

Study suggests association between severe COVID-19 and long-term mental health outcomes 16 months after an illness

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A new study published in *The Lancet Public Health* journal indicates that serious COVID-19 illness is linked to an increase in the risk of long-term

adverse mental health effects.

The findings suggest that on the whole, non-hospitalized patients with a SARS-CoV-2 infection were more likely to experience depressive symptoms up to 16 months after diagnosis compared to those never infected. Patients who were bedridden for seven days or more had higher rates of [depression](#) and anxiety, compared to people who were diagnosed with COVID-19 but never bedridden.

Importantly, the analysis finds that symptoms of depression and anxiety mostly subsided within two months for non-hospitalized patients with COVID-19. However, patients who were bedridden for seven days or more remained at increased risk of depression and anxiety over the 16-month study period.

The pandemic upended many aspects of daily life, and the toll that social distancing requirements coupled with a general uncertainty has taken on many people's mental health is well-documented. Most studies to date have only examined adverse mental health impacts for up to six months after a COVID-19 diagnosis, and much less is known about the long-term mental health impacts beyond that period, particularly for non-hospitalized patients with varying degrees of illness severity.

To capture long-term mental health impacts, the researchers looked at symptom-prevalence of depression, anxiety, COVID-19-related distress, and poor sleep quality among people with and without a diagnosis of COVID-19 from 0-16 months (mean follow-up 5.65 months). The analysis drew upon data from seven cohorts across Denmark, Estonia, Iceland, Norway, Sweden, and the UK.

Of the 247,249 people included, 9,979 (4%) were diagnosed with COVID-19 between February 2020 and August 2021. Self-reports of confirmed positive antibody or PCR-tests for SARS-CoV-2 infection

served as an indicator of a COVID-19 diagnosis.

Overall, participants diagnosed with COVID-19 had a higher prevalence of depression and poorer sleep quality compared to individuals who were never diagnosed (20.2% vs. 11.3% experienced symptoms of depression; and 29.4% vs. 23.8% experienced poor [sleep quality](#); equivalent to an 18% and 13% increase in prevalence respectively after adjusting for other factors including but not limited to age, gender, education, body mass index, and previous psychiatric diagnosis. There were no overall differences between participants with or without COVID-19 in the rates of anxiety or COVID-related distress.

People diagnosed with COVID-19 but never bedridden due to their illness were less likely to experience symptoms of depression and anxiety than those not diagnosed with COVID-19. The authors state that one explanation for this is that the return to normal lives is a relief for these individuals while those still not infected are still anxious about the risk of infection and burdened by social isolation.

The analysis finds a clear reduction of some mental health symptoms such as depression and COVID-19-related distress with time. By contrast, longer time bedridden was consistently associated with a higher prevalence of mental health effects. Over 16 months, patients who were bedridden for seven days or more continued to be 50-60% more likely to experience higher depression and anxiety compared to people never infected during the study period.

Study author Professor Unnur Anna Valdimarsdóttir, of the University of Iceland, says, "Our research is among the first to explore mental health symptoms after a serious COVID-19 illness in the general population up to 16 months after diagnosis. It suggests that mental health effects aren't equal for all COVID-19 patients and that time spent bedridden is a key factor in determining the severity of the impacts on

mental health. As we enter the third year of the pandemic, increased clinical vigilance of adverse mental health among the proportion of patients with a severe acute disease of COVID-19 and follow-up studies beyond the first year after infections are critical to ensure timely access to care."

The quicker recovery of physical COVID-19 symptoms may explain in part why mental health symptoms decline at a similar rate for those with a mild infection. However, patients with severe COVID-19 often experience inflammation which has previously been linked to chronic mental health effects, particularly depression.

Co-author Ingibjörg Magnúsdóttir of the University of Iceland, adds, "The higher occurrence of depression and [anxiety](#) among patients with COVID-19 who spent seven days or longer bedridden could be due to a combination of worrying about long-term health effects as well as the persistence of physical long COVID symptoms well beyond the illness that limit social contact and may result in a sense of helplessness. Equally, inflammatory responses among patients with a severe diagnosis may contribute to more persistent mental health symptoms. In contrast, the fact that individuals with a mild COVID-19 infection can return to normal lives sooner and only experience a benign infection likely contributes to the lower risk of negative mental health effects we observed."

Several limitations were noted in the study. First, individuals diagnosed with COVID-19 were slightly more likely to have past diagnoses of psychiatric disorders than individuals without a COVID-19 diagnosis, yet the absolute differences in the history of psychiatric disorders never exceeded 4% in any of the cohorts and did not impact the interpretation of the findings. Second, it reflects self-reported data of COVID-19 diagnosis and [mental health](#) effects—the coexistence of two or more conditions—that are interrelated to some extent. Third, most of the

comparison group responded between April and June 2020, and responses from COVID-19 patients were accumulated between April 2020 and August 2021. This may have led to varying degrees of pandemic uncertainty that may have influenced the reporting of symptoms. Fourth, people diagnosed with COVID-19 were on average younger than those not diagnosed, indicating that some older patients with a COVID-19 diagnosis might have been missed. Furthermore, different recruitment strategies of the included cohorts impeded direct comparisons as national cohorts specifically targeted individuals tested for or diagnosed with COVID-19 in their recruitment whereas others did not.

More information: Acute COVID-19 severity and mental health morbidity trajectories in patient populations of six nations: an observational study, *The Lancet Public Health*, 2022. DOI: 10.1016/S2468-2667(22)00042-1 , [www.thelancet.com/journals/lan... \(22\)00042-1/fulltext](https://www.thelancet.com/journals/lanpub/article/20220301/20220301000421/fulltext)

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