RESEARCH ARTICLE

Genomic surveillance of omicron B.1.1.529 SARS-CoV-2 and its variants between December 2021 and March 2023 in Tamil Nadu, India—A state-wide prospective longitudinal study

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Abstract

A state-wide prospective longitudinal investigation of the genomic surveillance of the omicron B.1.1.529 SARS-CoV-2 variant and its sublineages in Tamil Nadu, India, was conducted between December 2021 and March 2023. The study aimed to elucidate their mutational patterns and their genetic interrelationship in the Indian population. The study identified several unique mutations at different time-points, which likely could attribute to the changing disease characteristics, transmission, and pathogenicity attributes of omicron variants. The study found that the omicron variant is highly competent in its mutating potentials, and that it continues to evolve in the general population, likely escaping from natural as well as vaccine-induced immune responses. Our findings suggest that continuous surveillance of viral variants at the global scenario is warranted to undertake intervention measures against potentially precarious SARS-CoV-2 variants and their evolution.

CONFLICT OF INTEREST STATEMENT

The authors declare that there are no relationships or activities that might bias, or be perceived to bias, their work.

DATA AVAILABILITY STATEMENT