



4 Factors that Could Increase the Risk of Long COVID Discovered

Kaushik Bharati[†]

Long COVID, also known as Post-COVID Condition, is a debilitating condition in which patients continue to experience symptoms of the disease, long after an RT-PCR test gave a negative result. These symptoms include shortness of breath, fatigue, and brain fog, among many others, which persist weeks or even months after recovering from SARS-CoV-2 infection.

A study was conducted that included a team of 50 scientists including those from the Institute for Systems Biology and the Fred Hutchinson Cancer Research Center, based in Seattle, Washington, USA. The researchers tracked more than 200 patients for 2-3 months after being diagnosed with COVID-19.

Four factors associated with a person's risk of developing long lasting symptoms after a SARS-CoV-2 infection have been identified by these US scientists. The research has shown that up to 30% of infected people, including many who were never hospitalized, may exhibit persistent symptoms.

The 4 factors are:

- **Type-2 Diabetes Mellitus (T2DM):** The presence of pre-existing T2DM could significantly elevate the risk of developing long COVID, according to the study. The researchers cautioned that T2DM is likely to be just one of several other pre-existing medical conditions that could increase the risk of long COVID.
- **Presence of Circulating SARS-CoV-2 RNA:** Presence of large quantities of SARS-CoV-2 RNA in a COVID patient's bloodstream early on in the disease could indicate that they are more at risk of developing long COVID.
- **Reactivation of Epstein-Barr Virus (EBV):** EBV is one of the most common human viruses. It is responsible for causing infectious mononucleosis, but usually remains dormant in

the body of an infected person. This virus can become reactivated if a person becomes infected with SARS-CoV-2, resulting in COVID-19. The researchers found that reactivation of EBV had been positively correlated with an increase in the risk of progression to long COVID.

- **Elevated Levels of Autoantibodies:** Under normal circumstances, the antibodies produced by the immune system don't attack the body's own tissues. This phenomenon is known as "immunotolerance" and is the hallmark of the immune system. However, when the immune system becomes dysregulated, autoantibodies are generated that attack the body's own tissues and organs due to the breakdown of "immunotolerance". To put it simply, the immune system "can't tolerate" its own body. Elevated levels of autoantibodies in the body mean that a person has lower levels of protective antibodies against SARS-CoV-2. The study indicated that the presence of these autoantibodies could lead to the development of long COVID.

Of the above 4 factors, the most influential one appeared to be the autoantibodies, which were associated with two-thirds of long COVID cases. Each of the other 3 factors showed up in about a third of the cases and there was considerable overlap with several other factors detected in some patients.

Conclusion: It may be concluded that this study lays stress on the importance of doing measurements early in the course of the disease in order to figure out how to treat patients before they progress to long COVID.

Source: Su Y, Yuan D, Chen DG, Ng RH, Wang K, Choi J, et al. Multiple early factors anticipate post-acute COVID-19 sequelae. *Cell*. Published online on 24th January 2022. Available at: <https://doi.org/10.1016/j.cell.2022.01.014>; Accessed on 30th January 2022.

[†]PhD, MIPHA, FRSPH (London), Health Policy Consultant – UNESCO, New Delhi
ORCID: Kaushik Bharati: <https://orcid.org/0000-0003-3764-0186>