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What HIV-Positive MSM Want from Sexual Risk Reduction Interventions: Findings from a Qualitative Study

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Abstract

To facilitate the development of a tailored intervention that meets the needs of HIV-positive men who have sex with men (HIV-positive MSM), we conducted formative research with 52 HIV-positive MSM. We sought to (a) identify major barriers to consistent condom use, (b) characterize their interest in sexual risk reduction interventions, and (c) elicit feedback regarding optimal intervention format. Men identified several key barriers to consistent condom use, including treatment optimism, lessened support for safer sex in the broader gay community, challenges communicating with partners, and concerns about stigmatization following serostatus disclosure. Many men expressed an interest in health promotion programming, but did not want to participate in an intervention focusing exclusively on safer sex. Instead, they preferred a supportive group intervention that addresses other coping challenges as well as sexual risk reduction. Study results reveal important considerations for the development of appealing and efficacious risk reduction interventions for HIV-positive MSM.

Keywords

HIV-positive; Men who have sex with men; HIV prevention intervention; Sexual risk reduction intervention development

The development and dissemination of effective interventions to reduce sexual risk behavior among HIV-positive people is recognized as a public health priority [1, 2]. Findings from the first generation of sexual risk reduction intervention trials for HIV-positive people have been promising, with positive effect sizes that approximate those reported for studies involving uninfected populations [3]. However, implementation of evidence based prevention programs for HIV-positive people poses a number of challenges [4]. First, existing interventions are time and resource intensive, requiring multiple group or individual sessions that are best administered by highly trained staff. Second, interest in HIV prevention programming among HIV-positive people may be limited relative to programming that addresses a broader set of needs related to mental and physical health [5–7]. Finally, most HIV-positive prevention programs rely on intervention frameworks that presume similar intervention needs among distinct subgroups of HIV-positive men and women, despite important differences among population subgroups [6, 8]. Knowledge regarding the dynamics of sexual behavior and preferences for intervention format, content, and approach for specific subpopulations of HIV-positive people may optimize participation and inform the development of briefer, more effective sexual risk reduction interventions for persons living with HIV.

Optimizing sexual risk reduction programs for HIV-positive MSM is a high priority. Early in the epidemic, MSM made remarkable strides to reduce risky sexual behavior [8–10]. However, research over the past decade points to a resurgence of risky sexual behavior, STDs, and new HIV infections among MSM [11–15]. At present, MSM comprise more than 50% of those living with HIV [15]. Further, HIV-positive MSM appear to be less responsive to behavior change interventions relative to other subgroups. A meta-analysis concluded that interventions for HIV infected people were successful “to the extent that MSM were not included in the sample.” [2] Findings from the Seropositive Urban Men's Intervention Trial, the first major intervention trial to focus exclusively on HIV-positive MSM, found no effect for a group-based program on rates of unprotected sex [16]. However, HIV-positive MSM reported increased engagement in other risk reduction practices (e.g., limiting sex to only HIV-positive partners). More recently, a subgroup analysis of MSM enrolled in the Healthy Living Project showed that men in the intensive cognitive behavioral intervention arm reduced the frequency of unprotected sex relative to those in the delayed intervention condition [17]. Although promising, the intervention involved fifteen 90-min sessions, a format that would be difficult to implement in most resource limited clinic settings. Limitations of existing interventions suggest the need for briefer intervention formats that more effectively address the complex dynamics of sexual risk behaviors among HIV-positive MSM.

In this report, we describe findings from formative research that was conducted to inform the development of a sexual risk reduction intervention for HIV-positive MSM. The

Information-Motivation-Behavioral Skills (IMB) model of sexual risk reduction provided the theoretical framework that guided our formative research [18, 19]. The IMB model theorizes that one's level of HIV prevention knowledge (information), motivation, and behavioral skills influence whether an individual engages in HIV risk or protective behaviors. As such, deficits in any of the informational, motivational, or behavioral domains increase the likelihood of sexual risk practices. In contrast, when an individual is informed of HIV prevention and sexual risk reduction strategies, is motivated to engage in safer sexual practices, and has the requisite behavioral skills (e.g., able to negotiate condom use with their partner), the person will be more likely to engage in protective sexual practices. The IMB model was utilized in the present study to elicit input regarding core information, motivation, and behavior deficits associated with sexual risk behaviors among HIV-positive MSM.

