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Study Looks at Monkeypox Among Cisgender and Transgender Women

New international report describes the risk factors and outcomes of more than 130 women and nonbinary people.

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Most people with monkeypox in the current outbreak have been gay men, but some women are also at risk, according to a new study published in The Lancet. The report provides detailed information about 136 cases among cisgender women, transgender women and nonbinary individuals in 15 countries.

The epidemiology, symptoms and outcomes among men, cis women and trans women are similar in many respects, but the study reveals some notable differences. While monkeypox spread rapidly this summer among highly sexually active gay and bisexual men, cisgender women have far fewer sex partners, and their cases are more likely to be "dead ends" with no onward transmission. So far, there has been no sustained transmission outside networks of men who have sex with men. But cases among women warrant attention, and this study highlights the potential for underdiagnosis of cis women and the socially precarious position of at-risk trans women.

"During the global outbreak, case definitions have rightly focused on the most affected group, sexually active men who have sex with men. The public health response has been tailored to reach this group," said senior study author Chloe Orkin, MD, of Queen Mary University of London. "However, as the outbreak progresses, it's important to also focus attention on underrepresented groups such as women and nonbinary individuals to better understand their risk…These learnings will help inform and tailor effective public health measures to be inclusive of these groups."

The current global outbreak was first identified in the United Kingdom in early May. As of November 17, the Centers for Disease Control and Prevention (CDC) has identified 29,005 cases of monkeypox in the United States and more than 80,000 cases worldwide, mostly in countries that have not historically reported the disease. Monkeypox incidence has declined dramatically since its peak in July and August, but many experts think the virus will not be eliminated and could continue to circulate at low levels, especially among disadvantaged communities.

Of the monkeypox cases with available data, the overwhelming majority (97%) are men, and 86% identify as men who have sex with men, according to World Health Organization figures. This differs from the historical pattern in central and western Africa, where a third to a half of people

with monkeypox are women and cases among children are not unusual. Around 50% of those with a known status are living with HIV.

Monkeypox Epidemiology and Transmission

In July, Orkin and a large team of collaborators with the SHARE-Net international clinical network first described more than 500 monkeypox cases diagnosed during the early months of the outbreak, mostly among gay men. They found that the new global outbreak was characterized by symptoms not previously reported, helping to shape new international case definitions and direct vaccines and other resources to those with the greatest need.

Now, the collaborators have published a new case series that describes 69 cisgender women, 62 transgender women and five nonbinary individuals assigned female at birth who were diagnosed with confirmed monkeypox between May 11 and October 4. The median age was 34 years, a bit younger than the median of 39 in the previous analysis of gay men. Most were Latina (45%), white (29%) or Black (21%). About half lived in the Americas and half in Europe; only three were in Africa.

While sexual contact was the suspected transmission route for nearly all of the men in the earlier case series, this fell to 74% in the new analysis. But rates diverged markedly for cis and trans women. While 61% of the cisgender women and nonbinary people appear to have acquired monkeypox through sex, this rose to 89% for the trans women. More than two thirds of cis women reported having vaginal, sex and 14% reported anal sex. All trans women reported anal sex, but few had undergone gender-affirming bottom surgery and none reported having vaginal sex.

One of the most striking differences was the number of sex partners, which plays a key role in monkeypox transmission patterns. Transgender women had a median of 10 sex partners during the past three months, while cisgender women and nonbinary people had a median of one, and gay men in the earlier analysis had a median of five. Nearly three quarters of the trans women reported having multiple male partners, while cis women were much more likely to say they had a single regular partner (61% versus 13%).

More than half (55%) of the trans women reported sex work, compared with just 3% of the cis women and nonbinary people. Among those tested, 21% of trans women and 7% of cis women had concurrent sexually transmitted infections (STIs). Overall, one in 10 reported injection drug use and 6% were experiencing homelessness.

Comparable proportions of cisgender women (15%) and transgender women (11%) had an unknown transmission route. But only cis women had suspected nonsexual routes of transmission, including household contact (10%), nonsexual close contact (10%) and occupational exposure of healthcare workers (5%). Reassuringly, although about a quarter of the cis women had children living in the same household, only two children acquired monkeypox, “suggesting very limited chains of transmission,” the study authors noted.

