

Some vaccines have the potential to reduce the amount of virus in people's system, but no studies have found whether being vaccinated reduces the risk of infecting others

Egunsola O, Mastikhina L, Dowsett LE, Clement FM on behalf of the University of Calgary Health Technology Assessment Unit. Transmissibility of COVID-19 among Vaccinated Individuals: Targeted Literature Search. SPOR Evidence Alliance and COVID-END in Canada, 12 March 2021.

Why is all the evidence on this topic being summarized?

- Most studies on COVID-19 vaccines have focused on whether vaccines prevented people from being infected with COVID-19 and showing symptoms.
- There is less evidence about:
 - whether a person who is vaccinated may become infected without showing symptoms;
 - whether vaccination reduces the “viral load” (the amount of virus in a person’s blood, once a person has been infected); and
 - whether a person who is vaccinated can transmit the infection to others.

What question did we want to answer?

- What is the effectiveness of vaccines in reducing COVID-19 transmission from people who have been vaccinated?

How have we done this rapid review?

- We conducted a search in several databases and websites to identify studies evaluating the effectiveness of COVID-19 vaccines to do two things:
 - prevent people from becoming infected without showing symptoms; and
 - prevent people who are vaccinated from transmitting the infection to others.
- The search was limited to studies on vaccines that were approved in any country.

How up to date is this rapid review?

- The review examined studies published up to March 11, 2021.

What are the main results of our rapid review?

- A total of 17 studies were included in this review. Twelve studies were done with humans and five were studies done with monkeys.
- Some studies suggest that COVID-19 vaccines are effective in preventing people from becoming infected without showing symptoms (known as “asymptomatic infection”). However, we did not see this result in every study.
- Some vaccines have the potential to reduce the “viral load” and transmission. However, no studies have examined the transmission of COVID-19 from vaccinated persons to people with whom they have contacts.
- There are very limited studies on the effectiveness of the approved vaccines against COVID-19 variants.
- Further research is needed to evaluate infection after a person has been vaccinated and whether they can transmit the COVID-19 virus and its variants.

How confident are we in the results?

- We found limitations in some of the studies, including how they were designed, conducted, and reported.

The COVID-19 Evidence Network to support Decision-making (COVID-END) is supported by an investment from the Government of Canada through the Canadian Institutes of Health Research (CIHR). To help Canadian decision-makers as they respond to unprecedented challenges related to the COVID-19 pandemic, COVID-END in Canada is preparing rapid evidence responses like this one. The opinions, results, and conclusions are those of the evidence-synthesis team that prepared the rapid response, and are independent of the Government of Canada and CIHR. No endorsement by the Government of Canada or CIHR is intended or should be inferred.