

Commentary

Cite this article: Shaikh S and Khatri G (2024). Understanding Monkeypox in Pakistan: Epidemiology, Challenges, and Prevention Short Communication. *Disaster Medicine and Public Health Preparedness*, 18, e313, 1–2 <https://doi.org/10.1017/dmp.2024.316>

Received: 22 August 2024

Revised: 03 November 2024

Accepted: 06 November 2024

Keywords:

Monkeypox virus; public health; disease prevention; health infrastructure

Corresponding author:

Somina Shaikh;

Email: somina.sh16@gmail.com

© The Author(s), 2024. Published by Cambridge University Press on behalf of Society for Disaster Medicine and Public Health, Inc. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

Understanding Monkeypox in Pakistan: Epidemiology, Challenges, and Prevention Short Communication

Somina Shaikh  and Govinda Khatri 

Dow Medical College, Karachi, Pakistan

Abstract

Monkeypox, a viral zoonotic disease, is currently spreading in Pakistan, raising serious public health concerns. Despite its rarity, the disease has the potential to spread rapidly, especially in areas with a limited health care infrastructure. This short communication overviews the current epidemiology of monkeypox in Pakistan, addressing diagnostic, surveillance, and control challenges, and aims to inform evidence-based prevention. We emphasize the need for enhanced surveillance, improved diagnostic capacity, and targeted public health interventions to prevent outbreaks and minimize the impact of the disease on public health.

Monkeypox, a rare viral illness that affects both humans and animals, has been prevalent in Central and West Africa for many decades. The Monkeypox virus, which is a member of the Orthopoxvirus genus in the Poxviridae family, was discovered for the first time in 1958, and the first human case was documented in the Democratic Republic of the Congo in 1970.¹ Contact with infected objects, people, and animals can spread the infection.² There are several ways that the monkeypox can enter the human body, including oropharyngeal, nasopharyngeal, and intradermal pathways. Classic monkeypox is characterized by a prodrome of fever, exhaustion, and lymphadenopathy, which is primarily followed by facial skin eruptions.³ The US reported the first monkeypox outbreak outside of Africa in 2003, and on May 6, 2022, the first cases of the current global outbreak were discovered in Europe.⁴ By the end of June 2022, the World Health Organization (WHO) declared the monkeypox outbreak a global public health emergency because of the notable increase in cases reported globally.

The first case of Monkeypox in Pakistan was reported in the Islamabad Capital Territory on April 21, 2023. A 25-year-old Pakistani man who had just returned from Saudi Arabia was found to have an infection.⁵ Following the notification from National Institute of Health (NIH), health authorities in Pakistan were placed on high alert on May 23, 2022 due to the possibility of a Monkeypox outbreak in the country, given the virus' emergence in non-endemic countries like the US and the UK.⁶ Since those first cases were discovered in Pakistan in April 2023, a total of 11 cases have been documented, including 1 fatality.⁷ Pakistan confirmed its first Monkeypox case of the current year on August 16, 2024.⁸

Following the confirmation of the initial Monkeypox case for 2024 in Pakistan, the Prime Minister's coordinator instructed the implementation of stringent monitoring at all entry points, including airports, to prevent virus' spread.⁹

The upcoming sections will explore the challenges and recommendations for Monkeypox management in Pakistan. They will detail the current limitations in diagnostic facilities, particularly the need for Polymerase chain reaction testing and the procurement of essential testing kits. The narrative will also examine the response from Pakistani health authorities, focusing on the implementation of stringent monitoring measures and the declaration of a state of emergency to control the virus's spread. Additionally, the text will provide recommendations for enhanced airport screening, given the high volume of international flights, and underscore the importance of quarantining suspected or confirmed cases to prevent further transmission.

The worrisome issue of the lack of diagnostic facilities demands immediate attention. Most renowned laboratories in Pakistan are equipped with PCR machines; however, they are devoid of the necessary testing kits. To counteract a potential viral epidemic, the Pakistani government must immediately obtain the necessary primers, reagents, and testing kits.¹⁰

The spread of the virus to the country is a growing concern, and without timely precautionary measures, it may become inevitable. Health care professionals should be trained to collect a history that enables them to track travel history, the source of infection, and those in close contact, in addition to being aware of the symptoms and indicators that are now being displayed. The public should be routinely educated about preventive measures, such as social distancing, limiting sexual activity, and maintaining proper hygiene through carefully planned awareness

seminars and advertisements. Campaigns for education that present accurate facts on the signs, course of treatment, and mild cases of the Monkeypox virus may help dispel common misconceptions. Access to medical facilities and screening procedures, along with a reliable manual on how to report symptoms and seek treatment, would enable people to face the unpredictable situation presented by the Monkeypox virus.