Just over a quarter (27%) of women with a known status were living with HIV, somewhat lower

than the 41% rate seen in the earlier analysis of mostly gay men. But again, there was a wide disparity between trans and cis women: 50% versus 8% were HIV positive. Almost all people with HIV were on antiretroviral therapy, 81% had an undetectable viral load and the median CD4 count was high, at 600. Among HIV-negative individuals, 58% of the trans women but only 2% of the cis women were using pre-exposure prophylaxis (PrEP), mirroring the low rate of PrEP use among women seen in U.S. studies. Among those with an unknown HIV status, just 65% of trans women and 53% of cis women were tested when they presented with monkeypox.

Like the men in the earlier case series, a majority of the trans women with suspected monkeypox visited sexual health or HIV clinics. In contrast, cisgender women were seen by emergency departments, sexual health or HIV clinics, hospital dermatology or OB/GYN departments and primary care providers.

“This reinforces the need for education for health professionals beyond sexual health clinics to ensure that monkeypox symptoms are not misdiagnosed and to limit onward transmission,” the study authors said in a press release. “We hope these findings will help clinicians consider the diagnosis and avoid misdiagnosis of monkeypox in women and nonbinary individuals wherever they present, and emphasize the importance of a detailed sexual history and testing for other STIs, including HIV,” they concluded.

Symptoms and Care

In general, women in this case series reported symptoms similar to those of men in the earlier analysis. Almost everyone (93%) developed a skin rash or lesions, with a median of 10 sores. Just over 60% had systemic symptoms such as fever and fatigue. Compared with cis women, trans women more often had localized infections without systemic symptoms, as seen in the men’s analysis.

Nearly three quarters (74%) of the women had at least one anal or genital lesion while about a quarter had oral lesions. But this too differed by gender identity and the type of sex people had. A majority of cisgender women and nonbinary people had vulva (outer genitalia) or vaginal lesions. Most trans women and about a quarter of cis women had external or internal anal or rectal lesions or proctitis (rectal inflammation). These often resembled other STIs, and a third of cis women and one in 10 trans women were initially misdiagnosed. People with suspected nonsexual transmission were much less likely to develop anal or genital lesions, but some did.

“[T]he site of the lesions largely corresponded to the type of sexual activity reported,” the authors wrote. “Clinicians must be made aware of the differing clinical presentations according to gender identity and sexual practices.”

Monkeypox DNA was detected in all 14 women who had vaginal swabs collected, as was the case for 29 of the 32 men with semen samples in the earlier analysis. What’s more, about three quarters of anal/rectal swabs, oral swabs and blood samples tested positive. “This strengthens the likelihood of sexual transmission through bodily fluids as well as skin-to-skin contact,” according to

the authors. Other studies suggest that monkeypox could potentially be transmitted in the absence of symptoms.

Most women and non-binary people with monkeypox recovered within a few weeks, and no deaths were reported. However, 13% required hospitalization, mostly for pain management, difficulty swallowing or bacterial infections. Hospitalization rates were similar for HIV-positive and HIV-negative people. This is consistent with other studies showing that while people with well-controlled HIV do not have worse monkeypox outcomes, those with advanced immune suppression can develop severe illness. Two women were pregnant at the time of the report with no complications reported so far.

Trans women were about twice as likely as cis women and non-binary people to be treated with TPOXX, or tecovirimat (34% versus 16%), for reasons the authors could not explain. Only six people received monkeypox vaccination for post-exposure prophylaxis. Eight trans women and two cis women who acquired monkeypox did so despite receiving pre-exposure vaccination during this outbreak.

Mind the Gaps

The differences between transgender and cisgender women seen in this case series underline the need to collect and report information about both sex and gender identity as well as sexual practices.

“The inclusion of transgender women and nonbinary individuals in this series illustrates the importance of demographic and outcome data being disaggregated by both sex and gender and is key to improving ongoing monkeypox surveillance and targeted public health interventions,” said study coauthor Asa Radix, MD, of the Callen-Lorde Community Health Center in New York City and cochair of the World Professional Association of Transgender Health.

This type of analysis has not yet been done for transgender men, some of whom are connected to gay men’s sexual networks and therefore at risk for monkeypox. The CDC reports some 70 cases among trans men.

This international case series “provides valuable insights into the clinical features of monkeypox in women. Importantly, it also highlights emerging areas of inequity which require our urgent and targeted attention,” said coauthor Boghuma Titanji, MD, PhD, of Emory University in Atlanta. “As the monkeypox outbreaks evolve, we must draw from these emerging lessons and have a more holistic approach to monkeypox in women. This will ensure that women are not left behind as they often are when addressing other diseases.”

Click here to read the study in The Lancet.

Click here for more news about monkeypox.
