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Acceptability and feasibility of a Peer Mentor program to train young Black men who have sex with men to promote HIV and STI home-testing to their social network members

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Abstract

Young Black men who have sex with men (YBMSM) experience persistently high rates of undiagnosed HIV and other sexually transmitted infections (STIs) and testing rates remain sub-optimal. Home-based testing (HBT) has been found to be acceptable among MSM and while awareness about HBT is relatively high, uptake has been low. Peer-based approaches have been shown to be effective in reducing HIV risk behavior, yet have not been used to increase utilization of HBT. The purpose of this study was to assess acceptability and feasibility of a program to train YBMSM as Peer Mentors to use and promote HIV and STI home-based testing and specimen collection to their social network members. Fifteen YBMSM ages 18–30 completed in-depth structured interviews and were asked to talk with their social network members about home-based testing. Participants reported acceptability of the Peer Mentor role and two-thirds had conversations with diverse social network members (e.g. male and female, sex partners, friends, family). Facilitators of peer outreach included the novelty of home-based testing, confidence about accuracy of the tests, and resources for linkage to care. Barriers included concerns about negative responses and disclosure of sexual identity/behavior. Results of this study suggest that YBMSM are willing and able to promote HBT to their social networks. This is a promising approach to increasing dissemination of HBT kits for both HIV and STI testing.

Keywords

home-based testing; HIV; STI; Black MSM; social network

Introduction

Young Black men who have sex with men (YBMSM) experience persistently high rates of undiagnosed HIV and other sexually transmitted infections (STIs). Data from the 2014

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MSM wave of the National HIV Behavioral Surveillance (NHBS) study indicate that HIV prevalence in Baltimore among BMSM is 48% and among BMSM ages 18–24, undiagnosed infection was 74% (German et al., 2017). STIs are hypothesized to be a contributing factor to the racial disparities in HIV infection (Millett et al., 2012; Mimiaga et al., 2009; Wejnert et al., 2015). Rates of chlamydia have increased 2.8%, gonorrhea 5.1% and syphilis (primary and secondary) 15.1% (Centers for Disease Control and Prevention (CDC), 2015) in 2014, yet testing for both HIV and STIs remains sub-optimal (Centers for Disease Control and Prevention (CDC), 2010; Maulsby et al., 2014).

Compared to clinic-based testing, home-based self-testing (HBT) offers convenience and privacy for screening and diagnosis. HBT is a potential approach for improving HIV and STI testing rates among MSM (Baraitser et al., 2011) (Estem, Catania, & Klausner, 2016) and reaching individuals who infrequently test or have never tested. (Chiu & Young, 2016; Merchant et al., 2018) The FDA approved OraQuick In-Home™ HIV test gives HIV antibody test results in 20 minutes (Estem et al., 2016) and home-based specimen collection for STI testing has been found to be acceptable and feasible (Fisher et al., 2015; Horwood et al., 2015; Huppert, Hesse, & Gaydos, 2010; Sharma, Stephenson, White, & Sullivan, 2014). Studies have shown that individuals can accurately collect specimens (for both HIV antibody and STI testing) and interpret their results (Graseck, Secura, Allsworth, Madden, & Peipert, 2010; Orasure Technologies, 2012; Reagan, Xu, Shih, Secura, & Peipert, 2012). In one study conducted in multiple cities, males aged 14 and older were offered free STI HBT kits. (Chai et al., 2010) Most participants reported preferring the self-administered specimen as compared to clinic and reported that the penile swabs were safe, very easy to use, and had not previously used self-collected STI screening but had strong intentions to continue to use HBT for their future screening. (Chai et al., 2010)

Awareness about HBT is relatively high yet uptake has been low. In a sample of MSM ages 18–30 who completed an on-line survey, 77% knew that a HIV kit was available to test at home but only 17% had ever purchased one. In another study, 71% of MSM recruited on the internet had heard about home HIV test kits but never used one. In one study conducted in multiple cities, males aged 14 and older were offered free STI HBT kits and 1644 male kits were requested yet only 31% returned for testing (Chai et al., 2010). Factors such as cost of the HIV test kit, concerns about accuracy, and preferences for face-to-face counseling have been found to affect uptake (Frye et al., 2015; Hurt, Soni, Miller, & Hightow-Weidman, 2016). Therefore, identifying methods and programs to address barriers to HBT is critical to increasing utilization. One study demonstrated that providing HIV HBT kits to MSM free of charge increased testing among those at high-risk and non-recent testers (Jamil et al., 2017). Other methods have included posting ads on social media sites and distribution at bathhouses (Rosengren et al., 2016; Woods, Lippman, Agnew, Carroll, & Binson, 2016).

