



Demographics and Health Beliefs of Black Gay, Bisexual, and Other Sexual Minority Men Receiving a Mpox Vaccination in the United States

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Abstract An outbreak of mpox virus (MPV) among humans in the United States (U.S.) was described in May 2022. This outbreak disproportionately affects Black and Hispanic sexual minority men (SMM) and these groups have lower rates of vaccination compared to Whites. Between July and August 2022, a partnership between a nonprofit and two local health departments successfully designed and implemented a community intervention to administer MPV vaccines to Black SMM in the Washington D.C. metropolitan area. We administered a quantitative survey to 178 respondents across four vaccination clinics. We found that study participants had high socioeconomic status, high levels of anticipated MPV stigma, and were relatively skeptic about MPV. We demonstrated how a partnership between an urban nonprofit and government agency can facilitate quick and effective dissemination of a community intervention in a relatively low cost manner.

Introduction

Monkeypox (mpox) is a rare disease caused by infection with the mpox virus (MPV), and symptoms for

MPV can include fever, headache, chills, swollen lymph nodes, and a blister-like rash on the face, inside the mouth, and other parts of the body [1]. The current mpox outbreak in the United States (U.S.) has resulted in over 24,000 confirmed cases to date and has primarily affected sexual minority men (SMM) [2]. According to the Centers for Disease Control and Prevention (CDC), MPV can spread from person to person through direct contact with the infectious rash, scabs, or body fluids and by respiratory secretions during prolonged, face-to-face contact, or during intimate physical contact, such as kissing, cuddling, or sex [3]. While infections from the current MPV are rarely fatal, individuals with weakened immune systems are more likely to experience serious illness and to die [4]. A majority of MPV cases in the U.S. have been among Black and Hispanic SMM between the ages of 21 and 40 years [1, 3]. In a national survey of SMM, half of respondents reported reducing their number of sexual partners, number of one-time sexual encounters, and sex with partners met through dating apps and at sex venues to curb the spread of MPV [5]. To prevent the further transmission of MPV, the CDC recommends that people avoid close, skin-to-skin contact with people who have a rash that looks like MPV, avoid contact with objects and materials that a person with MPV has used, and wash your hands often with soap and water or use an alcohol-based hand sanitizer. Additionally, the CDC recommends the use of JYNNEOS and ACAM2000 vaccines for the prevention of MPV [6]. A recent study found that MPV incidence was 14

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times higher among unvaccinated males compared with those who had received a first MPV vaccine dose [7]. To date, 1.1 million MPV vaccine doses have been administered in the U.S., with Blacks and Hispanics making up only 9% and 16% of vaccine recipients, respectively. There exist a disparity in the burden of MPV and uptake of the MPV vaccine among Black and Hispanic SMM in the U.S., and more research is needed on health interventions to increase vaccination rates in this vulnerable group.

Understanding the characteristics and attributes of MPV vaccine recipients is pivotal to informing the development and implementation of MPV vaccination interventions, especially for Black and Hispanic SMM with low vaccination rates. The primary objective of this study was to assess the demographic characteristics, health status and behaviors, anticipated stigma, and MPV beliefs among Black SMM who received a first dose of the MPV vaccine in the Washington D.C. metropolitan area.

Methods

We designed and implemented a community-based intervention aimed at increasing MPV vaccination rates among Black SMM in the Washington D.C. metropolitan area. This initiative was developed from a strategic partnership between a local nonprofit organization (Us Helping Us, People into Living Inc) and two local health departments (DC Department of Health & Prince George's County Health Department). We engaged in community education and mobilization efforts and appointment scheduling and provided the location for vaccine administration. We mobilized our clients and other community members to participate in this vaccination initiative through: (1) message blasts through our client email listserv and patient portal, (2) posting on our social media accounts, and (3) word-of-mouth information dissemination through our peer educators and community health workers. Eligible clients were scheduled to receive the vaccine in 10–15 min intervals with 3–4 vaccinations occurring during each interval. The health departments provided clinical staff and the medical supplies needed for vaccine administration. During the vaccine clinics, the clients provided proof of residency (e.g., government issued identification card, lease agreement) and completed an intake form provided by the health department.

