

Uncovering the Mystery of Mpox in Colombia

Lü Jingxia ✉

Zhuji Taozhu Street Community Health Service Center, Zhuji, 311800, China

✉ Corresponding author email: 1768126628@qq.com

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Abstract This review analyzes a recently published research paper titled "Clinical and epidemiological characteristics of mpox: A descriptive cases series in Colombia". This study collected and analyzed data on mpox cases in the Colombian region, providing a detailed description of the patient's medical treatment, clinical symptoms, and epidemiological characteristics. This review first outlines the main content of the study, including the clinical manifestations, epidemiological characteristics, etc. of mpox in the Columbia region. Then, it analyzes the innovation of the study, fills the gap in mpox research in the region, and proposes a series of prevention and control strategies. Finally, this review suggests further research on the etiology, transmission routes, diagnostic methods, etc. of mpox to understand the global distribution and epidemic trends of the disease.

Keywords Mpox; Clinical manifestation; Epidemiological characteristics; Prevention strategy

Mpox is a viral infectious disease that is mainly transmitted through contact with the skin lesions or respiratory secretions of infected individuals (Figure 1). Its clinical manifestations include symptoms such as fever, skin rash, and lymph node enlargement (Bartholomew et al., 2023). Despite being distinct from smallpox, both share similar clinical symptoms, making them easily confused in a clinical setting. The diagnosis of mpox relies on laboratory tests, such as virus isolation and PCR testing.

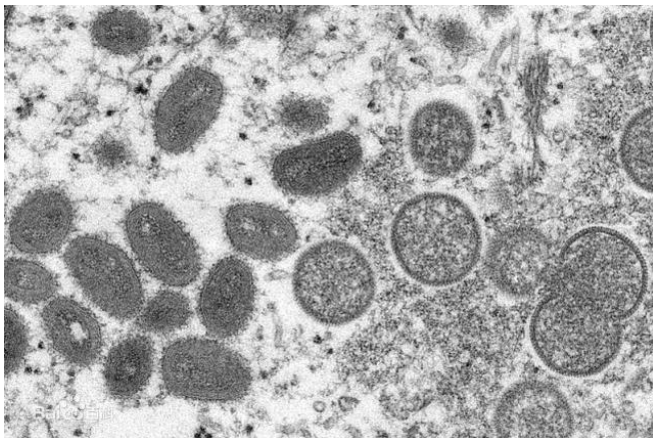


Figure 1 Mpox virus

Although there has been some global researches on mpox, studies specific to the Colombian region are relatively limited. Colombia is a country in South America with different geographical, environmental, and demographic characteristics compared to other regions. Therefore, research on mpox cases in this area holds significant importance. Colombian scholars have published a research paper titled "Clinical and epidemiological characteristics of mpox: A descriptive case series in Colombia", exploring the clinical manifestations and epidemiological characteristics of mpox in the Colombian region. This study aims to provide more comprehensive data on the features and presentation of mpox in the region, offering a scientific basis for the formulation of prevention and control strategies (Álvarez-Moreno et al., 2023).

The results of this study are of significant importance for understanding the characteristics and presentation of mpox cases in the Colombian region. This review will provide a systematic review of the research paper, first outlining the research content, then analyzing the innovative points and contributions of the paper. At the same time, it will also provide its own insights for subsequent research, in order to provide more scientific basis for the formulation of prevention and control strategies and making greater contributions to ensuring public health.

1 Research Content Overview

This study constitutes a descriptive case series regarding the clinical and epidemiological characteristics of mpox within the borders of Colombia. The research aims to understand the disease's transmission patterns in Colombia as well as the clinical manifestations and features of affected patients. The research team collected data from 521 cases of mpox patients and conducted a detailed analysis. The study revealed that the majority of patients were young HIV-positive males. The clinical progression of the disease was predominantly benign, although there were two fatal cases. Some differences were observed between females and males in terms of gender, body mass index, lymph node lesion locations, and HIV infection history.

The study also mentioned the patient's medical treatment status. Most patients initially sought medical care at outpatient facilities, with some seeking treatment in primary healthcare centers and HIV clinics, while others opted for remote medical consultations. A small portion of patients sought medical attention in emergency rooms, and very few were identified as cases during hospitalization.

The study also provides a description of the patients' clinical symptoms (Figure 2). The most common symptoms included fatigue, muscle pain, headache, and sore throat. Additionally, it was observed that some patients experienced lymph node enlargement and skin lesions.



Figure 2 Mpox at different stages

Although the epidemiological curve for mpox in Colombia and globally seems to be decreasing, it may still have the potential to be a regional disease. Therefore, it is essential to closely monitor the spread of this disease and take corresponding prevention and control measures. This study is of paramount importance in understanding the clinical and epidemiological characteristics of mpox in the Colombian region. It provides valuable information for the development of specific prevention and control strategies in this area and aids in improving the diagnosis and treatment of patients.

2 Innovations and Contributions

2.1 Innovative aspects of the study

The innovation of this study lies in the detailed description and analysis of the clinical and epidemiological characteristics of mpox within the borders of Colombia. Previous research primarily focused on mpox studies in other regions, with limited research specific to the Colombian area. As a result, this study fills a knowledge gap

and provides crucial data for understanding the disease's transmission patterns and patient characteristics in this region.

Furthermore, the study also provided a detailed description of the patient's medical treatment situation. In addition to outpatient visits, it also involves visits to primary healthcare and HIV clinics, as well as situations where a few patients are identified during emergency room visits and hospitalization. This detailed description of medical treatment provides important clues for understanding the patient's medical behavior and utilization of medical resources.