We gathered qualitative input from participants regarding (a) the priority of sexual health and safer sex relative to other challenges; (b) approaches to optimizing interest in and impact of sexual risk reduction interventions, including preferences for intervention format, content, and approach; and (c) perceived barriers to safer sex adherence among HIV-positive MSM. Whereas most research with HIV-positive MSM has been conducted in major AIDS epicenters, the present study was conducted in a medium sized city in the Northeastern U.S. As such, findings offer important insights into prevention priorities among HIV-positive MSM generally and with reference to patients residing in smaller and medium sized cities.

Methods

Procedures

Qualitative interviews ($n = 21$) and focus groups ($n = 31$) were conducted with HIV-positive MSM recruited through a University-based infectious disease clinic. Male patients were recruited during outpatient medical visits. Patients were eligible if they were HIV-positive and reported having oral or anal sex within the past year with a man. All participants provided informed consent to participate in either a focus group or individual interview and were compensated \$20 for their participation. The study was approved by the Institutional Review Boards at the participating institutions. Prior to starting the focus group or interview, participants completed a brief, self-administered questionnaire. The questionnaire assessed ethnicity, age, current employment status, health status (i.e., time since HIV diagnosis, number of HIV-related hospitalizations, history of an AIDS diagnosis, and most recent viral load), relationship status, and sexual history (i.e., sexual partners, lifetime and past year). Focus groups were led by a clinical psychologist with extensive experience working with HIV-positive individuals. Individual interviews were conducted by either a clinical psychologist or a clinical psychology doctoral student with experience working with HIV-positive individuals.

Qualitative Interview Guide

An interview guide was used to structure the individual interviews and focus groups and included: (a) a set of open-ended questions to elicit input regarding critical information, motivation, and skills-based barriers to consistent condom use and serostatus disclosure

among HIV-positive MSM; and (b) prompts to facilitate discussion regarding the importance of prevention programming, as well as ways to optimize intervention content and elicit interest from HIV-positive MSM. Questions asked of participants did not differ between the individual interview and focus group formats. Participants were informed that their input was being sought to guide the development of a new intervention program to “help HIV-positive men to maintain healthy, satisfying relationships.” The perceived importance of sexual health and prevention programming was assessed by asking participants to describe steps they take to “stay healthy” and to describe the “biggest challenges or hassles you face” related to being HIV-positive. For the module on sexual behavior, participants were asked, “In your view, what makes it hard for HIV-positive gay men to stay safe with primary and non-primary sexual partners?” Follow-up prompts asked participants to report on specific behavioral skills, informational, and motivational barriers to maintain safer sexual practices. Prompts focused on partner negotiation for safer sex, strategies for coping with risky situations, and differences in sexual behavior negotiation for HIV-positive partners versus partners of unknown or HIV-negative serostatus. In addition, to identify potential barriers to consistent safer sex, men were also asked to “think of specific situations where it’s especially difficult for an HIV-positive person to stay safe.”

To gain insight into informational deficits, participants were asked to describe what they considered to be “safe” versus “unsafe” sexual behaviors. Prompts also probed for knowledge about health risks associated with unprotected sex involving two HIV-positive partners and whether it was “necessary to use condoms with a partner who is also HIV-positive.” Participants were also asked whether viral load influenced HIV infectivity and whether HIV-positive men used their viral load as a basis for deciding on condom use. Finally, prompts were also used to elicit input regarding whether “treatment optimism” (i.e., improved long-term health prognosis due to HIV medications) contributes to unprotected sex among HIV-positive men. Additional input regarding ways to optimize prevention programming for HIV-positive MSM was gathered by asking participants for ideas regarding how to make such programs successful, topics that would be of interest, and ideas regarding intervention format.

Qualitative Coding Approach

Each focus group and individual interview was audio-taped and transcribed verbatim. A structured codebook and subsequent analyses were guided by the Grounded Theoretical approach to qualitative data analysis [20, 21]. The process of data analysis began with open-coding to capture maximum detail and complexity in the data and then used a process of continual comparison and revision with initial broad codes to eventually become more focused and systematic [22, 23]. The framework for the coding classification scheme was based on major topical headings specified in the interview guide. Additional topics pertinent to intervention development that emerged in the focus groups and individual interviews were added to the coding classification scheme. Using the initial classification system, two research staff members then coded a randomly selected focus group transcript together. The initial coding classification system was refined based on coding discrepancies and discussion of potential revisions for the coding structure [24, 25]. Once the coding classification system was finalized, a structured codebook was developed. The codebook

included definitions for the classification codes and coding guidelines with illustrative examples for each code.

