COVID-19 variants appear to be as transmissible or more transmissible than the original strain, so existing public-health measures remain important


Why is all the evidence on this topic being summarized?
• As of March 2021, three COVID-19 variants of concern have been identified (known as the U.K. variant, the South Africa variant, and the Brazil variant, based on where they were first reported).
• These variants can potentially cause changes in signs and symptoms associated with the disease, and the severity of the disease, and the likelihood of passing it to others.
• These variants may require strengthening existing public-health measures or new ones.

What question did we want to answer?
• How much more transmissible are these variants?
• Why are they more transmissible?
• What characteristics are used to define new variants?

How have we done this rapid review/rapid evidence profile/living evidence profile?
• We conducted a search to retrieve all studies related to the three variants of concern in several databases and relevant websites.

How up to date is this scoping review?
• This scoping review was last updated on March 1, 2021.

What are the main results of our scoping review?
• The risk of passing on the UK variant, South Africa variant and the Brazil variant appears to be higher than other COVID-19 variants.
• It is difficult to draw conclusions about why these variants are more transmissible based on existing studies. Some evidence suggests that the viral load may be higher (the amount of virus in a person’s blood, once a person has been infected). Other studies suggest that the molecular structure of these variants may prevent your body from activating its immune system and defending itself against the virus.
• The definition of variants of concern depends on three main characteristics:

1. how variants of concern evolved compared to those that are not of concern;

2. the changes in variants of concern that matter to human biology; and

3. how variants of concern have advantage over others, and hence can spread more rapidly.

How confident are we in the results?

• We did not assess the strengths and weaknesses of the studies we drew on.

• We also could not rely on the assessment of other scientists because most of the studies have not been reviewed by scientists in the field.

• It was difficult to interpret and compare data across studies.

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.