

Acceptability of At-Home Blood Sampling Using Volumetric Absorptive Microsamplers among Young Black and Latinx Sexual and Gender Minorities Assigned Male Sex at Birth in the United States

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BACKGROUND

- At-home specimen collection using volumetric absorptive microsamplers may be an option to monitor PrEP adherence.
- We examined the acceptability of at-home blood collection to measure tenofovir PrEP metabolite concentrations among young Black and Latinx sexual and gender minorities assigned male sex at birth.

METHODS

- In 2021, PrEP users enrolled in an ongoing intersectional stigma intervention (HealthMpowerment 2.0) were invited to collect at-home blood specimens (20 µL) using Mitra microsamplers kits.
- Participants completed an online survey on the acceptability of at-home collection.
- Kruskal-Wallis tests were used to analyze 4-point Likert scale scores for acceptability of first sample collection and differences in medians and interquartile ranges (IQR) among different demographic groups.

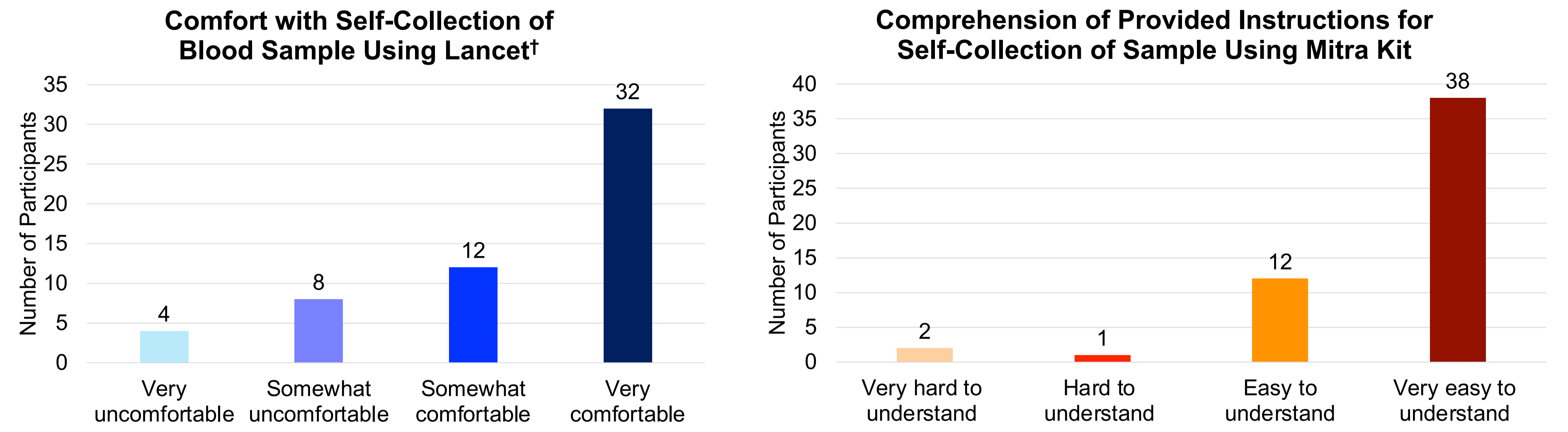
RESULTS

- 239 participants reported taking PrEP.
- 73 (30.5%) responded to the invitation to receive ≥1 kit.
- Sixty participants (82.2%) attempted to collect ≥1 sample.
- Most reported being comfortable with self-collection using the lancet (79%; 44 out of 56); perceived the written instructions as easy to comprehend (94%; 50 out of 53); and were likely to use the at-home Mitra kit again in the next 3 months if offered (88%; 53 out of 60).
- Nearly all participants reported the overall self-collection experience as easy (95%; 53 out of 56).
- There were no differences between median scores in acceptability by age, education level, or race/ethnicity.

