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# Human monkeypox companionship and sexually transmitted diseases; lessons from the HIV pandemic for monkeypox response

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Received: 5 July 2022

Accepted: 21 Aug. 2022

Published: 27 Aug. 2022

**Keywords:** Monkeypox, Outbreak, HIV disease, Review

## Abstract

There are many unknowns and much uncertainty in connection with the recent monkeypox (MPX) outbreak. But is the world ready for a new common viral disease? The aim of this study was to investigate the effects of MPX companionship and STI diseases and in lessons where the HIV pandemic can be used to control MPX outbreaks. A critical literature review, based on the findings from 12 primary research articles. Explores the effects of MPX outbreak on HIV and the lessons that can be used from HIV to control MPX outbreaks. MPX outbreak affects different aspects of patients' lives. With HIV and by learning from past epidemics of this disease, it is possible to reduce the number of injuries to patients and improve the services received and the quality of life of these patients.

## Citation:

Pourrezaei S, Derakhshan Barjoei MM, Shahani T, Izadi R, Mousavi MM. Human monkeypox companionship and sexually transmitted diseases; lessons from the HIV pandemic for monkeypox response. J Prev Epidemiol. 2022;x(x):e29187. doi: 10.34172/jpe.2022.29187.



## Epidemiology, prevention and control of monkeypox

After two years of the COVID-19 pandemic and its profound effects on the world, is the world ready to deal with a new common viral disease or not? We are undoubtedly in a better position for monkeypox (MPX) in 2022 than we were for the early COVID-19 pandemic in 2020 (1).

Human MPX is a common disease between humans and animals that is caused by MPX virus, Orthopoxvirus and its close relative variola virus (2). MPX is currently known as a self-limiting disease (1). The incubation period of MPX is usually 6 to 13 days. This disease usually lasts two to four weeks. The disease usually starts with fever, myalgia, fatigue and headache. Within three days of the onset of prodrome symptoms, a centrifugal maculopapular rash begins at the site of initial infection and rapidly spreads to other parts of the body. The palms of the hands and feet are involved in cases of diffuse rashes that are characteristic of this disease. The mortality rate of the disease is 0-11%, which includes mostly young children (3). Prior smallpox vaccination can provide up

## Key point

Learning from past epidemics and pandemics, as well as using the influence of political leaders and celebrities, preventing the spread of false news and consequently fear and anxiety on social media, being inspired by successful anti-HIV programs, changing people's behavioral patterns, coping with fear, stigma and psychological complications of monkeypox can reduce the harm. Contact tracking of newly identified monkeypox cases should be done carefully and thoroughly, based on good long-term practices in the management of sexually transmitted diseases and the HIV epidemic.

to 80% cross-protection against MPX, with the protective effect of smallpox vaccination fading over time (3).

At-risk groups may include those who are less likely to seek health care services, including those experiencing homelessness and people who inject drugs. People most vulnerable to severe disease include young children, pregnant women, and immunocompromised individuals (eg, those with untreated HIV/AIDS) (4).

According to the US CDC Bioterrorism Agent List, MPX virus is not considered a biological agent of concern for biosecurity,

while it is a “high-threat agent” using the matrix developed by the European Union Task Force on Bioterrorism. Although the pathogen’s mortality rate is low, its relative persistence and persistence in the environment and its transmission routes, in addition to the lack of immunity in the population, the limited availability of effective treatments and vaccinations, make it a convert which can be a biological threat in case of accidental leakage or intentional release (3).

Monkeypox is not easily transmitted between humans, and close physical contact is the main factor of human-to-human transmission (5). Although the initial cases of MPX were through infected animals. But new cases are seen among people with risky sexual behaviors (5). MPX DNA has not been detected in semen. This means that sexual transmission is through the contents of skin pimples (5). Therefore, sexual transmission is an acceptable route of infection because it involves close skin-to-skin contact during sexual intercourse (3).

Ending the transmission chain of MPX requires a better understanding of the social, ecological and scientific connections between endemic and non-endemic areas (4).

### **The companionship of monkeypox with sexually transmitted diseases**

The MPX outbreak was associated with widespread fear and concern about stigma and social rejection of affected patients, survivors and family members (6). Many cases of MPX have been identified among sexually dense networks of men who have sex with men (MSM), leading to the perception that MPX is a disease of concern only for gay men (4).

Messages that present MPX as a risk only to MSM may obscure the vulnerability of other groups to MPX. Such messages minimize risks to other high-risk groups, including sex workers and people with untreated HIV/AIDS (4). Those who do not report themselves as MSM may not seek care if they are symptomatic for fear of discrimination. Therefore, there is an urgent need to spread awareness and subtle messages about MPX (4).