Transcripts were inputted into Analysis Software for Word-Based Records (AnSWR) [26]. Two independent raters coded all of the focus group and individual interview transcripts. Percent agreement between raters was calculated across all transcripts for every code; overall percent agreement was 66%. When inter-rater discrepancies emerged, relevant passages were reviewed by the study team before a final code was assigned. Using the final coded data, key themes were extracted and illustrative quotes were selected.

Results

Participant Characteristics

Participants' racial background was 61% Caucasian, 33% African American, and 6% "other." Participants ranged in age from 24 to 63 (M age = 41.4, SD = 8.1). Approximately half were currently employed (48%). The average monthly income was \$1023 (SD = \$699). Fifty percent reported having an undetectable viral load at their most recent medical appointment. The average number of years since diagnosis of HIV infection was 8 years. With regard to relationship status, 33% were living with a primary partner, 19% had a steady partner but did not live together, and 48% did not have a primary partner. On average, participants reported having 4.8 sexual partners in the past year (SD = 10.9).

Sexual Health Relative to Other Life Concerns

Only two of 52 participants (5%) spontaneously mentioned condom use and avoiding risky sexual behavior as a priority for maintaining health. The most salient priorities for maintaining health emphasized by the participants were maintaining a positive outlook, avoiding heavy drug and alcohol use, and reducing stress. For example, one participant noted "...most people who have positive outlooks tend to do better than people who have a negative outlook and want to feel sick or people that want to be sick. I'm not going to be that way; I'm not that kind of person." Many participants also described the importance of taking medication, often with an acceptance that medication is now a lifetime commitment. For example, one participant noted that he sees himself as similar to a diabetic: "A diabetic doesn't take their insulin, they're going to die. I look at it that way with my meds."

Stigma related to HIV and sexual orientation were among the most prominent stressors noted by participants. Indeed, participants often noted that the stigma of being gay is amplified by being HIV-positive.

"...it's just being homosexual, being considered a minority, and being HIV-positive with it too, it's just like you know, it's like it's a triple, it's like 3 X's, bam bam bam, people don't want to associate with that, so you know, I can tell you that if you were a person in my house, there would be no clue that I'm either gay or HIV-positive, because you would never be able to find it, you know, I hide it just as deep in my house, you know my pills and my medicine and everything like that..."

Other stressors cited by participants included worry about potential health decline and death due to HIV, challenges related to medication adherence and side effects, coping with mental illness and substance abuse, and financial stress.

Sexual health and safer sex in the context of being HIV-positive did not emerge spontaneously as a major stressor. However, difficulty forming supportive relationships, loneliness, and lack of social support were noted by many participants as core stressors. Many participants noted the paucity of outlets to form supportive relationships and the lack of community support in general for HIV-positive MSM. Of note, a number of participants described that the only identifiable gay community outlets are gay bars and that older gay men, and men who are known to be HIV-positive, are often shunned in these outlets. Several participants said that the gay community itself does not provide support for people who are HIV-positive. As described by one participant, “In the gay community there’s a lot of prejudice, especially with HIV, like if they know someone has HIV, they wouldn’t talk to them. Right here in [city].”

Optimizing Interest in and Impact of Sexual Risk Reduction Interventions

A program that focuses exclusively on safer sex may not be well received—

Questions regarding how to optimize the content and approach of a program to help HIV-positive MSM stay safe in sexual relationships elicited a wide range of views, many of which were tinged with negativity regarding the prospect of “yet another safer sex workshop.” For some, negativity was linked to a strong sense that prevention efforts involving HIV-positive people tend to place too much blame for the epidemic on those who are HIV-positive. Indeed, many participants stressed that safer sex should be everyone’s responsibility, not just those who are HIV-positive. As one participant noted, “...I’m tired of being responsible for other people’s actions. This society is always looking for somebody to blame...”

