HHS Public Access

Author manuscript

AIDS Care. Author manuscript; available in PMC 2017 January 01.

Published in final edited form as:

AIDS Care. 2016 ; 28(3): 289–293. doi:10.1080/09540121.2015.1090533.

Correlates of requesting home HIV self-testing kits on online social networks among African American and Latino men who have sex with men (MSM)

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Abstract

High levels of HIV stigma are one of the main difficulties in engaging African American and Latino men who have sex with men (MSM) in HIV testing. The availability of home HIV test and the possibility of self-testing in private may improve uptake and counteract stigma. This paper sought to determine the correlates of requesting home HIV test kits among a sample of MSM social media users. Odds of participants requesting a test kit were significantly associated with using social networks to seek sexual partners (aOR: 2.47, 95% CI:1.07–6.06) and thinking it is easier to use social networks for seeking sexual partners (1.87, 1.2–3.12), uncertain HIV status (4.29,1.37–14.4), and having sex under the influence of alcohol (2.46, 1.06–5.77). Participants who had not been tested for more than 6 months were more likely to request a test kit than those who were tested in the past 6 months (2.53, 1.02–6.37). Participants who frequently talked to others about having sex with men online were less likely to request a test kit (0.73,0.56–0.92). By reaching people over social media and offering them access to test kits, we were able to reach at-risk individuals who were uncertain about their HIV status and had not been regularly tested. The findings of the study will help to inform future HIV testing interventions.

Keywords

HIV self-testing kits; online social networks; Internet; African American and Latino MSM; MSM; social media

Introduction

The HIV/AIDS rates of African American and Latino men who have sex with men (MSM) are significantly higher than MSM of other racial and ethnic groups (Hall, Byers, Ling, & Espinoza, 2007; Harawa et al., 2004). This disparity is due to the large number of MSM who are unaware of their seropositive status and continubes to engage in sexual risk behaviors (CDC, 2002; Hall et al., 2007; Harawa et al., 2004).

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Disclosure statement:
The authors declare there is no conflict of interest.

Public health agencies have expanded their testing efforts to increase the number of individuals who are aware of their HIV infection and link them to care (DHHS, 2012). However, engaging African American and Latino MSM in HIV testing is difficult because of high levels of HIV/AIDS stigma that are often exacerbated by homophobia and racism (Malebranche, 2003; Mays, Cochran, & Zamudio, 2004). Innovative strategies are needed to increase testing uptake among African American and Latino MSM. The ability to test at home may help to reduce stigma and improve HIV testing uptake (Wright & Katz, 2006).

Because use of online social networking sites (SNSs) is highly prevalent among African American and Latino MSM, these technologies have emerged as potential platforms to provide HIV education and access to home HIV test kits. Leveraging this popularity, we created an online survey on Facebook and allowed participants to request HIV test kits. To understand the uptake of HIV testing, this paper seeks to determine the correlates of requesting home HIV test kits among a sample of SNS-using African American and Latino MSM.

Methods

A total of 112 participants were recruited over 5 months from August 2010 to January 2011. The protocol was approved by the Institutional Review Board (IRB) at the University of California, Los Angeles (UCLA). The study recruited participants through targeted banner ads on Facebook and Myspace, craigslist posts, Facebook fan page, flyers at offline gay establishments (e.g., bars and community organization), and participant referrals. Interested individuals were then redirected to the eligibility page. To fit the inclusion criteria, participants must be (1) male, (2) 18 years or older, (3) Los Angeles residents, (4) registered and unique Facebook users (verified using the “Facebook Connect” technology), and (5) have had sex with a man in the past 12 months. Approximately 80% of the participants were recruited online and 20% offline.

Participants were able to request a Home Access home-based HIV test kit from the study team. At the time of the study in 2011, the Home Access test was the only FDA-approved home HIV test. Participants could make this request by contacting the study staff, and the study team would then send the kit to the specified location. Each participant was limited to one test kit.

Measures

A 92-item survey was developed by the investigators with input from the community advisory board. The survey has not yet been validated.

Sexual risk and HIV testing behavior—Participants were asked about their past HIV testing experience. Participants were requested to indicate the number of times they had engaged in unprotected sex (vaginal, receptive and insertive anal, and oral) and the number of male sexual partners, sexual partners met on SNSs, and one-night sexual partners in the past 3 months. Participants were also asked if they had ever had sex under the influence of alcohol or drugs.