Consistent condom use during sexual activity is a good strategy to prevent HIV and other sexually transmitted diseases, but it should be noted that condom use alone cannot provide complete protection against MPX transmission. Transmission through droplets in long-term face-to-face contact is possible. It is recommended to avoid sexual intercourse for at least 21 days. But it should be noted that according to their conditions, sex workers need financial support to comply with this distance (3).

Little information is available on MPX in immune compromised patients. In the 2017 outbreak in Nigeria, patients with HIV co-infection had more severe complications with more skin lesions and associated genital ulcers compared to HIV-negative individuals (3).

MPX outbreak control messages messaging should

not focus solely on the MSM. Messaging should not be limited to those who have had close contact with a person with MPX. Instead, awareness of the risk of transmission should consider a wider range of potential contacts, including family members of people with MPX. The message about prevention should include all known routes of transmission (4).

The Centers for Disease Control and Prevention stated that some people who have recently been diagnosed with sexually transmitted diseases may have MPX and warned doctors to be careful with both these diseases and the test, because MPX can be similar to a sexually transmitted disease. Some patients with MPX had syphilis, herpes, and gonorrhea or chlamydia infection. The rash that characterizes MPX can resemble herpes or syphilis. “It is important to be aware that cases of MPX may resemble some sexually transmitted infections and may be confused with other diagnoses.” Symptomatic patients should be evaluated for all sexually transmitted infections as well as MPX. Health care providers should not rule out MPX just because the patient has another diagnosis or another sexually transmitted disease.

### **Review of HIV lessons that guide us in responding to MPX**

#### ***Timely test***

In both diseases, timely testing is very important to identify infected people. Like AIDS, people with MPX may be asymptomatic or pre-symptomatic. In both cases, inadequate testing leads to persistent transmission and widespread dissemination and a lack of epidemiological information necessary to focus control efforts (7).

#### ***Redesign the system to provide patient-centered care***

Monkeypox, like AIDS, has necessitated innovative measures to optimize patient-centered care in a health care system that is necessary to combat a new infectious (8).

#### ***Unacceptable disputes***

The unacceptable sociological, racial, and ethnic differences observed in AIDS are characteristic of the population most at risk for MPX, but have so far been largely ignored (9).

#### ***Activity***

Like AIDS, the political denial of the scope and consequences of MPX has led to a completely inadequate and uncoordinated government response. The work of community-based organizations such as the Coalition for AIDS for Power (ACT UP) was crucial to promoting widespread awareness and a successful response to HIV/AIDS. Likewise, strong and energetic efforts by the health care and scientific professions and responsible media have been necessary to address and accelerate the response to disease and government disharmony (10).

### *Exposure to disease in the workplace*

Despite HIV and MPX, the risk of occupational exposure and the safety of health care workers is a major concern. In AIDS, occupational exposure is rare but alarming, leading to changes and global precautions in health care settings, new strategies to protect against injuries, and exposure to occupational diseases (11).

There is a risk of transmission of MPX in hospitals and health centers. Health care workers, janitors, and other workers should be provided with information about MPX prevention strategies. They should provide appropriate personal protective equipment and training on its use to employees (4).

### *Lessons from HIV in response to monkeypox*

#### *Using political leaders and celebrities*

High levels of uncertainty about an emerging infectious disease can manifest as social anxiety or panic, especially in areas where stigmas against a particular group such as MSM already exist. Likewise, messages that portray MPX as a problem for MSM or people with multiple sexual partners can contribute to social anxiety, stigma, and discrimination. Therefore, it is important to develop messages with organizations that work closely with affected communities – for example (HIV service providers, and other community groups) (4, 12). Efforts should involve community groups related to the homeless, HIV service providers, gay social media programs and online platforms, and gay clubs, bars, and other related social spaces (4). Local efforts should include effective campaigns to address Be associated with stigma and discrimination. National and international public health organizations should work with representatives of at-risk populations to design messages and campaigns aimed at reducing stigma against gay, bisexual, and transgender people (4).

Preventing the publication of false news and consequently fear and anxiety on social media MPX messaging should not focus solely on the MSM. Messaging should not be limited to those who have had close contact with a person with MPX. Instead, the risk of contact transmission should consider a wider range of potential contacts, including family members of people with MPX. Finally, the message about prevention should include all known routes of transmission (4,12-14).

The risk of transmission should not be presented in such a way that everyone is equally at risk. This may cause general anxiety or panic. A two-tiered approach may be appropriate. Health officials may focus on specific risks or routes of transmission in communities more broadly. Meanwhile, local community-based organizations and HIV service providers may provide more targeted, appropriate, and co-designed messages about risk, prevention, and care-seeking to groups at higher risk of infection (4).

- Talk about the MPX virus, but do not associate the disease with a specific group.