A cross-sectional, convenience sample of 178 SMM in the Washington D.C. metropolitan area receiving their first dose of the MPV vaccine (administered by two local health departments) completed our survey between July and August 2022. The paper survey was given to clients upon receipt of their vaccination and it took about 5–10 min to complete. The survey assessed demographic characteristics, health status and behaviors, anticipated stigma related to MPV, and beliefs about MPV. This activity was reviewed and approved by the Sterling Institutional Review Board. We assessed the distribution (percentages and means) of all variables, and data were analyzed using SAS (version 9.4).

Results

Among 178 respondents across four vaccinations clinics, a majority were Black/African American (99%), cisgender male (93%), and gay/homosexual (82%), and 76% had a bachelor's degree or higher, and 63% had a yearly income of \$70,000 or higher (Table 1). Most (90%) were currently sexually active, 35% had a weakened immune system, and 31% had attended a large gathering in close contact with others (sex party and/or dance clubs) in the previous 30 days.

Additionally, 84% reported being worried about contracting MPV, and 66% believed their chances of getting MPV were moderate to very large. A significant proportion of respondents (13–31%) believed various people in their lives (friends, family, sexual partners, and larger LGBT community) would think less of them if they found out they had contracted the MPV. Furthermore, 35% believed they would be blamed, and 51% believed others would assume they were sexually promiscuous if they acquired MPV. While respondents were early adopters of the MPV vaccine, they still held some skepticism and possible conspiracy theories about the current MPV outbreak. Specifically, 48% were neutral or agreed that that MPV was intentionally made in a laboratory, and 29% believed that information about MPV was being held back from the public.

Discussion

We found that study participants had high socioeconomic status, high levels of anticipated MPV stigma,

Table 1 Demographics, health status and behaviors, anticipated stigma, and beliefs about mpox virus among a sample of Black sexual minority men receiving a mpox vaccine in Washington, DC

Demographics	
Race/ethnicity, No. (%)	
Black African American	177 (99.4)
Gender, No. (%)	
Cisgender male	165 (92.7)
Cisgender female	3 (1.7)
Transgender female	2 (1.1)
Non-binary	5 (2.8)
Gender non-conforming	3 (1.7)
Sexual orientation, No. (%)	
Gay/homosexual	146 (82.0)
Heterosexual	9 (5.1)
Bisexual	16 (9.0)
Pansexual	4 (2.3)
Other	2 (1.1)
Annual household income, No. (%)	
No income	3 (1.7)
\$1–24,999	6 (3.4)
\$25,000–34,999	6 (3.4)
\$35,000–49,999	8 (4.5)
\$50,000–69,999	33 (18.5)
\$70,000–99,999	35 (19.7)
\$100,000–149,000	42 (23.6)
\$150,000 or higher	35 (19.7)
Educational attainment, No. (%)	
Some high school, no diploma	4 (2.3)
High school graduate	7 (3.9)
Some college credit, no degree	37 (20.8)
Trade school/technical college/vocational training	3 (1.7)
Associate's degree	4 (2.3)
Bachelor's degree	55 (30.9)
Master's degree	51 (28.7)
Professional degree	4 (2.3)
Doctorate degree	12 (6.7)
Health Factors	
Sexual activity in previous 30 days, No. (%)	
Yes	160 (89.9)
No	15 (8.4)
Exchange sex, No. (%)	
Yes	7 (3.9)
No	171 (96.0)
Regular attending large gatherings (including sex parties, sex clubs, and dance clubs), No. (%)	
Yes	52 (29.2)
No	124 (69.7)
Attended large gatherings (including sex parties, sex clubs, and dance clubs) in previous 30 days, No. (%)	
Yes	55 (30.9)

Table 1 (continued)

