

BACKGROUND

- By 9th February 2023, Brazil reported 10,758 mpox cases and 15 related deaths, ranking second and third globally, respectively.
- HIV late presentation to care remains a major public health concern in Brazil and the COVID-19 pandemics negatively impact on the HIV care continuum.¹ HIV-related immunosuppression may negatively impact mpox outcomes.²
- We aimed to describe mpox hospitalization rates and explore the impact of HIV infection on mpox-related hospitalizations and clinical outcomes.

METHODS

- Prospective cohort that included all individuals with laboratory-confirmed mpox (qPCR MPXV) followed at a major infectious diseases referral center in Rio de Janeiro, Brazil.²
- For statistical analysis, we used Chi-squared or Fisher's exact test for qualitative variables and the Moods median test for quantitative variables.

RESULTS

416 participants had mpox diagnosis between June 12th and December 31st 2022

- Median age = 34 years old (IQR 28,40);
- 91.3% were cisgender men (n=380/416), 6% were cisgender women (n=25/416) and 2.7% were *travesti* or transgender women (TGW) (n=11/416);
- 86.9% were men who have sex with men (MSM) (n=325/374);
- 62.3% self-reported black or *pardo* (n=205/329);
- 51.1% were people living with HIV (PLWH) (n=206/403).

Overall mpox-related hospitalization rate was 9.6% (n=40/416)

- 52.5% were PLWH (n=21/40);
- Most common reason to hospitalization was pain control (92.5%, n=37/40), followed by secondary bacterial infection (52.5%, n=21/40), proctitis (42.5%, n=17/40) and urological complications (37.5%, n=15/40).

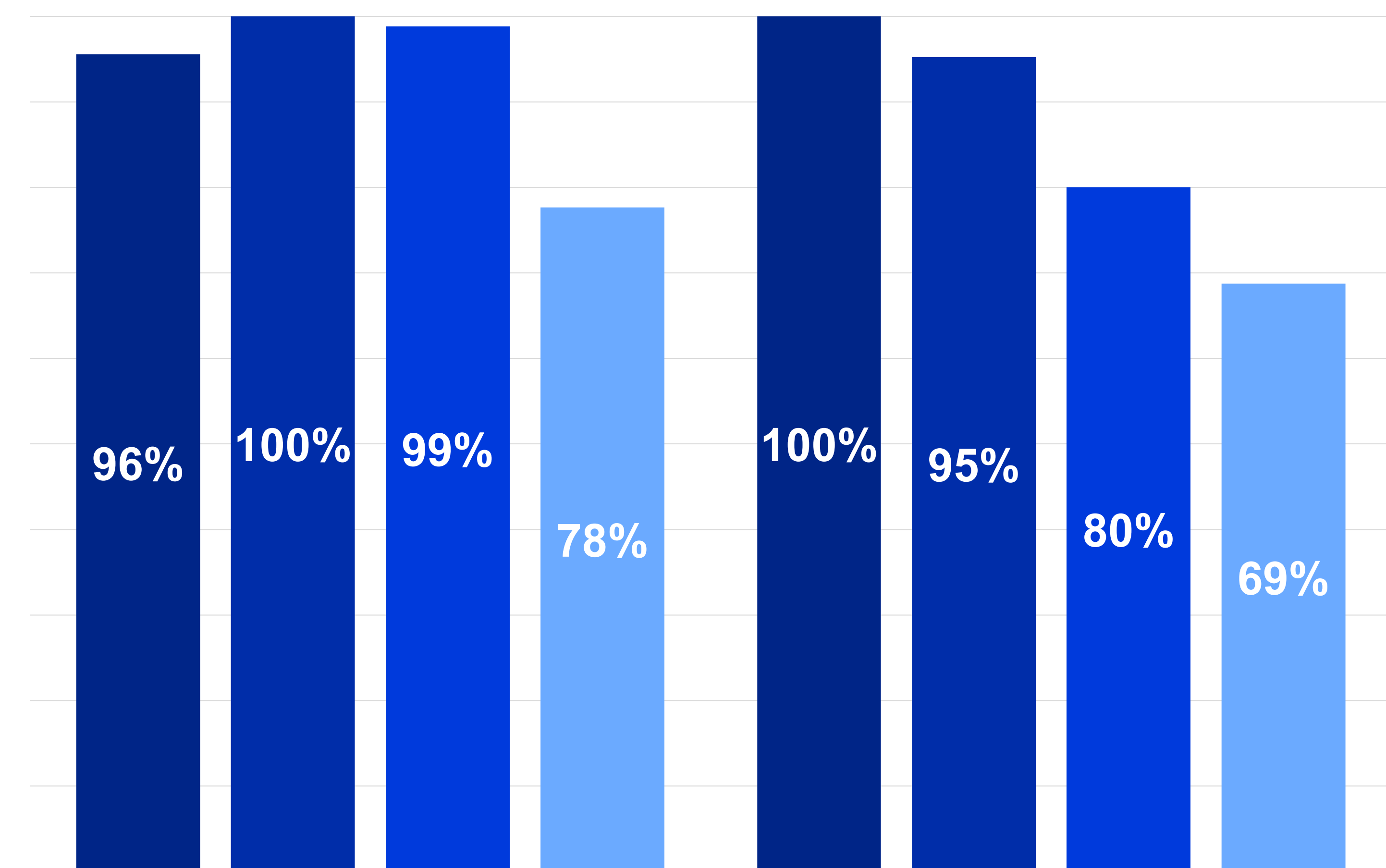
Table 1. Sociodemographic and clinical information of confirmed mpox cases by HIV and hospitalization status