SNS use—Participants were asked to indicate the number of hours they spent on SNSs daily, time since joining Facebook, and number of times they talked to others about sexuality on SNSs. Participants were also asked to indicate if they had used SNSs to meet new sexual partners and to rate the ease of using SNSs to meet new sexual partners.

Statistical Analysis

Analysis was conducted using R-3.0.2 for Mac OSX. Binary association between whether participants who requested a test kit or not and demographic variables, SNS use, sexual risk and HIV testing behavior was assessed using 2-sample t-test and chi-square test (Fisher's exact for $n<5$). Logistic regression models were used to further investigate the significant associations. All models adjusted for age. "I may be HIV positive" and "I have no idea what my HIV status is" are combined into "unsure HIV status" in the analysis.

Results

Basic demographics (see Table I)

Thirty-six participants requested a test kit from the study. Compare to those who did not request a test kit, those who requested a test kit were also more likely to be older, Latino, gay, unemployed/students/others, and married/partnered. No significant differences were found in demographics between the two groups.

Sexual Risk and HIV testing behavior (see Table II)

Most participants had been tested for HIV in the past 3 years. In addition, participants who requested a test kit had a longer duration since their last HIV test that those who did not (greater than 6 months, 48.4% vs. 26.7%). In addition, more participants who requested for a test kit (27.8%) than those who did not (9.7%) were unsure about their current HIV status. In general, participants who did not request a test kit had more male sexual partners, sexual partners met on SNSs, and one-night sexual partners; however, these differences were not significant. Overall, majority of the participants (>80%) engaged in low numbers of unprotected sex. More participants who requested a test kit than those who did not request a test kit had had sex under the influence of alcohol (52.8%, 45.3%) and drugs (44.4%, 25%) in the past 3 months. However, the differences were not significant.

Online social network use (see Table III)

More than half of participants from both groups used SNSs for more than 1 hour every day in the past 3 months. Those who requested a test kit were more likely to have used SNSs to meet new sexual partners in comparison to those who did not (71.4%,50%). In addition, those who requested a test kit found it easier to use SNSs to meet new sexual partners compared to those who did not request a kit ($p<0.01$). Compared to those who did request a test kit, participants who did not request a test kit were more likely to talk to others about having sex with men on SNSs ($p<0.01$).

Adjusted odds ratios (see Table IV)

After adjusting for age, odds of participants requesting a test kit were significantly associated with using social media to meet sexual partners (aOR: 2.47, 95% CI: 1.07–6.06), thinking it is easier to find new sexual partners using SNSs than face-to-face contact (1.70, 1.13–2.75), had had sex under the influence of alcohol (2.46, 1.06–5.77) and uncertain HIV status (2.81, 1.02–7.84). Participants who frequently talked to others about having sex with men on SNSs were significantly less likely to request a test kit (0.78, 0.61–0.96). Compared to those who have been HIV tested in the past 6 months, participants who had not received an HIV test in greater than 6 months were significantly more likely to request a HIV test kit (2.53, 1.02–6.37).

Discussion

To the best of our knowledge, this is the first study that examines the correlates of requesting a home HIV self-testing kit among a sample of SNS-using MSM. This study found that participants with a longer duration since their last HIV test, who were unsure about their HIV status, and who have had sex under the influence of alcohol were more likely to request a home HIV test kit. The study provided some preliminary evidence that we might be able to reach individuals at risk of HIV and not tested regularly by using SNSs. African American and Latino MSM at high-risk of HIV are recommended to be tested every 3–6 months (AIDS.gov, 2011), and home-based HIV testng kits might help to achieve this goal.

We also found that participants who used and found it easier to use SNSs to find sexual partners were more likely to request a test kit. Young et al. found that MSM often use the Internet to find sexual partners to avoid potential stigma (Young et al., 2013). The use of SNSs to meet sexual partners may reflect participants' avoidance of the larger gay community. These individuals might find using SNSs to access home HIV test kits to be an acceptable alternative over accessing potentially stigmatized face-to-face prevention services.

The current study has a few limitations. Due to the small sample size of African American and Latino MSM, this study has a reduced power to make statistical inferences. In addition, the study provided the kits free of charge to the participants. Future studies should explore public health decisions to reduce the cost, such as test-subsidy. The current high cost of home HIV testing kits (~$45) may prohibit high-risk individuals from accessing them.

Awareness and early detection of seropositive status is paramount in containing HIV epidemic. This study provided some preliminary evidence to the feasibility and acceptability of using home HIV testing kits and innovative delivery mechanics. Given the skyrocketed popularity of SNS globally, future studies should explore the potential of using SNSs to deliver home-based HIV test kits to other individuals and groups at high risk of HIV.

