



## Covid-19 Reinfection

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### Why in News

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A team of scientists from the **Indian Council of Medical Research (ICMR)** examined the cases of 1,300 individuals who had tested positive for the corona virus twice.

It was found that 58 cases of the 1,300 individuals or **4.5% could be classified as possible reinfections.**

### Key Points

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#### **Worldwide Cases of Reinfection:**

- The first confirmed case was reported from **Hong Kong.**
- A couple of cases from the **United States and Belgium** also emerged.
- However, there have been several cases of **people testing positive for the virus multiple times**, even in India, but not all such cases are considered reinfections.

Such cases are the result of what is called “**persistent viral shedding**”.

### **Persistent Viral Shedding**

- When an individual gets infected by a respiratory virus like SARS-CoV-2, the virus particles bind to the various types of viral receptor.
- Thus, Recovered patients can sometimes continue to carry low levels of virus within their system for up to three months.
- These levels are no longer enough to make the person sick or transmit the disease to others, but it can get detected in diagnostic tests.
- The disease developed from such persistent virus is what is called Persistent viral shedding.

- **Significance of the Study of Reinfection:**

- It is crucial to make it clear whether a person who has been infected once develops permanent immunity against the disease, or can get reinfected after some time.

This understanding of the possibility of reinfection is **crucial to the fight** against the **Covid-19 pandemic**.

- It will help **decide the intervention strategies** required to control the spread of the disease.
- It will also help assess **how long people would have to depend on masks and physical distancing**.
- It will have implications on the **vaccination drive** as well.

- **Determination of Reinfection:**

- **Genome sequence analysis** of the virus sample is done by scientists for conclusive proof of reinfection.

Because the virus mutates continuously, the genome sequences of the two samples would have some differences.

- However, virus samples from every infected person are not being collected for genome analysis.

Therefore, in most of the cases there is usually no **genome sequence** from the previous infection to compare with.

- Thus the scientists of ICMR looked at cases in which patients had reported **positive results at least at the gap of 102 days**. That would not include the disease from persistent viral shedding.

According to the **Centers for Disease Control (CDC)** in the USA, **viral shedding continues until only about 90 days**.

- **Symptoms in Reinfection:**

- The majority of the disinfected patients **remained asymptomatic** during the intervening period, while few reported **mild symptoms**.
- Some had symptoms such as **intermittent fever, cough, or shortness of breath**.

- **Implications of the Reinfection:**

- The scientists point out that **permanent immunity cannot be assumed**.

Reinfection might very well be happening and could be confirmed if it was possible to do genome analysis of every infected person.

- If reinfection is the case the use of masks and social distancing would be a new normal.

## **Indian Council of Medical Research**

- Indian Council of Medical Research (ICMR) is the **apex body in India** for the formulation, coordination and promotion of **biomedical research**.

- Its mandate is to conduct, coordinate and implement medical research for the benefit of the Society; translating medical innovations into products/processes and introducing them into the public health system.
- It is funded by the Government of India through the Department of Health Research, **Ministry of Health & Family Welfare.**

**Source:IE**