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Short Communication

Monkeypox has devastated the world; should we prepare for the outbreak of a new pandemic?

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ABSTRACT

The monkeypox virus, which belongs to the orthopoxy virus family, causes fever, lethargy, headache, lymphadenopathy, myalgia, and rash, as well as various complications such as superimposed infections, sepsis, keratitis, encephalitis, and bronchopneumonia. Following replication at the site of injection, the virus often enters by the oropharynx, nasopharynx, or intradermal pathway, spreading to lymph nodes before viremia, promoting viral dissemination to other organ systems. Monkeypox cases have recently been brought to WHO's notice from 12 presently non-endemic member nations spread over three WHO regions, with 92 laboratory-confirmed cases and 28 cases of suspicion as of May 21, 2022. Monkeypox is presently endemic in the Central African Republic, the Democratic Republic of the Congo, Benin, Cameroon, Gabon, Sierra Leone, and South Sudan. Monkeypox cases have been detected all across the world, posing a challenge to healthcare infrastructure that is still recovering from the COVID-19 outbreak. Close monitoring and exact data collecting, the implementation of successful programs across the world, and public support of preventative measures are some of the strategies being used to cope with the increasing incidence of monkeypox.

1. Introduction

Monkeypox, an illness similar to eradicated smallpox, is caused by an orthopoxvirus called Monkeypoxvirus, which is most commonly found in Central and West Africa as a self-limited disease with symptoms such as fever, lethargy, headache, lymphadenopathy, myalgia, and rash that is more prominent on the face and extremities rather than the trunk, carrying the risk of complications such as superimposed infections, sepsis, keratitis, encephalitis and bronchopneumonia [1]. The first case of monkeypox was discovered in 1958 in captive monkey colonies for scientific reasons, whereas the first human case was discovered in 1970 in the Democratic Republic of the Congo, where it has remained endemic ever since [2]. The viral zoonosis transmits through reservoirs such as African rodents, monkeys, tree squirrels and prairie dogs to humans and also from human to human directly through close contact with skin lesions as well as lesions on internal mucosal surfaces, body fluids and respiratory droplets of the infected individuals or indirectly through contaminated objects while the virus typically enters from oropharynx, nasopharynx or intradermal route following replication at the site of inoculation, spreading to lymph nodes which precede viremia causing viral spread to other organ systems [3].

As the COVID-19 pandemic appears to be nearing its end, fresh instances of monkeypox have been reported throughout the world. Monkeypox cases have been brought to WHO's attention from 12 currently non-endemic member states across three WHO regions since 13 May 2022, with 92 laboratory confirmed cases and 28 cases of suspicion as of 21 May 2022 [4], while no deaths have been associated with the endemic regions, indicating the need for additional public health investigations in non-endemic countries regarding attentive contact tracing and case identifications with timely laboratory investigations,

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effective clinical management, and effective surveillance.

2. The tense situation due to sudden outbreak of monkeypox

The Central African Republic, the Democratic Republic of the Congo, Benin, Cameroon, Gabon, Sierra Leone, and South Sudan are now endemic for Monkeypox, although no travel ties have been discovered between the rising cases and these nations [4,5]. The lack of a relationship between growing cases worldwide and endemic places is peculiar as well as concerning, with instances continuing to climb without any substantial predicted history in infected persons. Because of the lack of appropriate epidemiologic measures that could otherwise be performed, the random pattern of development of cases poses a substantial hazard to public health. In addition, identified instances of monkeypox throughout the world continue to pose a challenge to healthcare infrastructure that is still recuperating from the COVID-19 epidemic. Due to the worldwide COVID-19 pandemic, medical staff, testing capacity, public health surveillance, protective equipment, and resources essential for rapid interventions and emergency reaction in the event of an epidemic have been significantly depleted. In the context of already low resources, the emergence of monkeypox cases may set a pattern for devastation owing to a lack of quick diagnosis and effective treatment, which may result in uncontrolled spread, further depleting already scarce resources. The benefit of immunization against monkeypox, which is identical to eliminated smallpox, appears to be restricted at the moment due to the global ban on smallpox vaccine.

For initial containment of an outbreak before it spreads considerably causing irretrievable damage, timely laboratory diagnoses plays a considerable role in not only gathering important information in terms of incidence and prevalence for ongoing research which could be very important in devising ways for mitigating the spread of infection but also enables the healthcare to manage public health emergencies with precise allocation of resources in areas of demand, which seems to be halted by both serologic cross-reactivity and strikingly similar symptomatology between orthopoxviruses causing it to be a hindrance in diagnosis with specificity [6]. Difficulty in diagnosing, along with testing capacity depletion because to the declining epidemic, is allowing cases to go undiagnosed, increasing the danger of transmission.