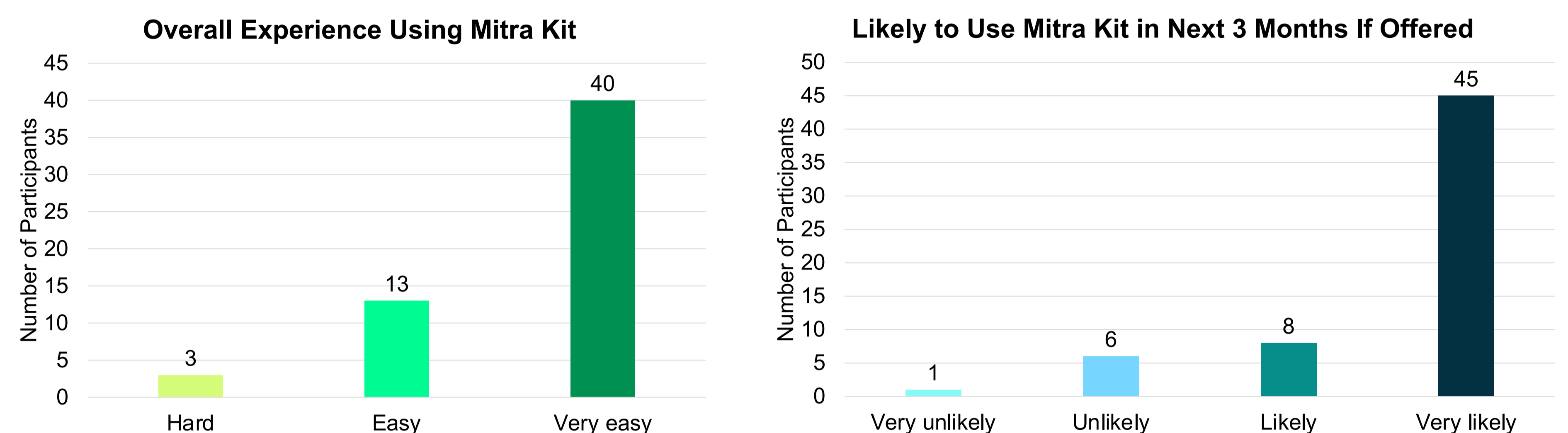
Demographic characteristics of 60 U.S. sexual and gender minority PrEP users who attempted to collect ≥1 at-home blood specimen using Mitra microsamplers kit, 2021

Characteristic	No. (%)
Gender Identity	
Cisgender male	58 (97%)
Transgender person assigned male sex at birth	2 (3%)
Age, years	
18-24	19 (32%)
25-28	30 (50%)
29-32	15 (25%)
Race/Ethnicity	
Hispanic	30 (50%)
Non-Hispanic Black	25 (42%)
Another race/ethnicity ^{††}	5 (8%)
Sexual Orientation	
Gay	46 (77%)
Bisexual	7 (12%)
Pansexual	3 (5%)
Queer	3 (5%)
Same Gender Loving	1 (2%)
Educational level	
At least college	36 (60%)
Some college ^{††}	14 (23%)
High school or less	10 (17%)

RESULTS



Characteristic	Comfort with self-collection using lancet [†]				Comprehension of provided instructions [‡]			
	n	Mean (SD)	Median (Q1, Q3)	P-value [#]	n	Mean (SD)	Median (Q1, Q3)	P-value [#]
Overall	56	3.3 (1.0)	4 (3, 4)		53	3.6 (0.7)	4 (3, 4)	
Age				0.30				0.88
18-24 years	19	3 (1.1)	3 (2, 4)		18	3.7 (0.6)	4 (3, 4)	
25-28 years	24	3.4 (0.9)	4 (3, 4)		23	3.7 (0.7)	4 (3, 4)	
29-32 years	13	3.5 (0.9)	4 (3, 4)		12	3.5 (0.9)	4 (3, 4)	
Educational level				0.42				0.58
At least college	34	3.2 (1.0)	4 (2, 4)		33	3.6 (0.8)	4 (3, 4)	
Some college ^{††}	13	3.6 (0.7)	4 (3, 4)		13	3.8 (0.4)	4 (4, 4)	
High school or less	9	3.1 (1.1)	3 (3, 4)		7	3.7 (0.8)	4 (4, 4)	
Race/ethnicity				0.34				0.67
Non-Hispanic Black	21	3.4 (1.1)	4 (3, 4)		19	3.7 (0.8)	4 (4, 4)	
Hispanic	30	3.3 (0.9)	4 (3, 4)		29	3.6 (0.6)	4 (3, 4)	
Another race/ethnicity ^{††}	5	3 (0.7)	3 (3, 3)		5	3.4 (1.3)	4 (4, 4)	



