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Editorial

Mpox outbreak in South Africa: A wake-up call for strengthening preparedness and response

The recent outbreak of mpox (monkeypox) in South Africa has raised concerns about the ability to effectively manage and contain the spread of this emerging infectious disease. With 20 confirmed cases reported between May and July 2024, including three deaths, the country is facing a significant public health challenge that requires immediate and coordinated action [1]. The high case fatality rate (CFR) of 15 %, which is much higher than the global average of 0.2 % during the ongoing multi-country outbreak, is one of the most concerning aspects of this outbreak. Very low case fatality rates were observed in many of the reported Mpox cases outside of Africa [2,3] This is mostly explained by the fact that immunocompromised persons—especially those with uncontrolled HIV infection—make up the majority of cases that have been identified in South Africa. Men who have sex with men (MSM) are particularly vulnerable to the high prevalence of HIV in the nation, which increases their risk of developing serious illnesses and death from mpox. Studies show that Monkeypox virus (MPXV) primarily affects young homosexual men, with high viral loads in skin and anal lesions, suggesting transmission through close body contact [4]. In a multicenter study, 95.3 % of 647 cases were homosexual-bisexual [5]. Additionally, individuals with confirmed mpox displayed an early expansion of activated effector $CD4^+$ and $CD8^+$ T cells, with a pox-specific Th1 cell response observed in almost all patients, regardless of HIV status [6]. MSM and the general population had different antibody responses to vaccines against mpox; those born after 1981 had higher levels of neutralizing antibodies against vaccines, suggesting that biological factors may have played a role in the outbreak's spread [7].

Containing the outbreak has proven difficult due to the possibility of pauci-symptomatic manifestations of the disease and the lack of early clinical recognition of mpox. As several studies have pointed out, pauci-symptomatic manifestations of mpox encompass a variety of mild symptoms with low prevalence rates. The gastrointestinal symptoms such as nausea or vomiting (13.0 %), conjunctivitis (7.1 %), and respiratory symptoms (19.5 %) are some examples of these manifestations [8]. However, neurological complications have been identified, with headaches being one of the most common symptoms (34.6 %) [8]. Even though these pauci-symptomatic manifestations are generally mild, it is important to recognize and diagnose them as soon as possible in order to receive adequate care and to avoid any complications. This is especially important when there is neurological involvement or gastrointestinal symptoms [9,10]. An understanding of less well-known presentations is crucial for medical practitioners to offer complete care to patients with mpox. The lack of early clinical recognition of mpox, which may have contributed to delayed care-seeking and the possibility of further transmission, is one of the main obstacles in combating this outbreak. Due to the lack of prior experience with mpox in South Africa and the potential for pauci-symptomatic presentations, prompt case identification and isolation have probably been hampered. This emphasizes how vital it is to fortify surveillance, enhance diagnostic capacities, and raise public and healthcare worker awareness and knowledge levels.

The fact that a large number of the first cases were not epidemiologically connected implies that community transmission has been ongoing on for some time without being noticed and that the number of infections in the nation that have been identified to date is actually a fraction of the total number. In the multi-country outbreak of mpox, there had been a disparity in the transmission of MPXV with an average reproduction number of 0.82 (95 % CI 0.76–0.88) and 0.62 (95 % CI 0.44–0.84) during December 2022, in the Americas and Europe respectively [11]. The occurrence of mpox cases in South Africa indicates the ongoing global mpox outbreak linked to clade IIb MPXV, and the risk of international spread [1,12].

To effectively address this outbreak, South Africa must take a multi-pronged approach that includes strengthening surveillance, improving laboratory capacity, enhancing case management, and implementing targeted risk communication and community engagement strategies [13,14]. The high-risk groups, which include MSM, sex workers, and people living with HIV, require special attention. These populations are more likely to become infected with the virus and also have a higher chance of experiencing serious side effects. In order to address the specific needs and vulnerabilities of these populations, targeted risk communication, community engagement, and the implementation of customized prevention and treatment strategies will be essential.

Moreover, there is a concern about the possibility of the virus spreading throughout South Africa and surrounding countries. The possibility of the outbreak spreading further is increased by the lack of immunity in the population conferred by prior smallpox vaccinations, the high prevalence of HIV, and the possibility of ongoing and unrecognized community transmission. There must also be prioritization for the procurement and distribution of mpox vaccines and ensuring that high-risk populations, such as MSM and people living with HIV, have access to these critical preventive measures. Moreover, the outbreak in South Africa highlights the need for a more robust and coordinated global response to emerging infectious diseases. The risk of cross-border and international spread remains high, and countries must work together to share information, resources, and best practices in order to effectively combat these threats.

In conclusion, the mpox outbreak in South Africa is a wake-up call for the country and the global community. It is a stark reminder of the need to invest in public health infrastructure, strengthen disease surveillance and response systems, and prioritize the health and well-being of vulnerable populations. By working together and taking decisive action,

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we can overcome this challenge and build a more resilient and equitable health system for all.

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