Mpox Awareness, Risk Reduction and Vaccination Status among PWH in Washington, DC

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THE DC COHORT — Advancing HIV Care and Treatment in the District of Columbia

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Background

- PWH are disproportionally affected by mpox and at high risk for severe complications.
- The recent mpox outbreak response included increasing awareness, encouraging behavioral changes and pre- and post-exposure vaccination.

Objectives

- To assess knowledge and perceptions of mpox, adoption of preventive behaviors and attitudes towards vaccination among PWH in Washington, DC.

Methods

DC COHORT STUDY

- Multi-site prospective longitudinal observational cohort study of HIV-infected persons in care in Washington, DC at 14 participating clinical sites
- Data abstracted from participants' electronic medical records at enrollment and through electronic exports monthly thereafter
- DC Cohort participants ≥18 year who enrolled from 1/1/2011 to 6/30/2021 were included in the longitudinal analysis

MPOX SURVEY

- Mpox survey questions including:
  - Mpox awareness and information sources
  - Vaccination status
  - Exposure, infection, and treatment
  - Worry about mpox and behavioral modifications
  - Negative impact of mpox outbreak
- Enrolled DC Cohort participants recruited to complete the survey
- Data from a cross-sectional mpox survey were collected between August 2022 and January 2023

ANALYSIS

- Linked DC Cohort database with mpox survey participant results
- Conducted uni- and bivariable analyses comparing participants by vaccination status (vaccinated, plan to vaccinate, no plan to vaccinate) and by HIV risk group (MSM vs. non-MSM vs. females)
- Conducted multinomial regression to identify factors associated with vaccine acceptance

Results

Table 1. DC Cohort Mpox Survey Participants by Vaccination Status (N=201)

	Total	Vaccinated	Plan to vaccinate	No plan to vaccinate	p-value
	N=201	N=43	N=79	N=79	
Demographics					
Current age, median (IQR)	56 (43-63)	47 (38-57)	56 (47-63)	59 (44-63)	**0.023**
Gender identity (male)	140 (70%)	42 (98%)	58 (73%)	40 (51%)	**<0.001**
Race/Ethnicity (NH Black)	158 (79%)	29 (67%)	65 (82%)	64 (81%)	0.44
Education (at least some college)	116 (58%)	34 (79%)	41 (52%)	41 (52%)	**0.043**
Relationship status (single, never married)	110 (55%)	26 (60%)	46 (58%)	38 (48%)	0.22
Household income (<$25-34,999)	88 (44%)	11 (26%)	37 (47%)	40 (51%)	**0.007**
HIV and Medical Care					
HIV risk group (MSM)	88 (44%)	35 (81%)	29 (37%)	24 (30%)	**<0.001**
Latest CD4 >500 cells/μl (yes)	134 (67%)	37 (86%)	51 (65%)	46 (58%)	**0.013**
Viral suppression (yes)	168 (84%)	36 (84%)	70 (89%)	62 (78%)	0.19
Chlamydia test in past year (yes)	100 (50%)	28 (65%)	33 (42%)	39 (49%)	**0.042**
STI in past year (yes)	14 (7%)	9 (21%)	3 (4%)	2 (3%)	**0.002**
COVID-19 vaccination (yes)	186 (93%)	41 (95%)	74 (94%)	71 (90%)	0.66
Influenza vaccine (yes)	149 (74%)	31 (72%)	59 (75%)	59 (75%)	0.80
Behavior Change					
Worry about mpox					**0.002**
A lot	33 (16%)	9 (21%)	19 (24%)	5 (6%)	
A little	102 (51%)	20 (47%)	44 (56%)	38 (48%)	
Not at all	65 (32%)	14 (33%)	16 (20%)	35 (44%)	
Missing	1 (0%)	0 (0%)	0 (0%)	1 (1%)	
Limiting number of sexual partners	31 (15%)	17 (40%)	11 (14%)	3 (4%)	**<0.001**
3 or more preventive behaviors	26 (13%)	8 (19%)	12 (15%)	6 (8%)	**0.016**

