

JN.1 Variant Alert: Pakistan's Precarious Healthcare System under Intense Scrutiny

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Dear Editor,

The recent COVID-19 variant, JN 1, identified by the World Health Organization, is considered a notable strain stemming from theOMICRON subvariant BA.2.86. Despite its unique spike protein mutation (S:L455S), JN.1 is anticipated to have minimal impact on global public health. The singular modification in the virus's spike protein, distinguishing JN.1 from BA.2.86, suggests that existing vaccines should effectively counter both variants. The World Health Organization emphasizes the continued efficacy of current vaccines in protecting against diseases and deaths caused by JN.1, urging individuals, especially those at high risk, to maintain updated vaccinations¹.

Nonetheless, JN.1 exhibits substantial resistance to monovalent XBB.1.5 vaccine sera, highlighting its potential as a highly immune-evading variant². The JN.1 strain initially surfaced in Pakistan in early January, and cases have steadily increased, reaching 15 by the second week of the month. Early on, the National Institute of Health (NIH) ordered increased covid testing at airports for the passengers inbound from international flights³.

The initial waves of COVID-19 were managed better than expected in Pakistan, thanks to early and effective measures, including travel restrictions, contact tracing, quarantine facilities, and lockdowns⁴.

However, concerns arise with the enhanced immune-evasion of the JN.1 variant; as previously implemented measures may no longer be as practical in curbing its spread.

The COVID-19 pandemic in Pakistan led to widespread economic challenges, including unemployment and increased poverty, affecting the standard of living for many. The fear

of another lockdown is heightened as these economic difficulties make public cooperation less likely. Furthermore, Pakistan appears to have the ideal combination of variables for the spread of JN.1. The living conditions, exacerbated by rising poverty, contribute to challenges in isolating and quarantining individuals, potentially facilitating the spread of the JN.1 variant⁵.

The medical infrastructure in the country is inadequate, and rural populations are unable to access quality and timely healthcare facilities leading to underreported cases and hindered contact tracing. Despite the government's acquisition of 500,000 additional COVID-19 vaccines in response to the new variant, vaccine hesitancy persists due to low literacy rates which can lead to misunderstandings about long-term vaccination consequences³.

In summary, the emergence of the JN.1 COVID-19 variant in Karachi, Pakistan, raises concerns due to its enhanced immune evasion and resistance to specific vaccines. Existing economic challenges, potential lockdown fears, and the country's healthcare limitations contribute to the complexity of managing the variant. Urgent and coordinated efforts are needed to address these issues and safeguard public health in Pakistan.

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Kanza Mehmood: Idea conception, proof reading, final approval

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