Acknowledgments

The authors would also like to thank the support and guidance of Dr. Thomas Coates and Greg Szekeres. Lastly, we would like to acknowledge and thank Facebook for providing the tools for our program to take place.

Funding:

This work is supported by the National Institute of Mental Health (NIMH) under grant K01 MH090884-01A1 (Sean D. Young).

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Table I

Basic demographics by HIV test kits request, Los Angeles, CA, 2011

		Did not request a test kit		Requested a test kit	
		(n=76)		(n=36)	
		n	%	n	%
Age	Mean (sd)	31.4	10.2	33.2	10.3
Race					
	African American	25	32.9	6	16.7
	Latino	43	56.6	24	66.7
	Others[a]	8	10.5	6	16.7
Is Spanish your primary language					
	Yes	12	15.8	6	17.1
	No	64	84.2	29	82.9
Sexual Orientation					
	Gay	56	73.7	29	80.6
	Bisexual	16	21.1	5	13.9
	Others[b]	4	5.3	2	5.6
Highest education level					
	High school/G.E.D	33	43.4	11	30.6
	Associate degree	13	17.1	12	33.3
	Bachelors degree	21	27.6	9	25
	Graduate school	9	11.8	4	11.1
Employment status					
	Unemployed/students/others[c]	30	39.5	17	47.2
	Part-time	16	21.1	9	25
	Full-time	30	39.5	10	27.8
Relationship status					
	Single	64	84.2	28	77.8

		Did not request a test kit		Requested a test kit	
		(n=76)		(n=36)	
		n	%	n	%
	Married/partnered	7	9.2	6	16.7
	Divorced/widowed/others[d]	5	6.6	2	5.6
Primary access of Internet					
	Computers/others[e]	63	82.9	32	88.9
	Cellphones	13	17.1	4	11.1
Have a computer at home					
	Yes	69	90.8	34	94.4
	No	7	9.2	2	5.6

[a] White, Asian/Pacific Islanders, and American Indian/Alaska Native

[b] Heterosexual and don't know

[c] Unemployed, disabled (not able to work), fulltime stay home dads, students, and retired

[d] Divorced, separated, widowed, and others

[e] Home, library, office/work, school, and Internet cafés

Table II

Sexual risk and HIV testing behavior by HIV test kits request, Los Angeles, CA, 2011

		Did not request a test kit		Requested a test kit	
		(n=76)		(n=36)	
		n	%	n	%
Have you tested for HIV in the past 3 years					
	Yes	69	90.8	32	88.9
	No	7	9.2	4	11.1
How long ago was your HIV test *					
	Less than 6 months	44	73.3	16	51.6
	Greater than 6 months	16	26.7	15	48.4
What do you think your HIV status is now?					
	I am sure I am HIV negative	52	72.2	23	63.9
	I may be HIV positive	3	4.2	0	0
	I am pretty sure I am HIV positive	10	13.9	3	8.3
	I have no idea what my HIV status is	7	9.7	10	27.8
Number of male sexual partners[a]					
	Mean (SD)	6.69	13.82	3.88	3.27
Number of sexual partners met on SNSs[a]					
	Mean (SD)	4.62	11.89	3.11	3.19
Number of one-night sexual partners[a]					
	Mean (SD)	4.1	13.14	1.88	1.96
How many times have you had unprotected vaginal sex?					
	0 times	61	87.1	30	93.8
	1–10 times	9	12.9	2	6.2
How many times have you had unprotected receptive anal sex?					

			Did not request a test kit		Requested a test kit	
			(n=76)		(n=36)	
			n	%	n	%
		0 times	40	57.1	18	56.2
		1–10 times	26	37.1	12	37.5
		11–20 times	2	2.9	1	3.1
		21–30 times	0	0	0	0
		31–40 times	0	0	1	3.1
		41–50 times	0	0	0	0
		50+ times	2	2.9	0	0
	How many times have you had unprotected insertive anal sex					
		0 times	39	55.7	15	46.9
		1–10 times	27	38.6	12	37.5
		11–20 times	3	4.3	3	9.4
		21–30 times	0	0	1	3.1
		31–40 times	0	0	0	0
		41–50 times	0	0	1	3.1
		50+ times	1	1.4	0	0
	How many times have you had oral sex?					
		0 times	4	5.6	1	3.1
		1–10 times	38	53.5	20	62.5
		11–20 times	15	21.1	6	18.8
		21–30 times	4	5.6	3	9.4
		31–40 times	3	4.2	2	6.2
		41–50 times	3	4.2	0	0
		50+ times	4	5.6	0	0
	Have you ever been high (on drugs) while having sex					
		Yes	19	25	16	44.4
		No	57	75	20	55.6

