The Researchers' - Volume VI, Issue III, 10 September-2020
International Research Journal (Double-blind peer-reviewed)
ISSN : 2455-1503
Impact Factor - 5.882

Date of Acceptance : 01 Sept. 2020
DOI - 10.21276/tr.2020.6.3.AN5

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5. Indian genes helpful in battling coronavirus, reducing mortality rate

Rudra Pandey, Prajwal Singh, Avinash Rasalkar, Pankaj Srivastava, Rakesh Tamang & Pramod Kumar

Indian genes are helping battling coronavirus and reducing the mortality rate in comparison to the US and Europe, according to scientists including an expert from the Banaras Hindu University (BHU). The study is published in the PLOS ONE journal.

A team comprising distinguished genetic experts from six institutions, led by Prof Gyaneshwer Chaubey of the BHU, analysed complete DNA data of the Angiotensin-converting enzyme 2 (ACE2) gene of X chromosome from various continental populations and found that it is the Indian genes that have protected the population and helped battle the deadly virus.

This explains why the mortality rate of COVID-19 has been much higher in European countries and in the US, as compared to India and Southeast Asian countries, they said.

The scientists have provided a possible molecular genetic explanation for why Iranians, Europeans and Americans of European ancestry are at more mortality risk to the novel Coronavirus than people in India and East Asia, as reflected in the current global distribution of reported COVID-19 cases per 1,00,000 inhabitants.

The international team analysed complete DNA data of the ACE2 gene from various continental populations and found that certain mutations in this gene are helping South Asian and East Asian populations in successfully battling the virus and reducing mortality rate in comparison to the US and Europe.

There have been a few initial studies on the ACE2 gene by other research groups, but all of them looked for the presence or absence of various mutations, whereas, this team used more powerful haplotype-based analysis (the method in which experts break the whole length of DNA into several pieces and make comparisons).

Citation : Indian genes helpful in battling coronavirus, reducing mortality rate, **The Researchers** – September 2020, 6(3):72-73. doi - 10.21276/tr.2020.6.3.AN5

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The second important finding is about two major mutations which are responsible for strengthening the entry point of the Coronavirus among South Asians. "Thus, this paper adds important potential implications to understanding the transmission patterns of Coronavirus in various populations across the world," said Anshika Srivastava, one of the authors of the paper.

{Rudra Pandey and Prajwal Singh from BHU, Avinash Rasalkar, Pankaj Srivastava from Sagar Central University, Rakesh Tamang from Calcutta University and Pramod Kumar from National Centre for Disease Control (NCDC) were also involved in this research.}