MPOX OUTBREAK IN PLWH AND PrEP USERS IN A BRAZILIAN STI CENTER: DIFFERENT CHALLENGES

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Author : Alvaro Furtado Costa [1] [2] .Simone Queiroz Rocha[1] [3] .Mylva Fonsi[1] 4. Roberta Schiavon Nogueira [1] 5. Arthur Olhovetchi Kalichman [1] 6. José Valdez Ramalho Madruga [1] 7. Maria Clara Gianna [1] 8. Rosa de Alencar Souza [1] 9. Rosangela Rodrigues [1] 10. Angela Tayra [1] 11.Lucas Rocker Ramos [1] 12. Mariza Vono Tancredi [1] 13.Walkiria Delnero Almeida Prado [2] 14. Adriano Abbud [3] and Mpox-CRT working group

[1]Institution: Centro de Referência e Treinamento DTS/Aids, São Paulo, SP, Brazil 2 - Centro de Vigilância epidemiólogica (CIEVS-CVE), São Paulo, SP, Brazil 3-Instituto Adolfo Lutz (IAL) – Secretaria de Estado da Saúde de SP, Brazil

BACKGROUND

The current mpox outbreak have highlighted a significant concentration in people living with HIV/Aids (PLWH) and pre-exposure prophylaxis (PrEP) users. We aim to identify the distribution of mpox cases over the epidemiological weeks, the factors associated with the diagnosis of mpox among suspected cases, and the clinical differences between PLWH and PrEP users.

METHODS

This cross sectional study evaluated mpox suspected cases in a public reference institution between 6/18/2022 and 9/22/2022. Data were obtained from the mpox notification database and national and institutional information systems. Predictive factors for mpox diagnosis were identified using the logistic regression method and differences in mpox clinical presentation comparing PLWH and PrEP users were accessed through descriptive analysis.

The detection rates of Mpox in the studied populations were estimated using as numerator the new cases of mpox in each population group and as denominator the total number of people admitted to the respective outpatient clinics in the same period, multiplied by one hundred.

RESULTS

Among 394 suspected cases tested by real-time polymerase chain reaction (rt-PCR) for mpox virus, 309 (78.4%) were detectable, all of them men who have sex whit men (MSM). PrEP users had higher mpox detection rates, which peak occurred in July/2022 (Figure 1). Mostly of mpox patients were PLWH (n=168; 54.4%) and 99 (32%) were PrEP users. Among PLWH, the majority were well controlled. Compared to undetectable results, mpox cases were likely to be between 25 and 39 years old (aOR= 2.8; *p*= 0.042), men who have sex with men/bisexual or transgender women (aOR= 17.2; *p* <0.001) and to have fever (aOR= 4.7; *p* <0.001), adenomegaly (aOR= 7.2; *p* <0.001), multiple vesicular lesions (aOR= 4.2; *p* <0.001.(Table 1) Comparing PLWH and PrEP users with mpox, PrEP users had higher education level (71.4% vs 57.4%; *p*= 0.027) and higher number of partnerships (73.4% vs 56.2%; *p*= 0.035); while PLWH had higher exclusive extragenital involvement (26.3% vs 13.3%; *p*= 0.016).

Figure 1: Mpox detection rate per 100 outpatient visits-month in the discriminated groups, Centro de Referência e Treinamento DST/Aids, June 18 to September 20, 2022.
Source: Mpox case control spreadsheet, CRT-DST/Aids Epidemiological Surveillance; CRT-DS