Given the volume of flights into and out of Pakistan from areas where Monkeypox is spreading, airport screening for the virus is required, and cases that are suspected or confirmed should be placed in quarantine for a prodromal period. We recommend that committees responsible for developing health care facilities present plans to mitigate the epidemic during its early stages and develop a strategy for meetings in close quarters, schools, or childcare facilities, as these could serve as the main hubs for the spread of the illness.

Owing to a shortage of funding, Pakistan's health care sector encountered several challenges during the COVID-19 epidemic. Because of Pakistan's limited health budget, hospitals and health care providers found it very challenging to guarantee that there was a sufficient supply of workforce, ventilators, hospital beds, medical personnel, and laboratory equipment.

In conclusion, the rising incidence of Monkeypox in Pakistan underscores the need for urgent public health measures. Strengthening diagnostic capacities, enhancing surveillance, and implementing targeted interventions are essential to controlling outbreaks. Key goals include launching immunization campaigns, establishing screening facilities, and improving monitoring systems to enhance early detection and response. Addressing these challenges will better equip Pakistan to manage Monkeypox and future zoonotic threats.

Acknowledgments. None.

Funding statement. The author received no financial support for the research, authorship, and/or publication of this article.

Competing interest. The authors declare no potential conflicts of interest concerning the research, authorship, or publication of this article.

References

1. **About Mpox.** Centers for Disease Control and Prevention. Published January 5, 2024 Accessed April 18, 2024. <https://www.cdc.gov/poxvirus/monkeypox/about.html>.
2. **Khattak S, Rauf MA, Ali Y,** et al. The monkeypox diagnosis, treatments and prevention: a review. *Front Cell Infect Microbiol.* 2023;**12**:1088471. Published 2023 Feb 6. doi:10.3389/fcimb.2022.1088471
3. **Prasad S, Galvan Casas C, Strahan AG,** et al. A dermatologic assessment of 101 mpox (monkeypox) cases from 13 countries during the 2022 outbreak: skin lesion morphology, clinical course, and scarring. *J Am Acad Dermatol.* 2023;**88**(5):1066–1073. doi:10.1016/j.jaad.2022.12.035
4. **Angelo KM, Smith T, Campubri-Ferrer D,** et al. Epidemiological and clinical characteristics of patients with monkeypox in the GeoSentinel Network: a cross-sectional study. *Lancet Infect Dis.* 2023;**23**(2):196–206. doi:10.1016/S1473-3099(22)00651-X
5. **Hussain A.** Pakistan Confirms its First Case of Mpox. Al Jazeera. Published April 26, 2023. <https://www.aljazeera.com/news/2023/4/26/pakistan-confirms-its-first-case-of-mpox>.
6. **Bhatti MW.** Pakistan's Top Health Body Issues Monkeypox Alert. Geo News. Published May 24, 2022. <https://www.geo.tv/latest/418482-national-institute-of-health-issues-alert-regarding-monkeypox>.
7. **Junaidi I,** Afp. NCOC Issues Advisory as First Suspected Mpox Case Quarantined. Published August 15, 2024. *DAWN.COM.* <https://www.dawn.com/news/1852458>.
8. **Jazeera A.** Pakistan Says One Case of Mpox Virus Detected, European Agency Raises Alert. Al Jazeera. Published August 17, 2024. <https://www.aljazeera.com/news/2024/8/16/pakistan-says-at-least-one-case-of-mpox-virus-detected>.
9. **Dawn-ePaper | Aug 17, 2024 | Surveillance Ramped Up After First Mpox Case Confirmed.** Published August 17, 2024. <https://www.dawn.com/news/1852798#:~:text=ISLAMABAD%3A%20After%20the%20confirmation%20of%20the%20first%20mpox,airports%2C%20to%20prevent%20the%20spread%20of%20the%20virus>.
10. **Harapan H, Ophinni Y, Megawati D,** et al. Monkeypox: a comprehensive review. *Viruses.* 2022;**14**(10):2155. doi:10.3390/v14102155