Results

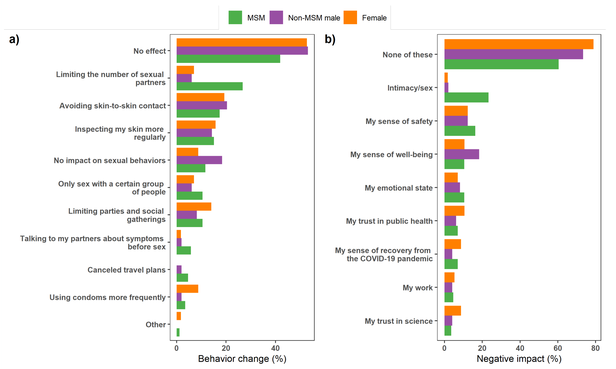
- Among 229 PWH completing the survey, 205 (89.5%) had heard of mpox.
- Comparing those who had heard of mpox to those who had not, the only significant difference was by mode of HIV transmission (p=0.019) with more MSM having heard of mpox compared to other transmission groups.
- Six (3%) participants reported having contracted mpox; three reported treatment with tecoviromat.
- Among 201 PWH who had heard of mpox and answered vaccination questions, 21% were vaccinated, 39% planned to vaccinate and 39% did not plan to vaccinate.
- Comparing the 3 vaccination groups, significant differences were observed by age, gender, education, income, HIV risk group, CD4 >500 cells/μl, chlamydia and STI testing in the prior year, worry about mpox, and interval for survey completion (all p<0.05)(Table 1).

Among a cohort of PWH, there were high levels of mpox awareness and more than half of PWH had been vaccinated or planned to vaccinate against mpox. MSM were more likely to vaccinate and report protective behaviors and negative impacts of mpox. Public health efforts to prevent mpox should focus on PWH of all ages, and sexual orientations.

Results

- Viral suppression, prior COVID and influenza vaccination were not associated with vaccine status (Table 1).
- A higher proportion of vaccinated participants reported limiting their number of sexual partners (p<0.001) and using a combination of preventive behaviors (e.g., limiting gatherings, increased condom use, avoiding skin-to-skin contact; p=0.016) in response to mpox (Table 1).
- A higher proportion of MSM reported limiting their number of sexual partners compared to non-MSM (27% vs 6% non-MSM vs 7% female, p<0.0001) and were more likely to be vaccinated or plan to vaccinate vs non-MSM and females (p<0.001)(Figure 1A).
- 23% of MSM vs 2% of non-MSM and 2% of females reported that mpox had a negative impact on intimacy and sex (p<0.001)(Figure 1B).

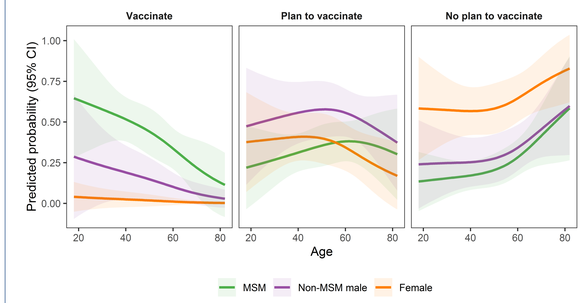
Figure 1. Self-reported Behavior Change (a) and Negative Impact of mpox (b) by HIV Risk Group (N=192)



Results

- In adjusted multinomial regression models comparing vaccinated PWH and those planning to vaccinate to those not planning to vaccinate, HIV risk factor/gender (p<0.0001) and age (p=0.0194, for vaccinated vs no plan to vaccinate) were significantly associated with vaccination status with younger PWH and MSM more likely to vaccinate (Figure 2).

Figure 2. Predicted Probability (95%CI) of Vaccine Group by Age and HIV Risk Group



Conclusions

- High levels of mpox awareness were observed among this cohort of PWH in Washington, DC.
- More MSM employed risk reduction behaviors and vaccination as mpox prevention strategies.
- Ensuring that all PWH, regardless of gender, sexual orientation, or age, understand the risks of mpox may improve vaccination uptake.

Additional Information

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