Some participants expressed outright negativity regarding efforts to promote safer sex. For example, a participant noted that even the most intensive HIV prevention programs may not curb the spread of HIV.

“I’ll be honest, I don’t think prevention is worth a damn. I’ve found that some people just want to practice unsafe sex...short of injecting something into their brain, you could take them to a workshop every hour, and they’re not going to hear it. I don’t think any number of workshops is going to do it, I just don’t.”

Another participant expressed similar skepticism, noting that “We need a vaccine. We’re already at a place where we’ve pissed away millions of dollars on safe sex education... they ain’t never gonna touch it.”

Preference for a supportive, group approach that addresses other coping challenges as well as sexual risk reduction—Many HIV-positive MSM expressed interest in health promotion programming that is not solely focused on safer sex. Participants favored a supportive group setting that would allow them to meet other HIV-positive MSM. They also preferred an interactive, engaging format that would incorporate group discussions. Participants stated that interventions should not lecture on the need to

practice safer sex and use condoms, but instead provide a group-based forum to discuss safer sex topics in an informal, social atmosphere.

“...if you want to get safer sex out to HIV-positive men and talk about it, it's got to be more social. We don't have a lot of social things. Half the reason we're sitting here is an opportunity for us to get together, hang out with some friends, and make some new friends. If it's made social, it's not so clinical, where you're able to discuss things, given the opportunity for us to learn about each other, and to participate in a group setting that's relaxed, where we can steer what is being said. Yes, you need a facilitator and yes, the facilitator needs to have an agenda, but we can't feel preached at.”

A number of participants stressed that a program would be appealing only if it provides additional coping skills to facilitate the management of the many stressors they face. As one participant stated, there was an interest in a holistic health promotion program, where safer sex was one of several topics covered.

“...if you're looking at giving support for the guys at the clinic, you want to cover mental health, physical health, sexuality, safe sex, drugs, and alcohol. We really need it. I'm sitting in a room with a group of guys I'm having a blast with and would like to get to know better; we're enjoying it right now... and it makes you feel good about yourself.”

Overall, men were enthusiastic about an intervention that would provide a forum to address the many challenges they face. They suggested that safer sex modules should be part of a broader health promotion program where HIV-positive MSM support each other in their efforts to live healthier lives. For many, the primary draw for such a program was the prospect of enhanced social support.

“I guess doing it in a group setting would take away some of the stigma off it because people are so scared of it that you know you have to learn how to deal with it in a more pro-active sense instead of just a reactionary way that everybody always deals with it when you're in your regular everyday lives. In a setting where it's more like a workshop, it would be a lot better to just talk about the feelings surrounding having HIV.”

Motivational and Skills-Based Influences on Safer Sex

Concern for partner safety—By far, the strongest motivation for condom use expressed by participants was the desire to avoid infecting (or re-infecting) sexual partners. Some participants noted that they avoid sex with HIV-negative partners altogether to avoid any possibility of infecting others, whereas others reported limiting activities to safer behaviors and using condoms for anal sex.

“...because I know I'm HIV-positive, I would automatically use a condom, cause I wouldn't want to infect nobody else... cause like there are a lot of people out there that are infected and don't care about who they have sex with, they don't care if they infect somebody or not, but you just got to think about other people and other people's lives.”

While concern for partner health was a primary motivator of protected sex, a number of participants also indicated that some partners, regardless of HIV status, strongly prefer sex without a condom. Participants reported that they sometimes experience pressure from primary partners to have unprotected sex as a relationship becomes more serious, often as a means of experiencing greater intimacy. In some instances, participants reported that their partners are complacent about the prospect of becoming HIV-positive.

“Yeah, there's still that chance [he could become infected]... but if he hasn't gotten it by now, you know... I guess he almost sees it like, if he get it it's just a few more pills to take because he sees me and figures it's easy...”

For others, a desire for sex without a condom was accompanied by a fatalistic perspective on the part of sexual partners. For example, the following participant reported that he and his partner have unprotected sex in part because of the perception that his partner wouldn't want to “live without him.”

“Interviewer: So do you use condoms with your monogamous partner?”

Participant: “We don't so much now... I mean he was tested not that long ago and he was HIV negative, this was like after about a year of constantly not using them... there was an incident where one of them broke, and basically we just like well... it's just that there was blood and we just figured... what have we got to lose now, you know if you're going to have it, you're going to have it.”

