



Short Communication

Monkeypox outbreak amidst COVID-19 reemergence in the European Region: Challenges, efforts, and recommendations

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ABSTRACT

Monkeypox (MPX), caused by the Monkeypox virus (MPXV), is an endemic disease in African countries and is currently causing outbreaks in several European regions, amidst a recent surge in new COVID-19 cases. This can significantly impact already exhausted healthcare services, adding on to the economic and social burdens in the region. A lack of sufficient laboratory diagnostics, antivirals, vaccines may hinder effective clinical management of affected patients. Therefore, it is essential to increase awareness about MPX and its transmission among the general population, to ensure necessary precautions are taken and new cases are reported swiftly. This article discusses the impact of MPXV on the current reemergence of COVID-19 in Europe, lessons learnt during the COVID-19 pandemic and recommendations to address potential challenges.

1. Introduction

Human monkey pox (MPX) disease is a zoonotic disease caused by the Monkeypox virus (MPXV) [1]. MPX has presentations similar to that of smallpox, and was first isolated in humans from a suspected patient of smallpox in 1970 [2]. There are two clades of MPXV: West Africa and Congo Basin - Congo Basin being the cause of more serious illnesses [3]. MPX is self-limiting with symptoms lasting for 2–4 weeks, a case fatality ratio of 3–6% [4]. The virus spreads through oral and nasopharyngeal fluid exchanges, or by intradermal injections, replicates rapidly at the inoculation sites, eventually spreading to adjacent lymph nodes. The disease initially presents with generalized symptoms such as fever, chills, muscle ache, headache and fatigue, followed by a rash in the mouth and on the body [5].

The end of the global vaccination program against smallpox, which was also effective against other pox viruses, resulted in an increased frequency of MPX infections since 1970s [6]. In Central and West African countries, MPX is an endemic [3]. The increase in the number of MPX cases spreading through multiple countries outside Africa is a major cause of concern [7,8]. A MPX outbreak was confirmed in the UK on May 6th, 2022 – the first reported case being associated with a travel history to Nigeria [9].

Multiple unprecedented MPX outbreaks have now emerged in Europe and the US, indicating the risk of MPX turning into a global

emergency. According to the WHO's European Director, Dr. Hans Kluge, Europe is at the epicenter of a rapidly expanding MPX outbreak, with 25 European countries reporting more than 1500 cases (85% of the global total) [10]. The number of MPX cases has increased drastically - from just a handful of cases in early May within Europe to more than 18,000 cases reported across several countries by late July [6]. As of July 28, 2022, 11,001 confirmed cases of MPX have been reported from 27 EU/EEA countries since the beginning of the current MPX outbreak [11]. A simultaneous rise in new COVID-19 cases has been reported in the European Region over the past 6 weeks, with an expected steeper increase during autumn and winter [12]. In account of this, WHO has cautioned that the current status of global affairs, including a new COVID-19 wave, can result in a formidable infectious disease challenge worldwide [5].

Since some of the COVID-19 control measures may contribute in slowing the spread of MPXV, by limiting physical contact [13], easing restrictions in Europe after the pandemic increases the probability of a rise in MPX cases. Taking into consideration the potential two-fold threat of a MPX outbreak alongside the COVID-19 reemergence in Europe, this article discusses the challenges faced by Europe and recommendations to curb the MPX outbreak amidst the COVID-19 pandemic.

Abbreviations: MPX, Monkey pox; MPXV, Monkey pox virus; HCW, Healthcare workers.

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2. Impact of MPX outbreak amidst the response to COVID-19

With the increasing COVID-19 cases, the Omicron sub-variant BA.5 is quickly becoming the dominant virus across many countries in Europe; other sub-lineages are likely to emerge over the next few months [14]. Failure to contain the spread of this variant can negatively impact the healthcare conditions in the region; issues such as depletion of health care resources and reduced healthcare access may follow. Moreover, an additional infectious disease outbreak will further add to the financial and social burden during an already worsening pandemic.

