Title: The emergence of JN.1 variant resurgent COVID-19 wave in India and South Asia is a global public health concern

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Abastact: The emergence of the JN.1 variant of SARS-CoV-2 has heightened global health concerns. Here, we aimed to evaluate viral characteristics, epidemiology, transmissibility, infectivity, immune evasion, effectiveness of current antiviral therapies, immunization options, genomic surveillance and public awareness against the stealthy JN.1. We searched across key databases to identify recent insights regarding JN.1 variant. This review provides a comprehensive overview of the virological characteristics and public health implications. Early genomic analyses reveal notable mutations in the spike protein, which may enhance viral transmissibility and immune escape. The findings indicate JN.1 to exhibit greater infectivity and enhanced ability to circumvent immune defenses attributable to one mutation identified as L455S. Public health agencies worldwide are enhancing monitoring, genomic surveillance, data sharing, revising containment strategies, promoting booster vaccination campaigns Furthermore, it is imperative to promote public adherence and global collaboration in encouraging the practice of preventive strategies to mitigate potential threat posed by JN.1.

Keyword: SARS-CoV-2 COVID-19 JN.1 variant Viral characteristics Pandemic Infectious disease Public health Vigilance

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