



Is Behavior Change a Key Factor in the Global Reduction of Monkeypox?

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Monkeypox is a viral disease caused by infection with the monkeypox virus that belongs to the orthopoxvirus genus in the poxviridae family. As a self-limited disease, its symptoms last from two to four weeks. Severe cases have also been reported. Its fatality rate has recently been about 3-6%. The disease can be transmitted to humans via close contact with an infected animal or people or through contaminated materials. Another transmission way is close contact with body fluids, lesions, respiratory droplets, and contaminated materials, like bedding. This zoonotic disease occurred primarily in tropical rainforest regions of West and Central Africa and then spread to other regions. Its clinical presentations are similar to smallpox as an orthopoxvirus infection eradicated globally in 1980. Monkeypox is less contagious than smallpox and leads to less severe disease (1).

Over 96 countries, in which monkeypox is not endemic have announced outbreaks of the viral disease, followed by declaring a global health emergency by the World Health Organization (WHO) because confirmed cases have increased to 42,500, and non-endemic countries have reported first related deaths. According to WHO, the number of monkeypox cases reported globally declined by 21% in August after a month-long trend of rising infections. The WHO declared the outbreak a global health emergency in July. Over 41,000 cases of monkeypox and 12 deaths have been declared by 96 countries, and most cases are from the US. The decrease in case numbers may potentially signal that the outbreak is declining in the European region (2).

It is estimated that monkeypox cases in the United States continue to be rare in children younger than 15 years, women, and individuals older than 60 years, based on new data reported by the Centers for Disease Control and Prevention (CDC). Men aged 26 - 40 years make up the

highest proportion of cases. The age distribution of cases is similar to those of sexually transmitted infections. As of August 21, only 17 children younger than 15 years have been diagnosed with monkeypox in the US, and women make up less than 1.5% of cases. In addition to the reassuring data about children and monkeypox, the CDC released laboratory testing data, a behavioral survey of men who have sex with men (MSM), patient data on the antiviral medication tecovirimat (TPOXX), and other demographics and symptoms. Although the number of positive monkeypox tests has continued to rise, the test-positivity rates have declined over the past month. Since July 16, the positivity rate has dipped from 54% to 23%. This trend is likely because of an increase in testing availability (3).

There are signs the outbreak is slowing in Europe, in which behavior change, public health measures, and vaccination are helpful to prevent transmission. Still, a rise in weekly case numbers has been reported by nearly two dozen countries with the highest increase reported in the US. Over 34% of the current global cases are in the US (4).

Areas of the Americas continue to see heavy transmission, with this region accounting for 60% of cases in the past month. In Latin America, insufficient knowledge or public health measures combined with a lack of access to vaccines have fueled outbreaks. With vaccines in short supply, many countries, including the US, are trying to increase supplies by administering smaller doses to make the most of existing stocks. While regulators have justified the approach, Bavarian Nordic, the maker of the only approved monkeypox vaccine, has raised doubts about the safety of this so-called fractional dosing approach (4).

The CDC also shared responses from a survey of gay, bisexual, and other MSM conducted from August 5 - 15 about how they have changed their sexual behaviors in response

to the monkeypox outbreak. Half of the respondents reported reduced one-time sexual encounters, 49% reported reducing sex with partners met on dating apps or at sex venues, and 48% declared reducing their number of sex partners (3).

The agency has yet to release data on vaccination rates, which Hubach is eager to see. He noted that demographic information on who is receiving vaccinations and where can illuminate issues with access as vaccine eligibility continues to expand. "Vaccination is probably going to be the largest tool within our toolbox to inhibit disease acquisition and spread (3).

In Iran, the reported cases of this disease are very limited, and it seems that active disease detection in the health network system, along with behavioral training, have been able to play a significant role in reducing the cases of infection and its spread.

Footnote

Conflict of Interests: There is no conflict of interest.

References

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