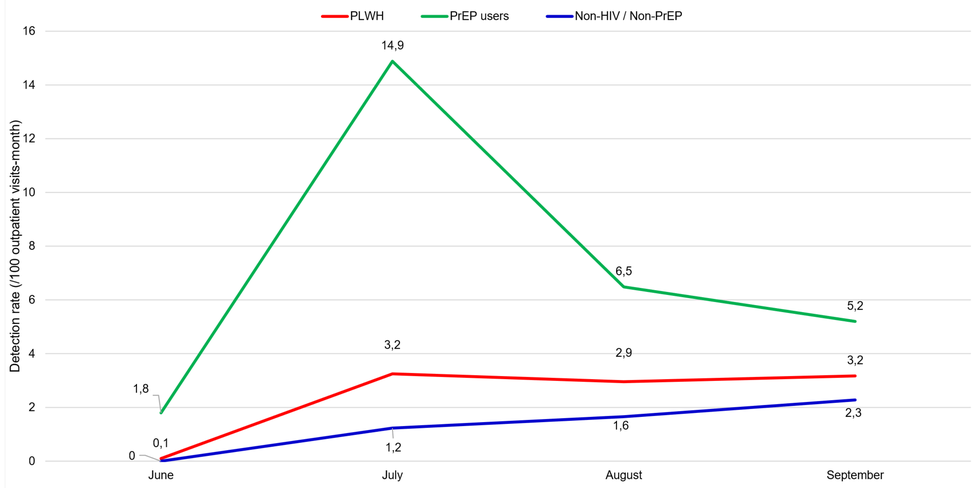


Table 1 - Bivariate and multiple analysis of factors associated with mpox diagnosis, Centro de Referência e Treinamento DST/Aids, June 18 to September 20, 2022.

Characteristics	Total	Mpox		$_{c}$OR	95% CI ($_{c}$OR)	p-value	$_{a}$OR	95% CI ($_{a}$OR)	p-value
		Nº	%						
Age group (years old)									
≤ 24	34	22	64.7	1	-	-	1	-	-
25 - 39	256	212	82.8	2.6	1.2 - 5.7	0.015	2.8	1.1 - 7.5	0.042
≥ 40	104	75	72.1	1.4	0.6 - 3.2	0.413	2.1	0.7 - 6.0	0.171
Gender and sexual orientation									
Heterosexual	20	4	20.0	1	-	-	1	-	-
MSM/BS or TW	374	305	81.6	17.7	5.7 - 54.5	< 0.001	17.2	4.5 - 65.9	< 0.001
Fever									
No	201	132	65.7	1	-	-	1	-	-
Yes	188	172	91.5	5.6	3.1 - 10.1	< 0.001	4.7	2.3 - 9.7	< 0.001
Adenomegaly									
No	126	70	55.6	1	-	-	1	-	-
Yes	261	233	89.3	6.7	3.9 - 11.3	< 0.001	7.2	3.8 - 13.7	< 0.001
Vesicle									
Absent	174	119	68.4	1	-	-	1	-	-
Single	50	39	78.0	1.6	0.8 - 3.4	0.192	1.5	0.6 - 3.7	0.372
Multiple	170	151	88.8	3.7	2.1 - 6.5	< 0.001	4.2	2.1 - 8.5	< 0.001
Concurrent STI									
No	364	290	79.7	2.3	1.1 - 5.0	0.041	3.2	1.2 - 8.6	0.017
Yes	30	19	63.3	1	-	-	1	-	-

MSM/BS, or TW: man who have sex with men/bisexual, or transgender woman; STI: sexually transmitted infection.

$_{c}$OR: crude odds ratio; aOR: adjusted odds ratio; 95%CI: 95% confidence interval.

PrEP users had higher mpox detection rate and higher number of partnerships compared to PLWH. The unique clinical difference between these groups was the higher extragenital involvement among PLWH.

CONCLUSIONS

We detected mpox disease exclusively in MSM and higher mpox detection rates among PrEP users, followed by PLWH. When compared these two groups, despite both have similar risky behaviour for acquiring mpox, PrEP users had higher number of partnerships. PLWH exhibited greater extragenital involvement and no other clinical difference was identified in our series, which included mostly virologically suppressed and immunologically well controlled.

A better understanding of the presentation and clinical course of mpox among PLWH, especially in the presence of severe immunosuppression, is critical to understand the intersection of the morbidities. Such better understanding is important to support recommendation guides for antiviral use and vaccine prioritization, focusing on populations at increased risk for worse evolutions of mpox.

Despite the importance of capillarizing the education campaigns about mpox for the most vulnerable population groups to the acquisition of the disease, it is important to warn against triggering stigma and discrimination and about the democratic reach of the virus, which is capable of causing infection in all people exposed to risky intimate contacts, whether they are sexual or not.

ADDITIONAL KEY INFORMATION

Author Contact Information
alvaro.furtado@hc.fm.usp.br

Acknowledgements
Mpox-CRT working group and Casa da Pesquisa-CRT