symptoms**

***Study shows asymptomatic COVID infections in unvaccinated adults are likely uncommon***

**Bethesda, Md.** – Asymptomatic COVID infection in generally healthy unvaccinated adults is likely much less common than previously reported, according to a new study published Feb. 14 in *Open Forum Infectious Diseases* by researchers at the Uniformed Services University of the Health Sciences (USU).

In the study, “Prospective assessment of symptoms to evaluate asymptomatic SARS-CoV-2 infections in a cohort of healthcare workers,” USU researchers sought to define the frequency of asymptomatic COVID, which has been an elusive goal throughout the pandemic. They prospectively followed a cohort of 263 uninfected healthcare workers at the Walter Reed National Military Medical Center. Participants were an average age of 41 years old and were generally healthy and not immunocompromised. All participants were COVID antibody negative and had no history of COVID upon entry to the study.

The team of researchers established a baseline for each participant’s symptom score in their usual state of health. Then, they had participants self-report symptoms every day they had any symptoms using a validated viral respiratory symptoms questionnaire that measured severity, frequency, and duration of 34 different symptoms related to various domains: nasal, throat, eye, chest, gastrointestinal, body/systemic, and sense (taste/smell).

Throughout the study, between August 2020 and February 2021, participants went for PCR testing whenever they had symptoms and routinely had antibody testing conducted monthly to capture any asymptomatic cases or cases that were missed by PCR testing. The researchers found that 12 of the participants tested positive for SARS-CoV-2 infection and that all 12 experienced symptomatic disease, suggesting that completely asymptomatic infection is likely rare.

“We suspect that we observed a higher rate of symptomatic infection than what has been reported by most other studies because of attentiveness to symptoms by study participants as well as the prospective design of our study in which symptoms were collected throughout the fall and winter season every day a person felt they had any symptoms different from their baseline health,” according to the study’s lead author Dr. Emilie Goguet, a scientist in USU’s department of microbiology and immunology.

“Some studies suggest that asymptomatic infection may occur as often as 50 percent of the time. However, if this were true, then it would be very unlikely for us to have observed all 12 infected individuals experiencing symptoms,” according to Dr. Edward Mitre, a professor in USU’s department of microbiology and immunology and the senior author of the study. “If we compare this to flipping a coin, the likelihood that one flips tails 12 times in a row is only 0.024 percent. Even if the true rate of

asymptomatic infection is 30 percent, then the likelihood that 12 of 12 individuals would all be symptomatic is still only 1.4 percent. It is important to highlight that this study was conducted on an unvaccinated population and may not reflect rates of asymptomatic infection in vaccinated individuals.”

The study also compared symptoms that developed in the 12 individuals diagnosed with COVID-19 with those of 38 participants that developed non-COVID-19 respiratory illnesses, Mitre added. Runny nose, sinus pressure, and sore throat occurred in more than 70 percent of infected participants and in more than 70 percent of symptomatic SARS-CoV-2 negative individuals. Loss of smell or taste, which were the most distinctive symptoms in patients with COVID-19, also did not occur with sufficient frequency or specificity to differentiate SARS-CoV-2 from non-COVID-19 illnesses. These results demonstrate that one cannot reliably differentiate SARS-CoV-2 from other respiratory tract infections based on symptoms alone.

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