Iran J Public Health, Vol. 54, No.7, Jul 2025, pp.1555-1557

Letter to the Editor

Rapid Risk Assessment of Mpox Importation and Spread in Armenia

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(Received 07 Mar 2025; accepted 21 Mar 2025)

Dear Editor-in-Chief

Mpox (previously called monkeypox) is a re-emerging zoonotic disease caused by monkeypox virus (MPXV), an enveloped, double-stranded deoxyribonucleic acid (DNA) virus from the *Orthopoxvirus* genus of the Poxviridae family. The first human case was identified in 1970 in the Democratic Republic of the Congo (DRC) (1, 2). According to the Centers for Disease Control and Prevention (CDC), mpox specimens should be handled in Biosafety Level 2 facilities (3). The disease typically spreads through close contact with an infected person's lesions, respiratory droplets, or contaminated materials such as bedding (1).

On August 14, 2024, the World Health Organization (WHO) declared the mpox outbreak in the Democratic Republic of the Congo (DRC) and other African countries a public health emergency of international concern (PHEIC) under the International Health Regulations (IHR) of 2005. This is the second mpox PHEIC decision in two years, following its announcement in July 2022 (4). On August 16, 2024, the European Centre for Disease Prevention and Control (ECDC) evaluated the risk to the general European Union (EU) or the European Economic Area (EEA) population as low (5). According to the WHO, as of August 2022, Georgia reported two confirmed cases and Iran had one. As of January 2024, the Russian Federation reported four confirmed cases. No case of the mpox was recorded in Armenia. However, seven suspected cases were reported in 2022, and two suspected cases were reported in 2023, with negative test results (6).

According to the data from the Statistical Committee of Republic of Armenia, the geographical distribution of tourists visiting Armenia from the African region distributed as follows: Democratic Republic of the Congo, 5 people in 2022, 13 people in 2023; South Africa, 472 people in 2022, 1939 people in 2023; Nigeria, 59 people in 2022, 87 people in 2023; Kenya, 17 people in 2022, 28 people in 2023; Uganda, 12 people in 2022, 12 people in 2023; Rwanda, 11 people in 2022, 4 people in 2023; Burundi, 4 people in 2022, 3 people in 2023; Côte d'Ivoire, 8 people in 2022, 17 people in 2023 (7).

The ECDC rapid risk assessment methodology with separate algorithms for evaluating probability and impact was implemented (Fig. 1) (8). Two risk questions determined: what is the probability of mpox being introduced into Armenia, and what would be the impact of further spread within the Armenian general population?

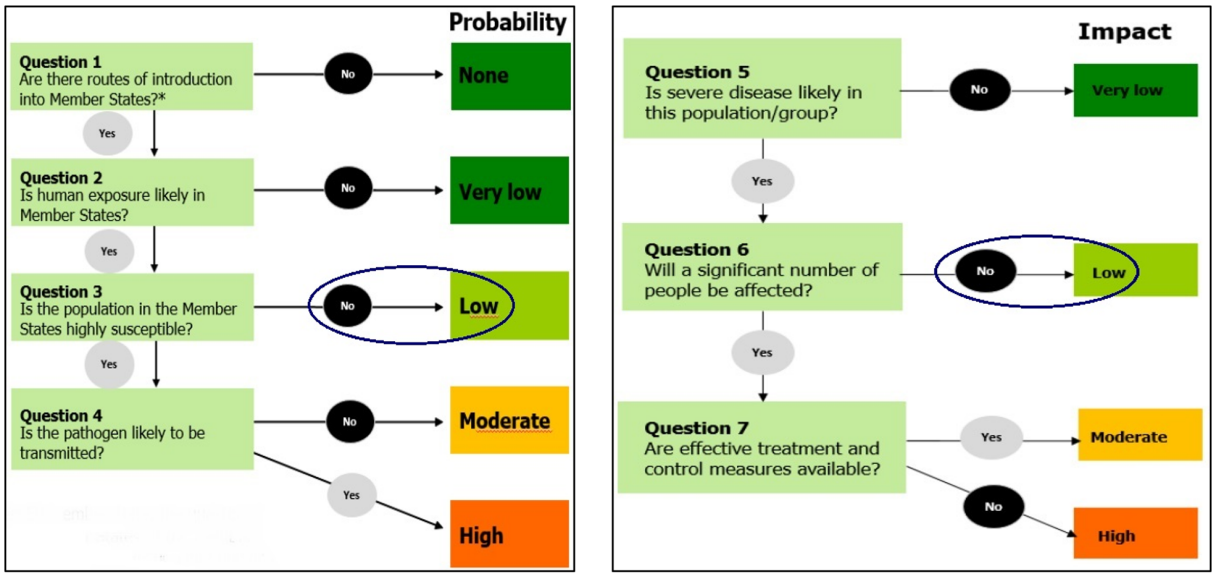

Fig. 1: Probability of disease transmission and impact of disease in population

As of October 10, 2024, based on available information, the probability of mpox infection occurrence is assessed as low, and its impact on the population is considered to be low. Therefore, the overall risk of mpox importation and spread within the general population in Armenia is assessed as low (Fig. 2) (8).

Probability / Impact	Very low	Low	Moderate	High
Very low	Very low risk	Low risk	Low risk	Moderate risk
Low	Low risk	Low risk	Moderate risk	Moderate risk
Moderate	Low risk	Moderate risk	Moderate risk	High risk
High	Moderate risk	Moderate risk	High risk	High risk
Very high	Moderate risk	High risk	High risk	Very high risk

Fig. 2: Risk-ranking matrix

Continuous evaluation and appropriate interventions are crucial for preventing and controlling potential outbreak (1, 3, 9). The recommended public health interventions include:

- Surveillance system: Strengthen surveillance system by developing reporting regulations that includes case definition as well as laboratory diagnosis. Protocols (diagnostic, isolation/quarantine, and contact tracing) are essential to prevent widespread transmission. Ensure cross-border symptoms screening of travelers from endemic areas with active mpox transmission.
- Coordination and collaboration: Establish multi-sectoral coordination mechanisms involving government agencies, healthcare providers, international organizations, and other stakeholders to ensure coordinated and effective response.

- Emergency Response Plan: Develop a comprehensive emergency response plan outlining role, activation criteria, international reporting (e.g., WHO IHR) and response protocols for managing the outbreak. Ensure rapid response teams are prepared to conduct contact tracing, quarantine, and vaccination if needed.
- Awareness campaigns: Establish risk communication strategy including healthcare workers (HCWs), the media and public. Raise awareness among HCWs and provide timely, accurate information to the public and stakeholders, addressing misinformation promptly to maintain trust and confidence. Launch extensive public awareness campaigns through various communication channels to educate people about symptoms, transmission routes, and preventive measures.
- HCWs training: Train HCWs to identify and manage mpox cases, to implement effective infection prevention and control (IPC) measures within healthcare settings.
- Resource mobilization: Allocate sufficient hospital resources, including funding and logistical support.
- Treatment and vaccine access: Ensure availability of supportive treatment and equitable access to vaccines.

Conflict of Interest

Non-declared.

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