- Use person-centered language and describe “persons with MPX “rather than “victims.”
- Talk accurately about the risk of MPX, based on scientific data and the latest official health guidelines. Do not repeat or share unconfirmed rumors, and avoid exaggerated language such as “the plague”.
- Emphasize patient privacy and avoid judging people’s behaviors or choices.
- Be positive and emphasize that the severity of MPX depends on the person’s medical history. Do not emphasize messages that are threatening or cause more panic.
- Pregnant women and people who are immunocompromised, including those who have not been treated for HIV, are at increased risk for severe consequences of MPX.

MSM are more vulnerable to HIV and may not be able to adhere to antiretroviral therapy in some settings. Therefore, it is critical that organizations and HIV service providers provide targeted messages about the severity of untreated (versus treated) HIV and MPX.

Clubs, cafés, and festivals are important places to reach a “dispersed” population, and public health workers should engage with these places to identify opportunities to reach at-risk groups.

Risk communication messages that focus on reducing the number of sexual partners or abstaining from sex are fundamentally flawed because they increase stigma and discrimination. Instead, risk communication should take a “harm reduction” approach. Harm reduction is a strategy directed at individuals or groups that aims to reduce the harms associated with certain risky behaviors. Such an approach recognizes that sexual encounters will continue, but equips people with the knowledge they need to prevent MPX, recognize symptoms and access care. This may include sharing information that emphasizes safe or low-risk, non-judgmental communication: Encourage people to avoid sexual contact until they seek care, and if they are infected, to avoid intercourse until they recover (4).

- Get inspired by successful HIV programs (14)
- Intervention to change people’s behavioral patterns with the help of social mobilizations (15)
- Dealing with fear, isolation, stigma and psychological complications

Stigma occurs when institutions and individuals label groups of people, stereotype them, and prevent them from achieving social, economic, and political power. Stigma and discrimination increase the chance of experiencing violence, homelessness and other forms of social exclusion and can negatively affect health-seeking behavior (16).

In many places where MSM face stigma and discrimination, violence against the community is high. This is true for transgender people and street sex workers. We must recognize the real and living consequences of stigma. Risk communication messages should avoid language that blames groups or individual behavior.

Vulnerable groups may face more violence if they are identified as the source of MPX due to “dangerous” behavior (4).

- Caring for and rehabilitating people with MPX

Many countries have recently experienced strict COVID-19 measures such as quarantines, and the population has become fatigued in complying with Public Health and Social Measures (PHSM). This may result in less uptake of PHSM in response to MPX. MPX, like COVID-19, may raise concerns about lack of support for those who are quarantined or isolated - such as loss of income or inability to access medicines or other essential items. Individuals may be reluctant to provide details of recent contacts or report symptoms for fear of loss of income (17).

Identifying people infected with MPX (tracing) and contact tracing will be much easier if people know and trust the person asking. Collaborate with staff from local prevention agencies or other local organizations to develop MPX contact tracing and HIV/AIDS and sexual health care efforts. Call tracing requires a relationship of trust. In the case of transmission involving sexual contact, contact tracing will not always be possible, as many sexual partners may be unknown. Therefore, an intervention at the community level should be prepared if there is a set of cases, for example, through targeted locations (4).

- Get inspired by successful HIV programs (14).
- Intervention to change people’s behavioral patterns with the help of social mobilizations (15).
- Dealing with health inequalities (18).
- Choosing the right behaviors and decisions(18).
- Using similar researches and epidemiological models (19).

## Conclusion

Learning from past epidemics and pandemics, as well as using the influence of political leaders and celebrities, preventing the spread of false news and consequently fear and anxiety on social media, being inspired by successful anti-HIV programs, changing people’s behavioral patterns, coping with fear, isolation, stigma and psychological complications of MPX, caring for and rehabilitating people with MPX, coping with health inequalities, choosing the right behaviors and decisions, and using research And similar epidemiological models can reduce the harm community, especially HIV-infected patients, and improve the services received and the quality of life of these patients.

Contact tracking of newly identified MPX cases should be done carefully and thoroughly, based on good long-term practices in the management of sexually transmitted diseases and the HIV epidemic and the COVID-19 epidemic. Partner notification should start immediately. However, this can be challenging for anonymous sexual partners. The involvement of sexual health services, experienced in informing your partner about sexually

transmitted diseases, is recommended to ensure the best possible outcome.

## Authors’ contribution

Conceptualization: MSM & SP. Methodology: MSM & SP. Validation: SP, MMBD, TS, RI & MSM. Formal Analysis: MSM. Investigation: SP, MMBD & TS. Resources: MSM. Data Curation: MSM. Writing—Original Draft Preparation: SP, MMBD, TS, RI & MSM. Writing—Review and Editing: SP, MMBD, TS, RI & MSM. Visualization: MSM. Supervision: MSM. Project Administration: MSM & SP. Funding Acquisition: MSM.

## Conflicts of interest

The authors declare that they have no competing interests.

## Ethical issues

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

## Funding/Support

None.

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