Health Dynamics
eISSN: 3006-5518
Publisher: Knowledge Dynamics
DOI: https://doi.org/10.33846/hd10903

Editorial

Understanding the Recent Mpox Outbreak: Are we Prepared?

Abdullah Al Mamun[1,*], Rafif Naufi Waskitha Hapsari[2] and Heru Santoso Wahito Nugroho[2]

[1]Editor-in-Chief, Health Dynamics
[2]Editor, Health Dynamics

Article history
Received: 25 August 2024
Revised: 14 September 2024
Accepted: 15 September 2024
Published Online: 30 September 2024

***Correspondence:**
Abdullah Al Mamun
Address: Health Dynamics.
Email: aamfst@gmail.com

How to cite this article: Mamun AA, Hapsari RNW, Nugroho HSW. Understanding the Recent Mpox Outbreak: Are we Prepared? Health Dynamics, 2024, 1(9), 330-331. https://doi.org/10.33846/hd10903

Mpox, formerly known as monkeypox or MPXV, is a virus and causative agent for zoonotic diseases. Currently global community is facing a challenge with the resurgence and mutation of MPXV, which is an Orthopoxvirus.(1) As the world continue to recover from destroying Covid-19 pandemic, the appearance of another viral outbreak emphasizes the need for preparedness and public health response.

Mpox, which also includes variola virus (the causative agent of smallpox), has persisted in certain regions, primarily in Central and West Africa. The disease was first identified in 1958 in monkeys kept for research, which led to its name. However, it is important to note that monkeys are not the primary reservoir of the virus; rodents are believed to play a more significant role in its transmission. Human cases of mpox were first reported in the Democratic Republic of Congo (DRC) in 1970, and since then, the virus has been recognized as an endemic threat in several African countries. The symptoms of mpox in humans resemble those of smallpox, although they are generally milder. These include fever, headache, muscle aches, and a characteristic rash that progresses from macules to papules, vesicles, and pustules before crusting over. The case fatality rate of mpox has varied, with more severe outcomes observed in immunocompromised individuals and in regions where access to medical care is limited.(2)

In the past year, mpox has transcended its traditional geographic boundaries, leading to a significant increase in cases across several continents. This global spread is concerning for several reasons. First, it highlights the potential for zoonotic diseases to emerge and cause outbreaks in regions where they were previously unknown. Second, it underscores the importance of global health surveillance and the need for a coordinated international response to contain outbreaks before they become pandemics. The recent outbreak has seen cases reported in multiple countries, including the United States, the United Kingdom, Spain, Portugal, and Canada, among others.(2,3) The global nature of this outbreak raises questions about the factors driving the spread of mpox. Increased international travel, environmental changes, and the potential for human-to-human transmission are all contributing factors that warrant further investigation.

The mpox outbreak serves as reminder of the ongoing challenges posed by emerging infectious diseases. Public health systems must remain cautious and prepared to respond to such threats. The COVID-19 pandemic has shown us that early detection, rapid response, and transparent communication are critical to controlling the spread of

infectious diseases. For mpox, this means strengthening surveillance systems, particularly in regions where the virus is endemic, to detect cases early and prevent further spread. It also requires increased public awareness and education about the disease, especially in areas that may be at higher risk of outbreaks. Health authorities must ensure that healthcare workers are adequately trained to recognize and manage mpox cases, and that diagnostic tools and treatments are readily available.

Vaccination has historically played a crucial role in controlling poxvirus infections, as evidenced by the successful eradication of smallpox. The smallpox vaccine is known to provide some cross-protection against mpox, and in light of the recent outbreak, there has been renewed interest in utilizing existing vaccine stocks to curb the spread of the disease. However, vaccination alone is not a panacea. Public health strategies must also focus on identifying and isolating cases, tracing contacts, and implementing appropriate infection control measures. In addition, more research is needed to develop specific vaccines and antiviral treatments for mpox, particularly as the virus continues to evolve and adapt.

The recent mpox outbreak is a clear example of the complex interplay between human health, animal health, and the environment. It serves as a reminder that our world is interconnected, and that the health of one species can have profound implications for the health of others. To effectively combat mpox and other emerging infectious diseases, the global community must come together in a spirit of cooperation and solidarity. This includes sharing information, resources, and expertise across borders to ensure a rapid and effective response to outbreaks. It also means investing in research, strengthening healthcare systems, and addressing the environmental drivers of disease emergence.

Funding Information

No funds received for this study.

Conflict of Interest

The authors declare no conflict of interest.

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