



The BMJ

Cite this as: *BMJ* 2022;376:e0407<http://dx.doi.org/10.1136/bmj.0407>

Published: 16 February 2022

Covid-19: Vaccinated people are less likely to get long covid, review finds

Elisabeth Mahase

People who had been fully vaccinated against covid-19 were around half as likely to develop long covid symptoms as people who had received only one vaccine dose or were unvaccinated, the UK Health Security Agency has said.¹

The agency conducted a rapid review of evidence, including 15 UK and international studies up to January 2022. Being vaccinated was defined as having two doses of the Pfizer-BioNTech, Oxford-AstraZeneca, or Moderna vaccine or one dose of the Janssen vaccine.

The review found that vaccine effectiveness against most post-covid symptoms in adults was highest in people over 60 and lowest in those aged 19 to 35.

Around 2% of the UK population have reported symptoms of long covid (or “post-covid syndrome”), which can last for more than four weeks after the initial SARS-CoV-2 infection. The most common symptoms are fatigue, shortness of breath, and muscle or joint pain.

Of eight studies that looked at the effect of vaccinations administered before infection, six suggested that vaccinated patients (those with one or two doses) were less likely than unvaccinated patients to develop symptoms of long covid in the short term (four weeks after infection), the medium term (12 to 20 weeks after infection), and the long term (six months after infection). As all eight studies included only participants who had caught covid-19, the researchers noted that the effect of vaccination on reduced incidence of covid-19 was not accounted for.

One of these studies, which was rated as medium quality, included 6030 UK participants who reported a positive test at least 14 days after their first vaccination (but before their second dose) and 2370 who tested positive at least seven days after their second vaccine dose. Vaccinated participants were matched with unvaccinated participants. The researchers found that fully vaccinated participants were about half as likely to have symptoms lasting at least 28 days as unvaccinated participants (odds ratio 0.51 (95% confidence interval 0.32 to 0.82); $P=0.005$), whereas those who were partially vaccinated were about as likely to have symptoms lasting at least 28 days than those who were unvaccinated (1.04 (0.86 to 1.25); $P=0.69$).

Subsequent vaccination

Three further studies compared ongoing symptoms in unvaccinated people, looking at the difference between those who went on to receive a vaccination and those who did not. They reported that the people who went on to get vaccinated were less likely to

report long covid symptoms than those who remained unvaccinated over the same time period.

One of these studies, a preprint that was rated as medium quality, examined the effect of vaccination (with Pfizer or AstraZeneca) on long covid symptoms in previously unvaccinated participants who were admitted to hospital with covid-19 in April and May 2020. Researchers matched those who went on to get vaccinated ($n=44$; 82% symptomatic eight months after infection) with those who remained unvaccinated ($n=22$; 82% symptomatic eight months after infection). They found that one month after vaccination more vaccinated than unvaccinated participants reported that their symptoms had improved (23.2% v 15.4%). Similarly, fewer vaccinated people reported that their symptoms had worsened (25.6% v 14.3% in unvaccinated participants; $P=0.035$ for all differences), while a similar percentage of vaccinated and unvaccinated participants reported unchanged symptoms (71.1% v 70.3%).

As all of the studies included were observational, the UK Health Security Agency has highlighted that the results may stem from differences other than vaccination. It also noted that the definition of long covid varied between studies.

The agency’s head of immunisation, Mary Ramsay, said, “These studies add to the potential benefits of receiving a full course of the covid-19 vaccination. Vaccination is the best way to protect yourself from serious symptoms when you get infected and may also help to reduce the longer term impact.

“For most people, symptoms of long covid are short lived and resolve over time. But for some, symptoms can be more severe and disrupting to their daily lives.”

¹ UK Health Security Agency. The effectiveness of vaccination against long covid: a rapid evidence briefing. Feb 2022. <https://ukhsa.koha-ptfs.co.uk/cgi-bin/koha/opac-retrieve-file.pl?id=fe4f10cd3cd509fe045ad4f72ae0dfff>

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.