Peer-based, social network approaches are well established as effective methods to improve health by utilizing social ties to increase access to health resources and establishing health-promoting social norms (Latkin, Sherman, & Knowlton, 2003; Tobin, Kuramoto, Davey-Rothwell, & Latkin, 2011). Social network approaches have been shown to be effective in recruiting individuals for HIV testing and finding undiagnosed cases because high-risk individuals tend to be in the social networks of other high-risk individuals. (Boyer et al.,

2014; Ghosh et al., 2016; Kimbrough et al., 2009; Nikolopoulos et al., 2016) Studies have also shown that BMSM report willingness to distribute self-testing kits to peers. A survey of MSM recruited on-line assessed willingness to distribute HIV home-test kits (oral and fingerstick) and found 91% reported likelihood of distributing oral test kits and 79% fingerstick kits to their peers (Sharma et al., 2014). Unlike passive methods such as banner ads on websites and mass media campaigns, Peer Mentors can actively engage their peers and sexual networks using established rapport and trust, can answer questions about the testing procedures or logistics, offer social support and can model uptake of self-testing which can lead to increased uptake (Frye et al., 2015; Hall et al., 2015; Safren et al., 2011).

The purpose of this study was to assess acceptability and feasibility of a program to train YBMSM as Peer Mentors to use and promote HIV and STI home testing to their social network members.

Methods

Recruitment

Study participants were recruited by a trained research assistant through venue-based outreach (bars and clubs, community-based organizations, health clinics) and word-of-mouth referral. Interested participants were screened for eligibility and scheduled for the interview. Inclusion criteria were: 1) aged 18–30 years old, 2) male sex, 3) any sexual behaviors with another male in the prior 12 months, and 4) African American or Black ethnicity/race. Criteria 2–4 were based on participant self-report.

Procedures

In-depth interviews were conducted in a private office at a community-based research clinic. Each participant agreed to complete two structured interviews which were scheduled a week apart with the same interviewer. Interviewers included four research assistants and the study's lead author. During the first interview, the Peer Mentor training was described as following: "You would learn communication skills and be asked to talk with your friends and family about home-based testing and reducing risky behavior." Participants were asked to discuss their interest in the training and potential barriers to being a Peer Mentor.

The interviewer then showed pictures and described the HIV home-based testing kit and STI specimen collection kits (gonorrhea, chlamydia, syphilis and herpes) to the participants: "The HIV test kit, would come with a cotton tipped swab and a vial of solution. You would swab your gums top to bottom and then place it in a vial of solution. The solution is drawn up into the kit and you would read your results here." "For gonorrhea and chlamydia testing you will receive a kit to collect a penile specimen. The kit would contain a cotton swab and a tube container and a postage paid envelope to mail the specimen to our lab. To collect the specimen you would roll the swab inside your urethra (where the pee comes out) and then place the swab in the tube and seal it." "To test for syphilis and herpes, you would be provided with a kit to collect a drop of your blood that would be mailed to the same lab as the penile sample. The kit would come with an alcohol pad, lancet for pricking your finger

and a collection device where you would place a drop of your blood.” The participant was then asked the following questions:

- “How willing would you be to talk about home HIV/STI testing with your friends and family?”
- “How would you bring up the conversation?”
- “What questions do you think they would have?”
- “Who would you be the most likely to talk to about home testing?”
- “What would get in the way of having conversations about home testing?”

At the end of the interview, each participant was asked to take a booklet with pictures of the testing kits and talk with 1–2 of their social network members (e.g., friends, siblings or sex partners) of their choosing, about their willingness and concerns about HBT.

During the second interview, participants were asked to describe characteristics of the social network members whom they spoke with and provide details about their conversations. Interviews ranged from 45 to 75 minutes and participants received \$20 after completing each interview. All interviews were audio-recorded and research assistants wrote a summary of each interview. This research was approved by the Johns Hopkins School of Public Health (JHSPH) Institutional Review Board.

Analysis

Interviews were transcribed verbatim by two research assistants and the study’s lead author. Transcripts were reviewed by the lead author for range, consensus and divergence of participant responses in each section. Select quotes are presented to represent examples of consensus or differences.

Results

Fifteen participants completed the first interview and ten of the 15 participants (67%) returned for a second interview. Participants were on average 26.2 years old. Seven participants (50%) self-reported HIV negative status, two were HIV positive, and five were not recorded.