In previous research on mpox, the focus was primarily on etiology and transmission routes, with relatively limited descriptions of clinical manifestations. This study, however, provides a detailed description of the clinical symptoms experienced by patients, including common symptoms and accompanying lymph node enlargement and skin lesions. This information can aid healthcare professionals in better identifying and diagnosing the disease.

Finally, the innovation of this study also lies in emphasizing the regional characteristics of mpox and the importance of continued monitoring. Despite the apparent decline in the disease's epidemiological curve in Colombia and globally, there still exists a regional risk of localized outbreaks (Figure 3). Therefore, the study suggests the importance of closely monitoring the disease's spread and calls for the implementation of appropriate prevention and control measures.

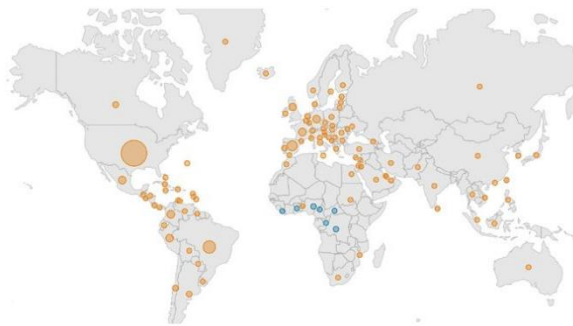


Figure 3 Global map of mpox outbreak in 2022

2.2 Contributions to the research field

By providing a detailed description and analysis of local cases, people can better understand the characteristics and manifestations of mpox in the region, thus providing guidance for the development of targeted prevention and control strategies. This study provides a detailed description of the patient's medical treatment situation, including the situation of different medical places and treatment routes. This helps to understand patients' medical behavior and utilization of medical resources, providing a reference for improving the patients' medical experience and improving medical service efficiency.

Furthermore, a detailed description of patients' clinical symptoms is also one of the contributions of this study, which aids in improving patient management and raising diagnostic standards. By understanding the clinical manifestations of mpox patients, healthcare professionals can better identify and diagnose the disease, thereby enhancing timely intervention and treatment for patients. Despite the apparent global decline in the disease's epidemiological curve, there are still risks in specific regions (Callaby and Gordon, 2023). Through the study and monitoring of regional characteristics, a better understanding of the disease's transmission dynamics can be gained, enabling the timely adjustment of prevention and control measures. This, in turn, contributes to reducing the disease's spread and its impact on patients.

3 Directions for Future Research

Based on the results of this study, this review suggests some follow-up directions for future research to further understand and address issues related to mpox. An important direction is to conduct further research into the etiology and transmission routes of mpox. While this study primarily focused on the clinical and epidemiological characteristics of mpox, our understanding of the disease's etiology and transmission mechanisms remains limited. Further research can utilize molecular biology and virology techniques to conduct in-depth studies on the genetic features, host immune responses, and transmission pathways, thereby providing more scientific insights for disease prevention and control (Geng et al., 2023; Zhao et al., 2023).

Further research into diagnostic methods and treatment strategies for mpox is also crucial. Despite the existence of some diagnostic methods and treatment protocols for mpox, there are still challenges and limitations. Future research can explore novel diagnostic methods, such as molecular diagnostic techniques or rapid detection methods, to enhance the accuracy and efficiency of diagnosis. In addition, more effective therapeutic drugs or vaccines can also be studied and developed to improve the treatment efficacy and prognosis of patients.

Additionally, further research into the epidemiological characteristics and transmission dynamics of mpox is another important direction. While this study provides the epidemiological characteristics of mpox in the Colombian region, our understanding of the disease's transmission patterns and risk factors remains limited. Future research can utilize epidemiological surveys and modeling techniques to analyze the disease's transmission dynamics, including transmission speeds, pathways, and susceptible populations, in order to better formulate prevention and control strategies (Gao et al., 2023).

Finally, a more extensive study on the geographical distribution and global epidemic trends of mpox is also worth considering. While this study primarily focuses on mpox cases in Colombia, our knowledge of the disease's prevalence in other regions is limited. Further research can expand its scope to compare and analyze the epidemiological characteristics and clinical manifestations of mpox in different regions, allowing us to understand the global distribution and prevalence trends of the disease. These studies will contribute to a more comprehensive understanding and resolution of mpox-related issues, providing more effective measures for prevention and control (Saadh et al., 2023).

4 Conclusion

Mpox is a disease caused by the mpox virus, and although it is relatively rare on a global scale, recent outbreaks in some regions have raised concerns in both the public and medical communities. This research paper, titled "Clinical and epidemiological characteristics of mpox: A descriptive cases series in Colombia," has made some significant findings and contributions by studying mpox cases in the Colombian region.

The research indicates that the clinical presentation of mpox in the Colombian region is similar to that in other areas, including symptoms like fever, skin rash, and lymph node enlargement. Additionally, some distinctive clinical features were identified, such as eye lesions and neurological symptoms. In terms of epidemiological characteristics, mpox in the Colombian region exhibits seasonal prevalence, variations in age and gender distribution, and some geographic disparities. These findings provide essential scientific foundations for the prevention and control of mpox in Colombia, contributing to the protection of public health and the promotion of social well-being.

However, this study has some limitations. Due to sample limitations, the results of this research may not be universally applicable and may not represent the entire Colombian region. Our understanding of the etiology and transmission mechanisms of mpox remains limited, and further research is required to explore these aspects. Subsequent studies can expand their scope to compare and analyze mpox cases in different regions, allowing us to understand the global distribution and prevalence trends of the disease. Further research into the etiology and transmission mechanisms, using advanced technological tools to gain deeper insights into the virus's

characteristics and host immune responses, exploring new diagnostic methods and treatment strategies, and providing more scientific foundations for disease prevention and control.

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