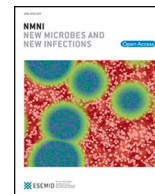


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Letter to the Editor

Unveiling the first case of Mpox in Jordan 2024: A Look at the national preparedness and response measures

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Dear Editor,

Mpox, formerly known as monkeypox, is a vesiculopustular viral zoonotic disease which is attributed to Mpox virus (MPXV), a double-stranded DNA virus. This viral infection results in a smallpox-like disease. MPXV belongs to the genus of Orthopoxviruses which also includes Variola virus (smallpox), Cowpox virus, and Vaccinia virus [1]. The presence of Mpox in human populations has been acknowledged for the first time in 1970, and the disease is considered endemic in Central and West Africa. The global outbreak of Mpox that occurred in 2022 marked a turning point in the history of MPXV, bringing it to the forefront of global public health concerns.

Upon the resurgence of Mpox in the Democratic Republic of Congo (DRC), Africa CDC issued a statement indicating a public health emergency as a result of the escalating transmission of Mpox throughout many countries in Africa. The WHO reported that the DRC had 90% of the global Mpox cases in 2024, and Africa CDC reported more than 22,863 suspected cases and 622 deaths in Africa by the end of August 2024. This resurgence of Mpox in Africa, along with the sporadic outbreaks in Asia and Europe signals the need for continued vigilance and international coordination [2]. In response, the WHO officially re-declared Mpox as a Public Health Emergency of International Concern (PHEIC) in mid-August 2024. The current epidemic situation of Mpox requires synchronized international actions to halt its further transmission and safeguard the global public health.

Jordan, a middle-income country in the Eastern Mediterranean region (EMR) is, similar to other countries, susceptible to the possible spread of Mpox, despite being geographically distant from the main source of Mpox in Africa. Jordan is at considerable risk because of its geographical location in the EMR, being a travel hub for many international traffic from Africa. In addition, Jordan is a host for labor migrants from many African countries. Nevertheless, labor migrants in Jordan are required to undergo and pass a clinical, laboratory, and radiological screening upon arrival (e.g., STDs screening and TB screening) [3]. Furthermore, Jordan's proximity to global travel centers significantly increases the probability of Mpox being imported.

Although direct flights from Africa to Jordan are few, well-established transit hubs like Egypt, UAE and Qatar act as crucial channels for travelers from areas afflicted by Mpox. Furthermore, the presence of maritime links between Jordan and Egypt may potentially enable the spread of Mpox through the cross-country movement of labor migrants via the Red Sea.

On September 2, 2024, Jordan confirmed its first Mpox case in a 33-year-old non-Jordanian resident currently receiving treatment in isolation at a governmental hospital in Amman. The patient has been reported to be in stable condition. This incident marks the second confirmed Mpox case in Jordan, following the first case which was reported on September 8, 2022, involving a citizen who had come from a visit to Europe. The aforementioned cases underscored Jordan's susceptibility to the disease and the imperative for heightened public health measures to mitigate the risk of Mpox outbreak in the country.

The Jordanian Ministry of Health (JMoH), in partnership with the National Center for Security and Crisis Management (NCSCM), promptly took actions by segregating the case, and carrying out contact tracing. Within Jordan's national Mpox preparedness and response plan, the Jordan Center for Disease Control (JCDC) together with the JMoH and the NCSCM alongside all national key stakeholders have devised a thorough national Mpox preparedness and response plan to effectively handle potential Mpox cases and proactively avoid outbreaks. This plan includes case definitions, various transmission scenarios and prioritizes containment measures, such as intensified surveillance at points of entries, prompt diagnostic testing, and the isolation of confirmed cases. Furthermore, the plan incorporates Mpox surveillance into the wider national communicable disease surveillance system, namely, Jordan Integrated Electronic Reporting System (JIERS), therefore guaranteeing prompt identification and reporting of new cases by healthcare authorities at all levels.

The national Mpox plan has been revised in response to the changing worldwide knowledge and transmission of Mpox, namely on emerging viral clades, their transmission patterns, and virulence. The public health authorities in Jordan persist in updating protocols in accordance with worldwide standards, including those established by the WHO, US

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CDC, Africa CDC, and European CDC. These revisions incorporate updated case definitions and vaccination tactics proposed by the international best practice giving priority to high-risk populations like healthcare workers and those in close proximity to infected persons [4, 5]. Although Mpox vaccines are currently not available in the country, Jordan is enhancing its surveillance for early detection of Mpox cases, along with capacity building of healthcare professionals on proper identification of cases. Additionally, public health campaigns that focus on awareness and prevention strategies are actively conducted utilizing various types of media. These public awareness initiatives play a crucial role in Jordan's response plan. The initiatives prioritize the dissemination of knowledge to the public regarding the transmission mechanisms, symptoms, and preventive measures of Mpox.

Jordanian authorities are recommended to sustain their stringent surveillance at points of entries, ensuring that all travelers especially those coming from Mpox-affected countries are thoroughly screened, along with expanding testing capabilities aiming at early disease detection and management. Also, clinical screening for Mpox among labor migrants coming from Africa should be taken into consideration. Furthermore, public health awareness campaigns must remain active encouraging early reporting of symptoms to prevent the risks of widespread transmission. Ultimately, Jordan's proactive plan and response to the risk of Mpox outbreak, which includes updating its national preparedness and response plan and increasing public awareness, displays its dedication to adopting worldwide best practices and protecting the public health.

CRedit authorship contribution statement

Dalia Zayed: Conceptualization, Data curation, Writing – original draft, Writing – review & editing. **Salam Momani:** Writing – original draft, Writing – review & editing. **Mus'ab Banat:** Writing – original draft, Writing – review & editing. **Ala'a B. Al-Tammemi:** Conceptualization, Supervision, Validation, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence

the work reported in this paper.

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