



Bogota

Cite this as: *BMJ* 2023;380:p491<http://dx.doi.org/10.1136/bmj.p491>

Published: 01 March 2023

Covid-19: Vaccination reduces severity and duration of long covid, study finds

Luke Taylor

Vaccination against covid-19 reduces both the severity and the duration of long covid, a study published in *BMJ Medicine* has found.¹

The paper adds to the evidence that patients infected with SARS CoV-2 who experience persistent covid-19 symptoms should be encouraged to be vaccinated against the virus, the authors said.

Lasting covid-19 symptoms that persist more than three months after infection affect an estimated one in 10 people in the UK. The condition can end a patient's social life and put them out of work because of the many associated symptoms, ranging from breathlessness and muscle pain to brain fog and headaches.

An estimated two million to four million people in the US are out of work because of long covid, costing \$170bn-\$230bn (£141bn-£191bn; €159bn-€215bn) a year in lost wages.²

One of the remaining questions over the poorly understood condition is whether covid-19 vaccination affects recovery, which is made more difficult by the fact that gold standard studies with a placebo control group are almost impossible to conduct because most of the global population has been vaccinated.

Findings

To mimic such a trial, Viet-Thi Tran of the INSERM-Sorbonne Paris Cité Epidemiology and Statistics Research Centre and colleagues compared the conditions of people experiencing long covid who later got a covid-19 vaccine with those who remained unvaccinated.

The researchers selected 455 people with long covid who were being studied as part of France's (ComPaRe) research programme. All 455 had a confirmed or suspected coronavirus infection and had received a dose of the AstraZeneca, Pfizer-BioNTech, Johnson & Johnson, or Moderna vaccine.

The participants' experience with long covid was compared with 455 unvaccinated people who matched the vaccinated group for age, sex, coexisting health conditions, and long covid severity, among other metrics. Both groups were asked to score the severity of the impact of long covid on their quality of life every 60 days using questionnaires.

The findings revealed a small reduction in both the severity and the duration of long covid symptoms in people who were vaccinated. The vaccinated group had on average 13 long covid symptoms after 120 days, which compared with 14.8 symptoms among the unvaccinated group.

Twice as many people in the vaccinated group as in the unvaccinated group also reported that all their long covid symptoms were in remission.

The study also found that people who were unvaccinated said that long covid was having a more severe effect on their social, professional, and family lives. Out of a maximum 60 points, people in the vaccinated group rated the effect as 24.3, which compared with 27.6 in the unvaccinated cohort.

Growing evidence

The paper's authors noted some limitations of the study, including that all participants had been infected before the delta or omicron coronavirus variants were in circulation, that the average age of participants was 47, and that 80.5% of participants were women, meaning that the results may not extrapolate to the wider population.

Despite the study's limitations, said the authors, the paper added to growing evidence that vaccination could help people recover from long covid.

They wrote in the study paper, "Millions of patients have persistent symptoms after infection with the SARS CoV-2 virus and many more might be at risk in the future. To our knowledge, this is the first study of a potential intervention that could reduce the burden of long COVID on care systems... The results suggest that vaccination should be encouraged in all patients who have already been infected with the SARS CoV-2 virus."

A systematic review of 16 observational studies from five countries also published in *BMJ Medicine* this week similarly concluded that covid-19 vaccines could both protect against and help to treat long covid.³

Frances Edwards of North Bristol NHS Trust and Fergus Hamilton of the University of Bristol wrote in an editorial published in *BMJ Medicine* that "covid-19 vaccination is likely to have some beneficial effect on long covid through reducing case severity as well as incidence."⁴

Catherine Hyams, a postdoctoral clinical research fellow and respiratory specialist at the University of Bristol who was not involved in the study, commented, "These studies provide encouraging evidence that covid-19 vaccines are likely to have some effect on reducing the risk of developing long covid and may even reduce the severity or length of long covid when given after someone has developed this condition."

1 Tran V-T, Perrodeau E, Saldanha J, et al. Efficacy of first dose of covid-19 vaccine versus no vaccination on symptoms of patients with long covid-19: target trial emulation based on compare e-cohort. *BMJ Med* 2023;2:e000229. doi: 10.1136/bmjmed-2022-000229.

- 2 Bach K. New data shows long covid is keeping as many as 4 million people out of work. Brookings. 24 Aug 2022. <https://www.brookings.edu/research/new-data-shows-long-covid-is-keeping-as-many-as-4-million-people-out-of-work/>
- 3 Byambasuren O, Stehlik P, Clark J, et al. Effect of covid-19 vaccination on long covid: systematic review. *BMJ Med* 2023;2:e000385. doi: 10.1136/bmjmed-2022-000385.
- 4 Edwards F, Hamilton FW. Impact of covid-19 vaccination on long covid. *BMJ Med* 2023;2:e000470. doi: 10.1136/bmjmed-2022-000470.

This article is made freely available for personal use in accordance with BMJ's website terms and conditions for the duration of the covid-19 pandemic or until otherwise determined by BMJ. You may download and print the article for any lawful, non-commercial purpose (including text and data mining) provided that all copyright notices and trade marks are retained.