Owing to the majority of laboratory-confirmed cases of MPX being reported from the WHO European Region [15], there is an increased risk of a resultant lack of availability of laboratory diagnostics, antivirals, vaccines, and clinical management of patients in the region. Additionally, this may also cause shortages of ICU beds, mechanical ventilators, and skilled nursing staff – a situation much similar to the one faced previously by European countries during the COVID-19 pandemic [16].

MPX outbreaks were previously rarely reported and not managed as efficiently by the healthcare system due to inadequate knowledge and awareness of the clinical presentation of the disease. This has led to limited importance being given to the prevention of spread of the disease so far and hence, increases the possibility of it turning into an epidemic [17]. In the case of a growing outbreak, additional resources to isolate infectious cases, trace contacts, prepare health facilities, and impose quarantine would have a major impact on the region's economy. Therefore, there is a pressing need to stop the spread of MPX, especially amidst the new surge of COVID-19, as the pandemic has already burdened the socioeconomic and healthcare aspects of European countries [18].

The initial presentation of MPX is very similar to that of COVID-19 [19] which may result in late diagnosis and improper disease management, if affected individuals are not screened and tested efficiently. Moreover, a MPX coinfection with COVID-19 could cause difficulties in disease management, and may ultimately lead to increased mortality. With COVID-19 restrictions being lifted in Europe, lack of social distancing and increased travel to countries where MPX is endemic may aid in the spread of MPX disease [20]. Therefore, many of the COVID-19 standard operating procedures (SOPs) such as physical distancing, frequent handwashing and avoiding non-essential travel may be beneficial in controlling the spread of MPX [15].

3. Lessons learned from COVID-19 and their effect on the management of the MPX outbreak

The strategies developed to counter the spread of COVID-19 can also be utilized to limit the growth of the MPX outbreak. Vaccinations, coupled with non-pharmacological interventions (NPIs), contributed to slowing the rate of transmission of the virus in the battle against COVID-19. Since person-to-person transmission of MPXV occurs when there is close contact with sores, scabs, respiratory droplets or oral fluids of an infected person [21], NPIs which were adopted to prevent the spread of COVID-19 (for example, social distancing, hand hygiene protocols and usage of face masks) may also be effective in the fight against MPX.

The COVID-19 pandemic has also made clear how crucial it is to understand the importance of provision of primary healthcare services during an outbreak, while also highlighting the need for professional and psychological support for healthcare workers (HCW), to help them cope with the stress of working during a pandemic. It is equally imperative to utilize the experiences gained during the pandemic into training and teaching of health professionals [22].

4. Challenges and priorities for MPX response amid the COVID-19 pandemic

The major challenges and priorities in the management of monkey pox amid the resurgence of COVID-19 cases are highlighted in this

section. These rising challenges require immediate attention and synchronized efforts by the concerned authorities and the healthcare system, in order to be mitigated swiftly and effected.

4.1. An overburdened healthcare system

The COVID-19 pandemic has exhausted healthcare facilities globally due to the unrelenting crisis since 2020. Increased workload, hospitalizations and a rapidly rising death rate have majorly affected the physical and psychological wellbeing of medical personnel. Considering the current situation, the European nations are yet again at the center of a new wave, likely to increase further with the onset of colder weather [23]. According to WHO, the European Region has seen a three-fold increase in new COVID-19 cases over the past 6 weeks, with around 3 million new cases reported last week - accounting for nearly 50% of all new cases worldwide [12]. With the emergence of new COVID-19 cases, there could be a resultant decrease in resources to spare for the diagnosis and management of MPX. MPX spread is now gaining pace in the European region as countries continue to report new cases, potentially adding to the burden on the European healthcare system [24]. Therefore, due to this concurrent rise in both COVID-19 and MPX cases in Europe, healthcare facilities can be further depleted by the surge in intensive workload.

4.2. MPX and COVID-19 testing

Vaccinations have made COVID-19 less deadly, but the rapidly increasing cases result in the consumption of resources including available testing services [23]. Furthermore, the varying symptoms of MPX highlight the need for people to get tested quickly as undiagnosed patients may neglect necessary preventative measures, leading to rise in morbidity rate [15], and underreporting. A new outbreak may negatively affect the medical infrastructure as less attention is directed towards other health conditions. The emergence of MPX can also lead to an increased risk of COVID-19 co-infections, and in turn may lead to an increased risk of mortality. It may be useful to assign COVID-19 and MPX referral laboratories and to allocate separate financial resources with medical equipment per region [24].