Interviewer: Since that time you found out that he was negative?

Participant: “Yes, yeah, he's negative.”

Interviewer: “So you're still not having protected sex?”

Participant: “No, we're not, it's not something that we're necessarily proud of, but it's also his decision as well, I talk to him about this, and he says that I have this, I have this feeling that he doesn't want to live without me, if something were to happen to me, it wouldn't, I don't think life would matter to him, and that scares me a little.”

HIV as a chronic illness and optimism regarding long-term health outlook—A

minority of participants reported that highly active antiretroviral therapy (HAART) treatments themselves can lead to unsafe sex because of the perceptions of reduced infectivity. However, a far more common theme regarding treatment advances was the belief that safer sex is less important because HIV is viewed as a treatable, chronic illness. For example, one participant stated:

“Because the alarm is not sounding as loudly and the thrill is a little bit more enticing. It used to be that the alarm drowned out the thrill. Cost/benefit is in a different light now. I think that nowadays it's easier to think about the thrill rather than the alarm, the alarm's not there so loudly. You know, I was diagnosed last May... there this attitude by some in the medical community that, you're 48 years old and you still have a good 20 to 25 years, which is probably all I would have had

anyways. That's exactly what was said to me and it's like... I might as well just do whatever I want.”

Another participant noted that because an HIV diagnosis is no longer a death sentence people get more easily “caught up in the moment” during a sexual encounter:

“...people still get wild and when your mind is in a different place, you just don't think. People just get careless and maybe think ‘if I get it, it's not a death sentence anymore so I can do this once’ and well maybe this person doesn't have it, you know I don't want the magic moment to be ruined.”

Partner communication and serostatus disclosure—Partner communication, both in relation to negotiating condom use, and in the context of serostatus disclosure, was cited as a major challenge to safer sex. A number of participants noted that decisions about condom use and disclosure are intertwined. In the context of encounters with new or more “casual” partners, many participants expressed comfort with *not* disclosing their status, so long as they proceeded to use condoms for any penetrative sexual activities. Others noted that discussion about condoms were avoided altogether because introducing the topic of condom use with a new partner could lead to a relationship-ending discussion about their serostatus.

With regard to disclosure, a number of participants noted that HIV status is often inferred through subtle social cues. For example, one participant noted that “...you get the feel for if they're either positive or not just by the way they're talking, you know when they start talking about being safe, you get the feel of whether they're positive or not.” Another participant stated that he uses condoms to avoid the need for disclosure:

“...I learned how to play one off the other, you don't have to grapple with disclosure if you just hide behind the condom thing because if you just say, hey I don't know you that well and you don't know me that well, you know, tests have shown that the virus can be hiding in your system for 2 or 3 years and an HIV test won't detect it and even if you do show me test results that were taken yesterday, we still don't know each other, so let's, to cover your ass and cover my ass, let's use condoms.”

However, a number of participants also noted that if a partner does not bring up the need for condoms, it is assumed that the partner is also HIV-positive, negating the perceived need for condoms.

“It's like if you don't say nothing about condoms, then they won't and I kind of think that if you know what's going on, why aren't you wanting to use a condom, so I just do it, because I know that I am, like I mentioned before the other person is positive also.”

With regard to serostatus disclosure, a nearly ubiquitous concern was that, because of stigma and concern about HIV transmission, HIV disclosure often leads to rejection.

“Well my sense is that if I went out for a drink and a guy noticed me... all I have to do is mention it [being positive], chances are, it isn't going to happen and if I was

interested in being picked up that night for sex, not even for a relationship, it's going to pretty much kill it right there...”

Although many participants described fear of rejection as a barrier to disclosure, one participant described that fear of violence serves as a barrier to disclosure:

“The first thing I think is that I'm going to get a beat down... and then that's something that is scary too... [a man] gets in my house and all of the sudden I guess tell ya what, I'm HIV-positive and I'm scared that this person might just automatically just go, go freak out, you know what I mean, Pshpsh. And here I am, I'm in my little shack, fighting for my life...”