Acceptability of Peer Mentor role

Overall, the Peer Mentor role was acceptable to participants who viewed it as having a positive impact on their community:

“People need to be educated more when it comes to sexual behaviors, sexual activities, and health regarding HIV and STIs. I think I would be willing to do that so that our community can have a better perspective on how to take care of themselves, whether the test results are positive or negative.” (28 yo, HIV negative)

Another participant noted that the Peer Mentor role and HBT would help address barriers to testing:

“Because a mentor is, in people’s eyes, someone to look up to. So for people who may not know how to say certain things, do certain things, they have someone they can look up to, to ask for directions... I would love to get the word out, because I really think it would save a lot of the stress and the turmoil, and all those different things. It would save the person a lot of emotional distress by just doing it in the privacy of their home. And you could do it and no one would ever know.” (22 yo HIV negative)

One participant noted that their own testing behaviors could influence people in their personal social network to test but noted that convincing people who they don’t know could be more challenging.

“If they know that I took them [home-based tests], they might take them themselves. So now I can talk about these with friends and people who are educated on sexual diseases, but for me to talk to people that I am not as close with and people in the community, they would need proof that A) these tests work and B) they would want to know why they should take them and why they might be positive for some of these other diseases.” (18 yo, HIV status not documented)

Feasibility of promoting HBT to individuals in the social network

Participants reported having conversations with a variety of social network members including males and females, ages ranging from 17 to 37 years who were sex partners, friends, and family.

The following excerpt is from a 22 year old, HIV negative participant who spoke with four male friends, a mix of MSM and men who have sex with women (MSW). The participant describes his friends’ initial surprise at his bringing up HBT and his efforts to respond to their concerns surrounding the testing process:

[Research Assistant]: How did you bring it up?

Participant: The same way you did with me. I showed them the packet. And the first question they asked was ‘Is it painful?’—when they saw not the HIV one, but the STI one. And I explained to them that it’s not painful—just a little bit of swab, little saliva, little specimen. Once I told them it was painless they were a little more interested. I said, ‘Imagine you doing it.’ And they thought it was a good idea. At first they were a little shocked, because they said, “We never thought that you would ask.” But then when I broke it down to them, they came to be a little more understanding...

[Research Assistant]: Why were they shocked?

Participant: I guess maybe because it was a friend. But then that was a good thing, also a win-win situation, because by me being a friend they opened up. So I think that was a good start. And they were very enthused about it. Especially the STI [test]. The HIV [test]...we got a few hits, but everyone was a little bit, for some reason or another, more interested in the STI one than the HIV one.

Three key themes emerged about factors what would facilitate peer outreach to promote HBT: 1) novelty of the tests, 2) accuracy of the tests and 3) having access to resources to link to care.

Several participants mentioned that they would emphasize the novelty of HBT as a way to initiate the conversation with their peers:

“Probably just come out and say ‘Hey, did you know there’s this thing called an HIV home testing kit?’” (22 yo, HIV status not recorded)

In one case, a 30 year old, HIV negative participant spoke with two male partners:

“I told them there was this new program where you can test yourself for HIV and STDs from home and they were like, ‘For real?’ And I showed them the book and they were like, ‘Cool that’s what’s up!’ and they were—like I said—more convenient, less pressure, more confidential. They had never heard of such a thing and they thought it was cool.”

Many participants identified the importance of the accuracy of the tests in their ability to promote HBT to their peers:

“If it is not 100% accurate they [peers] would probably prefer to go to a clinic. Even if I am telling them, they might not feel they know enough about the at-home test and might think it is better to go to a clinic.” (18 yo, HIV status not recorded)

A 30 year old, HIV negative participant spoke with two female friends about the HIV testing kit, and this conversation included discussion about personal risk and testing

“I found out they had never been tested for HIV. I was shocked to hear that. I mean they have been together for 13 years, but it’s not like they are each other’s firsts, so I would have expected that they did [get tested] because I thought everyone in my age group who is sexually active – which is everyone – would have been tested. But they were surprised by the swab because they thought it had to be through blood – so I explained there is a quicker way that takes 20 minutes and they were like, ‘Are you sure its accurate?’ And I said, ‘I am pretty sure.’ They both said they were going to get tested now.”

A 22 yo, HIV negative individual described the importance of having resources available during the conversation such as post-test counseling and linkage to care:

“If it’s a positive result, how would the person go about finding care? Would the system generally say, ‘Oh well we’ve detected a positive result and we’ll automatically find a clinic compared to where you live’? We would have to find a solution to getting people past the fear part. ‘Oh, you came back positive.’ Now what? This was the first step, now we need a second...we need a Plan B.”

