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Monkeypox reported in India – South East Asia Region: Health and economic challenges

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South-East Asia (SEA) consists of multiple countries that differ in their economic, social, and health status. There is an urgent need for modernization of the existing infrastructure and diagnostic facilities. With the constant increase in the population of these countries, there is a huge pressure on the already exhausted healthcare system in the form of reduced healthcare workers' (HCWs) efficiency, lack of funding directed towards healthcare advancement, and the re-emergence of communicable diseases.¹

India witnessed a similar situation during the COVID-19 outbreak when the whole health system was severely affected with a substantial negative impact on HCWs' mental health. The country was on lockdown and health facilities were overfilled with COVID-19 patients. Simultaneously, non-COVID patients could not access regular healthcare services. As the COVID-19 pandemic unraveled the exhausted healthcare system, an urgent need for improvement became evident. Additionally, we are currently witnessing multi-country outbreaks of Monkeypox (MPXV) and Marburg viruses.

MPXV, a double-stranded DNA virus, is a member of the Orthopoxvirus genus and Poxviridae family that is closely related to the variola virus responsible for smallpox. In 1958, MPXV was found in monkeys. In 1970, the first human case was reported in the Democratic Republic of Congo (DPR).² Since then, monkeypox (MPX) was restricted to Central and West African countries until 2003 when a major outbreak was seen in the United States (US) following the importation of animals.³ Over the past two decades, sporadic cases have been identified in Europe, North America, and the Middle East, mostly related to travelers of endemic regions.

In January 2022, emergent MPX cases were confined mostly to DPR and Nigeria. In May 2022, a multi-country outbreak of MPX was identified in several continents (primarily in Africa and Europe). As of July 23, 2022, a 16538 confirmed MPX cases were reported in over 70 countries, of which 3 deaths were reported (2 in Central African Republic and 1 in Nigeria).⁴ The burden of the disease is highest in the European region, accounting for approximately 80% of all cases.

On July 14, 2022, India reported the first case of MPX from the SEA region.⁵ Four days later, the second case was reported from the same state (Kerala).⁶ Lately, on July 22nd, the third case was also reported from the Mallapuram district, Kerala.⁷ All three cases were males who travelled from United Arab Emirates (UAE) and were immediately isolated and hospitalized. Subsequently, their family members, other primary contacts and co-passengers were isolated and advised to observe any symptoms. Afterward, the State Health Minister employed a multidisciplinary team to mitigate further spread. Now, contact tracing is being carried out along with strict implementation of appropriate prevention and control measures to limit further spread of MPX. Fourth case of MPX has been reported from the capital city, New Delhi without any international travel history.

According to available data, the most frequently visited countries from this state are UAE (40%), Saudi Arabia (9%), Qatar (8%), Oman (8%), Kuwait (5%) and Bahrain (4%).⁸ In order to curb the spread of MPXV, appropriate restrictions on air travel along with appropriate screening at all international airports should be implemented to document the entry of imported cases. Given its great proximity to Nepal, Sir Lanka, Bhutan, Bangladesh, Myanmar and China, the spread of MPX in India might magnify the burden of the disease worldwide since they constitute 36% of the world's population. The influx of tourist to this south east region will decrease and it will impact the economy of this region. It is very bad news for the country like Sir Lanka which has already declared as bankrupt.

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On 23rd July 2022, the WHO declared MPX a public health emergency of international concern.⁹ Although animal reservoir is not yet defined, there is a growing apprehension that MPXV may try to find an animal reservoir outside Africa to spread more easily to humans. This necessitates the close cooperation between different specialties (particularly veterinary and public health specialists) working on a “One Health perspective” to protect animals from being a reservoir of MPXV to limit its spread to SEA and Europe.¹⁰ MPXV has a high mutation rate, resulting in high adaptability, infection of new hosts, creating new virulence factors, bypassing human immune systems, and/or accelerating transmissibility.

This is an alarming matter that warrants further investigations and necessitates to adopt appropriate policy by public health authorities. The implementation and adherence to screening and quarantine policies can help in the early detection and treatment. Contact tracing, quarantine, and ring vaccination for close contacts can aid in breaking the transmission cycle. An increase in resources directed towards public health policy can help develop public interest and increase awareness about the impact of MPX on the general public's health. Finally, the WHO, CDC, and other designated health authorities should join forces to properly contain this potential pandemic.

Contributors

RS design and write the draft, AM, AS, PS, AA, NZA and KD review the literature and edit the manuscript. All authors read and agreed for the final manuscript.

Data sharing statement

All data are included in the above manuscript.

Declaration of interests

Authors declare no conflicts of interest.

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