Demographics	
No	121 (68.0)
Weakened immune system, No. (%)	
Yes	63 (35.4)
No	115 (64.6)
Received at least one dose of COVID-19 vaccine, No. (%)	
Yes	170 (95.5)
No	8 (4.5)
Received COVID-19 booster, No. (%)	
Yes	142 (79.8)
No	36 (20.2)
Mpox-specific questions	
Risk perception	
I worry about getting mpox, No. (%)	
None of the time	7 (3.9)
Rarely	21 (11.8)
Some of the time	63 (35.4)
A lot of the time	42 (23.6)
All of the time	44 (24.7)
I think my chances of getting infected with mpox are, No. (%):	
Zero	5 (2.8)
Almost zero	9 (5.1)
Small	46 (25.8)
Moderate	70 (39.3)
Large	35 (19.7)
Very Large	13 (7.3)
I am sure I will NOT get infected with mpox, No. (%)	
Strongly agree	8 (4.5)
Agree	21 (11.8)
Neither agree nor disagree	91 (51.1)
Disagree	39 (21.9)
Strongly disagree	18 (10.1)
Anticipated stigma	
The LGBT community would think less of me if they found out I got mpox, No. (%)	
Strongly agree	29 (16.3)
Agree	22 (12.4)
Neither agree nor disagree	59 (33.2)
Disagree	37 (20.8)
Strongly disagree	23 (12.9)
My friends would think less of me if they found out I got mpox, No. (%)	
Strongly agree	11 (6.2)
Agree	13 (7.3)
Neither agree nor disagree	53 (29.8)
Disagree	53 (29.8)
Strongly disagree	41 (23.0)
My sexual partners would think less of me if they found out I got mpox, No. (%)	
Strongly agree	27 (15.2)

Table 1 (continued)

Demographics	
Agree	29 (16.3)
Neither agree nor disagree	44 (24.7)
Disagree	37 (20.8)
Strongly disagree	33 (18.5)
My family would think less of me if they found out I got mpox, No. (%)	
Strongly agree	18 (10.1)
Agree	28 (15.7)
Neither agree nor disagree	41 (23.0)
Disagree	43 (24.2)
Strongly disagree	41 (23.0)
If I got mpox, I would feel a need to hide that from other people, No. (%)	
Strongly agree	41 (23.0)
Agree	34 (19.1)
Neither agree nor disagree	39 (21.9)
Disagree	26 (14.6)
Strongly disagree	31 (17.4)
People would avoid me if they found out I got mpox, No. (%)	
Strongly agree	63 (35.4)
Agree	49 (27.5)
Neither agree nor disagree	38 (21.4)
Disagree	11 (6.2)
Strongly disagree	9 (5.1)
People would blame me if they found out I got mpox, No. (%)	
Strongly agree	27 (15.2)
Agree	36 (20.2)
Neither agree nor disagree	60 (33.7)
Disagree	29 (16.3)
Strongly disagree	18 (10.1)
People would assume I was gay or bisexual if they found out I got mpox, No. (%)	
Strongly agree	50 (28.1)
Agree	36 (20.2)
Neither agree nor disagree	55 (30.9)
Disagree	10 (5.6)
Strongly disagree	19 (10.7)
People would assume I slept around if they found out I got mpox, No. (%)	
Strongly agree	48 (27.0)
Agree	44 (24.7)
Neither agree nor disagree	45 (25.3)
Disagree	13 (7.3)
Strongly disagree	20 (11.2)
Composite stigma score	25.9 (8.6)
Attitudes towards mpox	
Mpox is a "gay disease," No. (%)	
Strongly agree	7 (3.9)
Agree	3 (1.7)
Neither agree nor disagree	33 (18.5)

Table 1 (continued)