Themes that emerged about potential barriers to conducting peer outreach to promote HBT included: 1) fear of peers reactions and 2) concerns about disclosure about self or others sexual behavior.

Some participants expected skeptical reactions of their peers:

“People’s reactions...I don’t know if they would say ‘Get out of here,’ or ‘What are you trying to say?’” (22 yo HIV positive)

Another commented

“People just don’t like to talk about this stuff.” (22 yo HIV negative)

When deciding who they would talk to many participants noted that others’ sexual preferences and their own sexuality were factors. Many expressed a preference for talking with people who knew that they had sex with men or with social network members who they knew were sexually active and/or at risk:

[Research Assistant]: Who would you want to talk to?

Participant: “Close friends, maybe my sister...but I don’t know, because she knows about my sexuality but I don’t tell her a lot about it. First of all, I have been talking a lot about homosexuality and I know you can be heterosexual and still have HIV. But I have a lot of heterosexual friends and they probably wouldn’t take the test because they don’t think they be HIV positive at all or have any STDs. They wouldn’t be interested in taking it because they think that heterosexual sex is more safe and they would think they couldn’t possibly have an STD or if they did they would have symptoms already. Most of my homosexual friends would be more interested in taking it because they know about the risk of STDs.” (18 yo, HIV not recorded)

Discussion

The purpose of this study was to assess acceptability and feasibility of a program to train young Black men who have sex with men to be Peer Mentors and promote home-based HIV and STI testing to individuals in their social network. We found that the role of Peer Mentor was acceptable to the participants and was seen as valuable in educating others about testing and we did not observe any differences in this by HIV status or age.

Most participants returned to report on the outcomes of actual conversations with their social network members who were diverse in gender, sexual orientation, and relationship. This is consistent with other studies that show BMSM are embedded within in diverse social networks and suggests the potential for Peer Mentors to reach various at-risk individuals who may not be willing to engage in traditional screening and prevention programs (Kapadia et al., 2013; Latkin et al., 2011; Tobin, German, Spikes, Patterson, & Latkin, 2011; Tobin & Latkin, 2008). Participants expressed preferences to having conversations with social network members to whom they have disclosed same-sex behavior. It is well-established that MSM-related stigma is a barrier to HIV testing and care and these findings underscore the importance of including skills and techniques to manage unintended negative consequences of promoting HBT (Dowshen, Binns, & Garofalo, 2009; Golub & Gamarel, 2013).

As other studies have reported high acceptability of HBT, we found participants and their social network members viewed HBT as a novel option that overcomes barriers of limited operating hours and privacy concerns (Chiu & Young, 2016; Colfax et al., 2002; Estem et al., 2016). Accuracy of the tests was a common question and concern for both participants

and their social network members. This is similar to the findings from a qualitative study with MSM and transgender women in New York and highlights the importance for a training program to equip Peer Mentors with factual information about the accuracy and practice explaining the accuracy to their peers. This may be accomplished using a booklet, as we did in this study, or using a web-based format which has been found to be acceptable to young MSM (Hightow-Weidman et al., 2012; Muessig et al., 2013).

Participants underscored the importance for the program to provide Peer Mentors with information for linkages to medical care and counseling. With the rapid emergence of mHealth methods, such as texting, and widespread ownership of internet enabled phones, Peer Mentors could be trained to serve as a resource for their peers and refer to websites that provide information about medical centers.

The study is not without limitations. First, 5 of the 15 participants did not return to report about their conversations. We do not know the reasons for this. It is possible that they chose not to have conversation or that the conversations were not successful which might indicate lower acceptability of a Peer Mentor program. Second, while our sample was diverse in age and HIV status, our recruitment approach did not include on-line methods which may have yielded more diverse opinions about the Peer Mentor program. We also did not recruit based on other characteristics that might influence acceptability and feasibility of the program, such as drug and alcohol use.

Despite these limitations, this study provides evidence that YBMSM are willing, and did, have conversations with individuals in their social networks to promote HBT for STIs and HIV. These conversations are critical to changing social norms around testing and improved testing rates within their networks.(Chiu & Young, 2016) Future studies should examine different communication channels through which YBMSM would use or prefer to have these conversations (e.g. social media, phone or in-person). Training YBMSM to disseminate HBT kits can broaden the reach of testing programs especially in geographic locations where programs are sparse or difficult to access (e.g. rural areas). Future studies should identify whether barriers to training YBMSM are similar or different than training urban YBMSM. In conclusion, a peer-based HBT approach is a promising approach to improving testing rates and achieving the goals of the National HIV AIDS Strategy (Office of National AIDS Policy, 2015).

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