

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

Kanza Mehmood, Maryam Moazzam, Minahil Fatima Sajid

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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 vaccinations<sup>1</sup>.

Nonetheless, JN.1 exhibits substantial resistance to monovalent XBB.1.5 vaccine sera, highlighting its potential as a highly immune-evading variant<sup>2</sup>. 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 flights<sup>3</sup>.

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 lockdowns<sup>4</sup>.

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 variant<sup>5</sup>.

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 consequences<sup>3</sup>.

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.

**Authors Contributions:**

**Kanza Mehmood:** Idea conception, proof reading, final approval

**Maryam Moazzam:** Write up and editing

**Minahil Fatima Sajid:** Write up

**REFERENCES:**

1. Looi MK. Covid-19: WHO adds JN.1 as new variant of interest. *BMJ*. 2023 Dec 21;p2975.
2. Altamimi I, Alabdulkarim I, Alhumimidi A, Albabtain M, Temsah MH. Navigating Novel Uncertainties of COVID-19: The Rise of the JN.1 Variant. *Cureus*. 2024 Feb;16.
3. Junaidi I. Health ministry "fully alert" as 15 cases of JN.1 Covid variant confirmed countrywide [Internet]. *DAWN.COM*. 2024 [cited 2024 Feb 2]. Available from: <https://www.dawn.com/news/1806261>
4. Akhtar H, Afridi M, Akhtar S, Ahmad H, Ali S, Khalid S, et al. Pakistan's Response to COVID-19: Overcoming National and International Hypes to Fight the Pandemic. *JMIR Public Health Surveill*. 2021 May 19;7(5):e28517.
5. Saad Zaidi SM. COVID-19: Exacerbating Pakistan's economic problems – a critical analysis using the dependency paradigm. *Asian Journal of Comparative Politics*. 2023 Dec 13;8(4):811–24.

**Kanza Mehmood** (Corresponding Author)

5<sup>th</sup> Year MBBS Student  
Bahria University Health Sciences, Campus Karachi  
Email: [kanzamhd999@gmail.com](mailto:kanzamhd999@gmail.com)

**Maryam Moazzam**

3<sup>rd</sup> Year MBBS Student  
Bahria University Health Sciences, Campus Karachi  
Email: [maryamzm2003@gmail.com](mailto:maryamzm2003@gmail.com)

**Minahil Fatima Sajid**

3<sup>rd</sup> Year MBBS Student  
Bahria University Health Sciences, Campus Karachi  
Email: [minahilfatimasajid223@gmail.com](mailto:minahilfatimasajid223@gmail.com)

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