4.3. Misinformation

Misinformation regarding healthcare concerns creates dread and anxiety among the general public and even distrust towards health facilities. Previously, the outbreak of COVID-19 triggered a flood of misinformation online and several controversies regarding vaccine administration [25]. The exposure of the western world to MPX has increased the spread of inaccurate information, including claims that the disease itself is a side effect of the COVID-19 vaccine [26]. It is therefore critical to create widespread awareness about MPX disease presentation, transmission and management. Additionally, disseminated information should be verified with credible sources such as WHO.

4.4. Vaccination

Vaccines are necessary to build immunity against both COVID-19 and MPX. WHO has urged countries to relaunch mitigation efforts and be prepared to overcome possible financial challenges [12]. WHO also emphasizes the need to take steps to lower exposure risks to lessen the burden on the healthcare system [12]. Vaccination and booster doses have shown tremendous results as a decrease in hospitalization rate was observed in COVID-19 cases. In the case of MPX, the EU has approved the Imvanex vaccine. However, it is not a silver bullet, and still requires surveillance, diagnostics, investigations, and contact tracing to control the outbreak [27].

5. Recommendations

In order to manage the aforementioned challenges and priorities, the following recommendations should be implemented:

1. Along with the contact tracing, screening, and identification of MPX disease, the health authorities should continue COVID-19 surveillance and monitoring of the virus' evolution in order to curb the rise in recent COVID-19 and MPX cases.
2. Appropriate guidelines and SOPs should be reinforced such as restriction of large-scale gatherings and travel to MPX-endemic countries to reduce the risk of potential exposure to the virus.
3. Authorities should ensure adequate vaccine supply, and prevent stockpiling of vaccines (as observed in the COVID-19 pandemic).
4. Hospitals should be equipped with adequate facilities, financial resources, and medical personnel to treat and isolate affected individuals.
5. Research units dedicated to conducting epidemiological analysis and finding a long-term solution for the spread of both COVID-19 and MPX should be developed.
6. Psychosocial interventions must be established for overwhelmed health personnel to reduce staff absenteeism and stress in the health workforce.

Additionally, updated outbreak guidelines and health management plans must be devised to manage MPX alongside COVID-19, especially for those living in affected areas. Awareness campaigns urging people to comply with the quarantine measures and personal health guidelines should also be conducted. Countries must adhere to the principles of equity, to support member states.

6. Conclusion

The already overwhelmed economy and health care system in Europe will be further exhausted due to an additional infectious disease outbreak. Appropriate measures should be taken to avoid the two-fold burden of the MPX virus and COVID-19 in the upcoming winters. Additionally, Standard Operating Procedures (SOPs) must be followed by the public and the health care system to contain the MPX outbreak and the spread of the BA.5 Omicron variant. The lessons learnt during the COVID-19 pandemic, such as implementation of SOPs and necessary precautions, including isolation, surveillance, and contact tracing, will be of use in combatting the MPX outbreak.

Ethical approval

This study does not involve patient data, hence ethical approval was not required.

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Author contributions

Amna Zaheer: Conception of the study, drafting of the work, final approval, and agreeing to the accuracy of the work.

Tehreem Ali: Conception of the study, drafting of the work, final approval, and agreeing to the accuracy of the work.

Areeba Ashfaq: Conception of the study, drafting of the work, final approval, and agreeing to the accuracy of the work.

Adina Jabeen: Conception of the study, drafting of the work, final approval, and agreeing to the accuracy of the work.

Registration of research studies

This study does not involve human participants.

1. Name of the registry:
2. Unique Identifying number or registration ID:
3. Hyperlink to your specific registration (must be publicly accessible and will be checked):

Guarantor

Adina Jabeen.

Consent

There are no patients or volunteers involved in this study.

Provenance and peer review

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Conflicts of interest

None.

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