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Understanding Mpox and HIV Coinfection: Insights from a Major Cohort Study in Brazil

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BACKGROUND

- In 2024, mpox was declared a public health emergency of international concern for the second time in two years.
- Brazil was significantly impacted by the 2022 multinational mpox outbreak of clade IIb and has observed a recrudescence in diagnoses since late 2023[1].
- Globally up to 50% of mpox diagnosis are among people living with HIV (PLWH), with early reports showing similar outcomes to people not living with HIV[2].
- Emerging data suggest that inadequate HIV continuum of care can worsen mpox outcomes[2,3].
- This study aims to characterize individuals diagnosed with mpox in Rio de Janeiro, Brazil, with a focus on their HIV status.

METHODS

- Prospective cohort of people with laboratory confirmed mpox (Monkeypoxvirus qPCR) assessed at INI-Fiocruz, a state-level referral center at Rio de Janeiro, Brazil.
- Sociodemographic, behavioral, and clinical characteristics were compared according to HIV status (Chi-squared/Fisher's test or Wilcoxon rank-sum test for categorical or quantitative variables, respectively).

RESULTS

747 participants were diagnosis with mpox from June 2022 to April 2025

- 3 with suspected reinfection.
- 50% were PLWH and 40.6% (n=148/364) were on PrEP.
- Median age was 33 years (IQR: 28-40).
- 91% were cisgender men and 86.7% reported sex with men.
- 60% of participants experienced a delay of more than five days from symptom onset to their first assessment at INI-Fiocruz.
- Most identified as black/pardo (61%) and had post-secondary education (60%).

Table. Characteristics of people with mpox assessed at INI-Fiocruz, Rio de Janeiro, Brazil, according to HIV coinfection status – June, 2022 to April, 2024

	Overall, N=747 (n, %)	People without HIV, N=371[1] (n, %)	People with HIV, N=376 (n, %)	p-value
Age (in years) [Median, IQR]	33 (28, 39)	31 (26,38)	34 (30,41)	<0.001
Gender identity: Cisgender men	681/746 (91%)	319/371 (86%)	362/375 (97)	<0.001
Gender identity: Cisgender women	45/746 (6)	42/371 (11)	3/375 (0.8)	
Gender identity: TGW or Travesti	19/746 (2.5)	9/371 (2.4)	10/375 (2.7)	
Men who have sex with men	616/664 (92.7)	275/312 (88.1)	341/352 (96.8)	<0.01
Fever	432/733 (59)	194/363 (53.4)	238/370 (64.3)	0.003
Proctitis	737 (31.4)	81/319 (25.4)	151/373 (40.4)	<0.001
Active syphilis[2]	151/714 (21.1)	44/356 (12.3)	107/358 (29.8)	<0.001
HCV seroprevalence	44/718 (61.3)	9/361 (2.5)	35/357 (9.8)	<0.001
Detectable MPXV PCR in Anorectal Swabs	418/601 (69.5)	173/289 (59.8)	245/312 (78.5)	<0.001

Characteristics according to HIV status

- PLWH were older (median 34 vs. 31 years old), more likely identified as cisgender men (97% vs. 86%) and reported having sex with men (96.8% vs. 88.1%).
- PLWH had higher rates of fever (64.3% vs. 53.4%), proctitis (40.4% vs. 25.4%), active syphilis (29.8% vs. 12.3%) and HCV coinfection (9.8% vs. 2.5%)
- PLWH also showed higher positivity rate for MPXV in anorectal swabs (78.5% vs. 59.8%).

Characteristics of PLWH

- 85% had HIV-RNA viral load of less than 200 copies/mL
- 89% had CD4+ above 350 cells/mm³ (median 662 [IQR:477.5-943]).
- Despite a significant hospitalization rate of 10.4%, mpox lethality was low at 0.4%
- HIV status did not influence mpox-related hospitalization
- All participants who died were PWH with CD4+ counts below 350 cells/mm³.

CONCLUSIONS

- In Brazil, as in other countries facing the multinational clade IIb mpox outbreak, HIV and mpox behave a syndemic behavior.
- The high prevalence of STIs among people affected by mpox highlight the crucial need for expanded screening and prevention strategies integrated in mpox care.
- Mpox in PLWH can present with different clinical characteristics, such as higher occurrence of fever, genital lesions and proctitis, even in a cohort in which most participants most participants have undetectable HIV viral load
- Although our cohort had low prevalence of people with advanced HIV disease, these population accounted for all mpox lethality
- Our data shows that the vulnerabilities that impact HIV response can also play a role in the mpox outbreak, highlighting the need for strengthening HIV and STI prevention and care services as an essential tool to reduce morbidity and mortality associated with these conditions.

REFERENCES

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ADDITIONAL KEY INFORMATION

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