



Europeans and South Asians have different genetic correlations with COVID-19 outcomes

In the ongoing COVID-19 pandemic, it is still unclear why some people experience more severe symptoms and adverse outcomes than others. An earlier research done on European population suggested variations in a specific DNA segment strongly associated with severe COVID-19 infection and hospitalization. This DNA segment is present in 50% of South Asians as compared to 16% of Europeans.

An international team of scientists have analyzed the role of this DNA segment in determining COVID-19 outcomes among the South Asian population. The study was directed by Dr Kumarasamy Thangaraj, Director, Centre for DNA Fingerprinting and Diagnostics & Chief Scientist, CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad and Prof Gyaneshwer Chaubey, Banaras Hindu University, Varanasi. They concluded that the genetic variants responsible for COVID-19 severity among Europeans may not play a role in COVID-19 susceptibility among South Asians. This finding has been published in the journal *Scientific Reports*.

“In this study, we have compared infection and case fatality rates with South Asian genomic data over three different timelines during the pandemic. We have especially looked into a large number of populations from India and Bangladesh”, said Dr Thangaraj.

“Our result reiterates the unique genetic origin of South Asian populations. A dedicated Genome-wide Association Study on South Asian COVID-19 patients is the need of time for us in the Asian sub-continent”, said Prajival Pratap Singh, first author of this study.

The study also suggests that the genetic variants correlated with COVID-19 outcomes differ significantly among caste and tribal populations of Bangladesh. “Scientists working in the area of population studies should be more cautious to interpret their findings by differentiating caste and tribal populations, more explicitly so in the Bangladeshi population”, said Prof George van Driem a renowned linguist and co-author of the study.

“With growing data, it is becoming quite clear that there are several factors including genetics, immunity and the life-style are the contributing factor for COVID-19 susceptibility. CCMB’s expertise in population studies are proving useful in understanding these details of the ongoing COVID-19 pandemic”, said Dr Vinay Nandicoori, Director, CCMB.

Other participants of this study include: Anshika Srivastava and Nargis Khanam from BHU, Varanasi; Dr Abhishek Pathak and Prof Royana Singh, Institute of Medical Sciences, BHU; Dr Gazi Sultana from Dhaka University, Bangladesh; Dr Pankaj Shrivastava, Forensic Science Laboratory, Sagar, MP; and Dr Prashanth Suravanjhala, Birla Institute of Scientific Research, Jaipur.

Reference: <https://www.nature.com/articles/s41598-021-91711-4>