Demographics	
Disagree	25 (14.0)
Strongly disagree	101 (56.7)
Mpox mostly affects people who have multiple sex partners in a short period of time, No. (%)	
Strongly agree	13 (7.3)
Agree	18 (10.1)
Neither agree nor disagree	63 (35.4)
Disagree	25 (14.0)
Strongly disagree	51 (28.7)
Mpox was a government-made virus, No. (%)	
Strongly agree	10 (5.6)
Agree	15 (8.4)
Neither agree nor disagree	56 (31.5)
Disagree	39 (21.9)
Strongly disagree	52 (29.2)
Mpox was made in a lab, No. (%)	
Strongly agree	10 (5.6)
Agree	17 (9.6)
Neither agree nor disagree	58 (32.6)
Disagree	35 (19.7)
Strongly disagree	51 (28.7)
Mpox has been around for over 60 years, No. (%)	
Strongly agree	27 (15.2)
Agree	49 (27.5)
Neither agree nor disagree	77 (43.3)
Disagree	6 (3.4)
Strongly disagree	10 (5.6)
Mpox does not really exist, No. (%)	
Strongly agree	5 (2.8)
Agree	3 (1.7)
Neither agree nor disagree	25 (14.0)
Disagree	37 (20.8)
Strongly disagree	100 (56.2)
A lot of information about mpox is being held back from the public, No. (%)	
Strongly agree	25 (14.0)
Agree	27 (15.2)
Neither agree nor disagree	71 (39.9)
Disagree	33 (18.5)
Strongly disagree	14 (7.9)
Mpox is a real public health threat, No. (%)	
Strongly agree	87 (48.9)
Agree	50 (28.1)
Neither agree nor disagree	22 (12.4)
Disagree	3 (1.7)
Strongly disagree	9 (5.1)
People who take the mpox vaccine are human guinea pigs for the government, No. (%)	
Strongly agree	6 (3.4)

Table 1 (continued)

Demographics	
Agree	4 (2.3)
Neither agree nor disagree	51 (28.7)
Disagree	40 (22.5)
Strongly disagree	70 (39.3)
Public health officials and the government are telling the truth about mpox, No. (%)	
Strongly agree	17 (9.6)
Agree	49 (27.5)
Neither agree nor disagree	79 (44.4)
Disagree	14 (7.9)
Strongly disagree	12 (6.7)

and were relatively skeptic about MPV. This is the first known empirical study of demographic characteristics and health beliefs of SMM recipients of the MPV vaccine in the U.S. Our findings illuminate the need for more public education about MPV that is rooted in scientific evidence [8]. Also, concerns about MPV and MPV vaccines can be addressed by engaging members of most-affected communities (Black and Hispanic SMM) in the development and dissemination of campaigns to boost confidence in the effectiveness and safety of the vaccine.

We demonstrated how a partnership between a nonprofit and government agency can facilitate quick and effective dissemination of a community intervention in a relatively low-cost manner. In a short amount of time, we successfully planned and implemented a vaccination effort in response to a quickly escalating public health emergency that is primarily affecting Black SMM. The nonprofit organization utilized existing staff to promote these vaccination clinics, and the health department deployed existing clinical staff to administer vaccines. With little to no monetary expenses, the initiative vaccinated almost 200 individuals who were vulnerable to MPV infection within the span of 2 months. We believe this initiative can be scaled to have a streamlined and singular registration process, more convenient clinic hours (evening and weekend), and include health department staff that reflect the target community. However, updated policies and additional resources on all government levels are critical to expanding these programs. Social inequalities and disproportionate access to healthcare services, especially how they manifest for racial, ethnic, and sexual minority communities, are the major

diving forces of health disparities and inequities [9]. The disproportionate burden of HIV, COVID-19, and MPV on racial and sexual minority communities is further evidence for the need for equitable access to healthcare services for historically marginalized groups [9, 10].

This study has several limitations. The cross-sectional design limits our ability to draw causal inferences. In addition, all the measures relied on participant recall/self-report, which may have contributed to social desirability bias. Our study sample was recruited via social media and recruitment of clients who had received service at the nonprofit organization, limiting our ability to generalize our findings to Black SMM outside of these social networks. Additionally, our sample was skewed towards higher socioeconomic status Black SMM, which is not a representative sample of entire Black SMM community. Despite these limitations, our study is the first to examine characteristics of Black SMM who received a first dose of the MPV vaccine through a community vaccination initiative.

In conclusion, we found that study participants had high socioeconomic status and high levels of anticipated MPV stigma and were relatively skeptic about MPV. We believe that evidence-based and culturally relevant health interventions are needed to ensure optimal MPV vaccination rates among Black SMM. Actively engaging key opinion leaders within the Black SMM community, nonprofit organizations, faith-based organizations, social media influencers, and other trusted information sources in the designing and implementation of a MPV vaccination program and campaign is pivotal to closing

the observed racial gap in MPV vaccination among SMM in the U.S.

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Data availability Deidentified data is available for additional analysis and requests should be sent to corresponding author.

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