| | All mpox cases (n=416) | All PLWH (n=206) | PLWH not Hospitalized (n=185) | Hospitalized participants (n=40) | | | p-value |
|---|------------------------|------------------|-------------------------------|----------------------------------|---------------|--------------------------|---------|
| | | | | Overall (n=40) | PLWH (n=21) | HIV - individuals (n=19) | |
| Median Age (IQR, years) | 34 (29,40) | 35 (30,41) | 35 (31,41) | 31 (29,40) | 35 (30,42) | 30 (26,36) | 0.061 |
| Cisgender Men | 380/416 (91.3%) | 197/206 (95.6%) | 176/185 (95.1%) | 37/40 (92.3%) | 21/21 (100%) | 16/19 (84.2%) | 0.10 |
| Cisgender Women | 25/416 (6%) | 2/206 (1.0%) | 2/185 (1.1%) | 3/40 (7.7%) | 0/21 | 3/19 (15.8%) | |
| Travesti or TGW | 11/416 (2.7%) | 7/206 (3.8%) | 7/185 (3.9%) | 0/40 | 0/21 | 0/19 | |
| Hospitalized for Pain Control | - | - | - | 37/40 (92.5%) | 19/21 (90.5%) | 18/19 (94.7%) | >0.99 |
| Hospitalized due to Severe Proctitis | - | - | - | 17/40 (42.5%) | 12/21 (57.1%) | 5/19 (26.3%) | 0.049 |
| Required Intensive Care Support during Hospitalization | - | - | - | 5/40 (12.5%) | 5/21 (23.8%) | 0/19 | 0.05 |
| Concomitant Opportunistic Infection | - | 5/206 (2.4%) | 1/177 (0.6%) | - | 4/21 (19%) | - | |
| HIV RNA load > 40 copies/mm³ | - | 51/205 (24.8%) | 41/186 (22.1%) | - | 10/21 (47.6%) | - | - |
| CD4+ count < 200 cells/mm³ | - | 9/183 (4.9%) | 2/162 (1.2%) | - | 7/21 (33.3%) | - | - |
| No ART | - | 15/201 (7.5%) | 11/181 (6.1%) | - | 4/21 (19%) | - | - |

What are the impacts of HIV on mpox-related hospitalization?

- Compared to non-hospitalized PLWH, those who required hospitalization more frequently presented with CD4+ inferior to 200 cells/mm³ (33.3% [n=7/21] vs 1.2% [n=2/162], p<0.001), virologically unsuppressed (47.6% [n=10/21] vs 22.1% [n=41/186], p=0.02), were not on ART (19% [n=4/21] vs 6.1% [n=11/181], p=0.048) and were diagnosed with a concomitant opportunistic infection (19% [n=4/21] vs 0.6% [n=1/177], p<0.001).
- Among hospitalized participants, PLWH were more frequently admitted due to proctitis (57.1% [n=12/21] vs 26.3% [n=5/19], p=0.049) and showed anogenital lesions (85.7% [n=18/21] vs 47.4% [n=9/19], p=0.01).
- PLWH accounted for all cases of hospitalized individuals with confirmed mpox who required intensive care support (n=5), had deep tissue involvement (n=3) and mpox-related death (n=2).

Figure 1. Outcomes related to HIV continuum of care according to mpox-related hospitalization status



PLWH and mpox diagnosis not requiring hospitalization | PLWH hospitalized due to mpox-related cause

- Previously diagnosed with HIV
- Linked to HIV care
- On ART in the last 120 days
- HIV RNA Viral Load < 40 copies/mm³

CONCLUSIONS

- Our findings suggest an association between worse outcomes in the HIV care continuum and mpox-related hospitalizations.
- Advanced immunosuppression contributed to severe clinical presentation and death.
- Public health strategies to mitigate HIV late presentation and the negative impact of COVID-19 pandemics on the HIV care continuum are urgently needed.

REFERENCES

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