Characteristic	Overall experience using Mitra kit [§]				Likely to use Mitra kit in next 3 months if offered [¶]			
	n	Mean (SD)	Median (Q1, Q3)	P-value [#]	n	Mean (SD)	Median (Q1, Q3)	P-value [#]
Overall	56	3.7 (0.6)	4 (3, 4)		60	3.6 (0.7)	4 (3.5, 4)	
Age				0.16				0.57
18-24 years	19	3.7 (0.6)	4 (4, 4)		19	3.6 (0.7)	4 (3, 4)	
25-28 years	24	3.5 (0.7)	4 (3, 4)		26	3.6 (0.8)	4 (3, 4)	
29-32 years	13	3.9 (0.4)	4 (4, 4)		15	3.7 (0.7)	4 (4, 4)	
Educational level				0.75				0.62
At least college	34	3.6 (0.6)	4 (3, 4)		36	3.6 (0.8)	4 (4, 4)	
Some college ^{††}	13	3.8 (0.4)	4 (4, 4)		14	3.5 (0.8)	4 (3, 4)	
High school or less	9	3.7 (0.7)	4 (4, 4)		10	3.7 (0.7)	4 (4, 4)	
Race/ethnicity				0.23				0.30
Non-Hispanic Black	21	3.8 (0.5)	4 (4, 4)		25	3.5 (0.9)	4 (3, 4)	
Hispanic	30	3.6 (0.6)	4 (3, 4)		30	3.7 (0.7)	4 (4, 4)	
Another race/ethnicity ^{††}	5	3.6 (0.6)	4 (3, 4)		5	4 (0)	4 (4, 4)	

SD=standard deviation; Q1=interquartile 1; Q3=interquartile 3
^{*} Total number of participants may not equal 60; several participants did not respond to all questions.
[#] Kruskal-Wallis test; $\alpha \leq 0.05$
^{††} Includes vocational school and technical school
^{‡‡} Includes American Indian, Alaska Native, Asian/Pacific Islander, and other race/ethnicity categories
^{§§} Includes transgender and gender diverse identities
^{¶¶} Likert scores: †Comfort with self-collection: 1="Very uncomfortable"; 2="Somewhat uncomfortable"; 3="Somewhat comfortable"; 4="Very comfortable". ‡Comprehension: 1="Very hard to understand"; 2="Hard to understand"; 3="Easy to understand"; 4="Very easy to understand".
^{§§§} Overall experience: 1="Very hard"; 2="Hard"; 3="Easy"; 4="Very Easy". †††Willingness to use again: 1="Very unlikely"; 2="Unlikely"; 3="Likely"; 4="Very likely".

CONCLUSIONS

- At-home blood collection for PrEP adherence analysis was acceptable in a diverse online cohort of young Black and Latinx SGM adults.
- Future larger scale studies should consider including at-home blood collection for objective PrEP adherence measurement rather than relying on self-report alone.

Funding

Research reported in the abstract was supported by the National Institute on Minority Health and Health Disparities of the National Institutes of Health under award number R01 MD 013623; and the Penn Mental Health AIDS Research Center, an NIH-funded program, under award number P30 MH 097488.

The content presented is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Acknowledgements & COI Disclosure

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

The presenting author has no relevant financial relationships with ineligible companies to disclose.

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