3. Implications and consequences

Even though COVID-19 pandemic is now curtailed, the devastating impacts continue to reverberate even after the resolution of immediate crises. According to a meta-analysis, pandemic sufferers continue to have poor quality of life with immunodeficient, oncologic patients and patients with co-morbidities more prone to stress [7–10]. Till now, Long COVID-19 has been referred to occurrence of persistent mild symptoms for up to six months or beyond as dyspnea, fatigue and anosmia while severe complications including lung fibrosis, MI, arterial/venous thrombosis and dermatological issues in COVID-19 recovered individuals [11,12].

In addition, post-pandemic psychological stress caused by the COVID-19 (PAPIST19) has demonstrated symptoms of anxiety and depression in COVID-19 recovered patients as well as healthcare workers causing considerable setback on gross productivity in economical, educational and industrial sectors [13–16]. Together with this, massive use of single-use plastic items and personal protective equipment (PPEs) worldwide has significantly contributed to land and aquatic pollution due to exhaustion of waste management resources [17]. As the world still continues to deal with these demanding aftereffects of pandemic, the currently rising number of monkeypox cases around the globe present as a heavy burden on an already recovering map which poses great threat of damage and debility unprecedented in the history, if left unaddressed.

4. Recommendations and future plans

Alarmingly growing monkeypox cases appear to be a foreshadowing of potential public health disasters that must be considered and planned for as soon as feasible. On the backdrop of a fading pandemic, the following techniques can aid in effective early outbreak control:

1. **Close monitoring and precise data collection** of incidence, transmission, emerging symptomatology and possible complications of monkeypox cases around the world with timely conduction of appropriate and useful surveys in areas of relatively higher case density of both COVID-19 and monkeypox can establish required knowledge needed to provide help in devising plans accordingly for possible future stress.
2. **Introduction of effective programs worldwide for implementation of International Health Regulations (IHR)** presents to be of particular importance in the current threat of crises. While taking into consideration countries of all economic statuses [18] and their disparities in the extent of being affected by the COVID-19 and emerging monkeypox cases, measures in accordance with guidelines of WHO should me made easily accessible and implementable however suggested and required in order to generate an effective code of conduct all around the world ahead of the possible devastation.
3. **Public encouragement of protective measures adopted at individual level around the globe** can be of unparalleled aid before possible spread of disease to the levels of considerable devastation. Studies suggest that opting of physical distancing and wearing self-protective gears including facial masks have been found to carry identified role in not only helping in mitigating the spread of COVID-19 during the pandemic but also in the prevention of future COVID-19 outbreaks [19].
4. **Laying emphases on devising effective emergency plans and prompt response systems both at the national and international levels** can help in generation of structured preparedness for dealing with newly emerging threat. According to studies, countries that had prior experience with COVID-19 like outbreaks and had readiness to some extent, reacted relatively effectively and timely for initial containment of COVID-19 virus [20].
5. **Conduction of categorized global public health surveillance** at schools, occupations, healthcare facilities and according to factors such as age, gender, ethnicity and presence of co-morbidities can help in providing useful knowledge about the prevalence of newly emerging monkeypox cases and their relation with COVID-19 which can prove to be useful in providing a clear view of where the resources should be directed for effective early containment of outbreak.

5. Conclusion

Recently, while the worldwide danger of COVID-19 appears to be waning, the WHO issued a global warning about a rise in the occurrence of the monkeypox virus in various parts of the world. Since May 13, 2022, there have been 92 laboratory-confirmed cases and 28 instances of suspicion as of May 21, 2022, with no deaths related to the endemic locations. The worldwide COVID-19 pandemic has substantially exhausted medical staff, testing capacity, public health surveillance, protective equipment, and resources required for fast interventions and emergency response in the case of an epidemic. As a result of a lack of early identification and efficient treatment, the development of monkeypox cases may create a pattern for devastation, perhaps leading to uncontrolled spread. The alarmingly high number of monkeypox cases appears to be a premonition of potential public health crises, which must be evaluated and planned for as soon as possible. It is high time that various control techniques be proposed to address the continuously growing hazard.

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Registration of research studies

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Consent

NA.

Data availability statement

Not applicable.

Declaration of competing interest

No conflict of interest to be declared.

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