		Did not request a test kit		Requested a test kit	
		(n=76)		(n=36)	
		n	%	n	%
Have you ever been drunk while having sex					
	Yes	34	45.3	19	52.8
	No	41	54.7	17	47.2

* p< 0.05

** p< 0.01

*** p< 0.001

[a] 2-sample t-test

Table III

Online social network use by HIV test kits request, Los Angeles, CA, 2011

		Did not request a test kit		Requested a test kit	
		(n=76)		(n=36)	
		n	%	n	%
Time spent on online social networks daily					
	None	1	1.3	1	2.8
	0 – 1 hour	16	21.1	11	30.6
	1 – 2 hours	26	34.2	12	33.3
	3 – 4 hours	14	18.4	5	13.9
	4 – 5 hours	7	9.2	5	13.9
	5+ hours	12	15.8	2	5.6
When did you join Facebook					
	Less than 1 month ago	2	2.7	2	5.6
	Between 1 – 6 months ago	2	2.7	1	2.8
	Between 6 – 12 months ago	8	10.7	3	8.3
	1 – 2 years ago	20	26.7	6	16.7
	Over 2 years ago	43	57.3	24	66.7
Have you used online social networks to meet new sexual partners					
	Yes	38	50	25	71.4
	No	38	50	10	28.6
The ease of using online social networks to meet new sexual partners in comparison to face-to-face encounters **					
	Much more difficult	7	10.8	0	0
	Difficult	3	4.6	1	3
	Neither more difficult nor easier	13	20	6	18.2

		Did not request a test kit		Requested a test kit	
		(n=76)		(n=36)	
		n	%	n	%
	Easier	20	30.8	7	21.2
	Much easier to meet people	22	33.8	19	57.6
	Frequency of talking about having sex with men on online social networks *				
	0 times	15	19.7	8	22.2
	1 – 5 times	20	26.3	15	41.7
	6 – 10 times	10	13.2	8	22.2
	11 – 15 times	11	14.5	1	2.8
	16 – 20 times	1	1.3	1	2.8
	21 – 25 times	3	3.9	1	2.8
	25 + times	16	21.1	2	5.6

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Table IV

Adjusted odds ratios (aORs) for requesting a HIV test kit through the HOPE study by online social network use and sexual risk and HIV testing behavior, Los Angeles, CA, 2011

Correlates[a]		**aORs**	**95%CI**	
Daily social media use		0.81	0.58	1.09
When did you join Facebook?				
	Less than 1 month ago	Control		
	Between 1 – 6 months ago	0.64	0.018	14.75
	Between 6 – 12 months ago	0.49	0.038	5.95
	1 – 2 years ago	0.36	0.035	3.65
	Over 2 years ago	0.76	0.080	7.32
Have you used social media to meet sexual partners *		2.47	1.07	6.06
The ease of using online social networks to meet new sexual partners in comparison to face-to-face encounters *		1.70	1.13	2.75
Frequency of talking about having sex with men on online social networks *		0.78	0.61	0.96
Have you been HIV tested in the past 3 years		1.22	0.30	4.39
How long ago was your HIV test?				
	Less than 6 months	Control		
	More than 6 months	2.53	1.02	6.37
Unsure HIV status[b]*		2.81	1.02	7.84
Number of male sexual partners		0.96	0.87	1.01
Number of sexual partners met on SNSs		0.97	0.87	1.02
Number of one-time sexual partners		0.95	0.82	1.02
How many times have you had unprotected vaginal sex		0.45	0.065	1.87
How many times have you had unprotected receptive anal sex		1.01	0.56	1.73
How many times have you had unprotected insertive anal sex		1.39	0.86	2.31
How many times have you had oral sex		0.84	0.57	1.17
Have you ever been drunk while having sex *		2.46	1.06	5.77
Have you ever been high while having sex		1.49	0.65	3.45

* p< 0.05

** p< 0.01

*** p< 0.001

[a] All models adjusted for age

[b] The control group is “I am sure I am HIV (+) or HIV (−)”, and “I may be HIV positive” and “I have no idea what my HIV status is” were combined into “unsure HIV status”