Informational Barriers: Clarifying HIV Transmission and Personal Health Risks Posed by Unprotected Sex

With regard to informational barriers related to sexual health, participants expressed near universal recognition of the high degree of HIV transmission risk posed by unprotected anal and vaginal sex. Most participants also recognized that risks to uninfected partners occur along a continuum, with some activities being riskier than others (e.g., the HIV-positive partner serving in the “insertive” role). However, a more nuanced set of questions emerged concerning (a) risks associated with oral sex; (b) personal health risks posed by sex involving two HIV-positive partners; and (c) the influence of HIV viral load on HIV transmission risk to uninfected partners.

Oral sex—Although most perceived that oral sex without a condom poses less risk than anal or vaginal sex, many participants expressed a high need for information concerning health risks posed by oral sex. Most discussions focused on whether HIV can be transmitted via oral sex. Some wondered about the risks posed by pre-ejaculate and about open mouth cuts that were assumed to increase transmission risks. Anxiety about HIV or STD transmission was not sufficient to motivate condom use for oral sex. In fact, only one participant reported that he used condoms for oral sex. Participants reported forgoing condom use for oral sex, often with an informal understanding that a partner would “pull out” before ejaculation.

“You know I don't know because I've heard so many different takes on it [risks posed by oral sex], you know, I just don't know what the risks are, I mean obviously there is a risk factor, but I just don't know what it is for sure. It bothers me obviously because I mean I can ejaculate in someone's mouth and they could have a cut in their mouth or vice a versa, you know, I mean that stuff happens.”

“...oral sex without a condom to me is the only way if you're going to have oral sex. Now, whether you are going to respect my wishes and tap on the shoulder when the right time comes along so I can divert my attention somewhere else, that would be nice. That's the kind of oral sex I find permissible in my life... Even that still opens up risk factors slightly because of the pre-cum issue, maybe I thought you didn't, but you did. There's that risk.”

Serosorting—Serosorting (limiting sexual encounters to HIV-positive partners) was commonly reported as a reason for not using a condom and as a strategy for avoiding HIV transmission to uninfected partners. However, there were divergent beliefs regarding the personal health risks associated with unprotected sex with an HIV infected partner. One subset of participants down-played any potential health risks associated with serosorting and viewed condom use as unnecessary.

“I’m not going to lie... I always think, oh well, you might as well not bother; he’s positive and just call it a day...I can’t get no more positive. That was the thing and actually I know better, but honestly I don’t use condoms.”

Another subset of participants expressed awareness of potential health risks associated with HIV re-infection (i.e., infection with a different strain of HIV) and, in some cases, expressed worry about HIV “super-infection” (i.e., multidrug resistant HIV, see, e.g., [27, 28]). Although talk of super-infection was common, the terms re-infection and super-infection were typically used interchangeably and most participants only expressed a vague understanding of what the terms referred to. Comparatively fewer men expressed awareness of the potential health consequences of contracting other STDs.

In reference to serosorting, participants often noted that there were risk–benefit tradeoffs. For some, the possibility of increased intimacy was more salient than health risks. For example, one participant described that it is a personal choice as to whether condoms should be used between two HIV-positive partners.

“I have relationships with people with HIV... it’s a personal decision at that particular moment, sometimes you may not even care if you re-infect yourself, if you’ve got the virus, you’ve got the virus...”

Others expressed a high level of concern about health risks associated with having sex without a condom.

“I’m terrified not to (use condoms). Because my greatest fear is getting re-infected.... The thing is, I know that there are hundreds of different strains of this virus and I already know that the one I have has definitely kicked my ass several times during the past 5 years, and I’m not going to compound it with another strain of the virus.”

“If two people are infected then I think they should always, I mean, always [use a condom]; if you’re with that person, and you’re both positive, and you’re in a relationship, if you care about the person or yourself, you should wear a condom.”

Interviewer: “Why?”

Participant: “Super-infection, you know that’s the biggest one of all, but not only that, but there’s other diseases, you can get STDs and that can make your virus even worse...”

Interviewer: “What happens with an STD if you’re HIV-positive?”

Participant: “...it all weakens your immune system, it’s basically you’re putting more garbage into your body.”

HIV viral load and infectivity—A number of participants expressed confusion about what viral load numbers represent and reported that they were unsure about whether viral load influenced infectivity to uninfected partners. Participants were often emphatic in stating that once infected, transmission risks are the same regardless of viral load and that their own viral load has no influence on decisions about whether to use a condom.

“The risks are the same as if you have a viral load of a bazillion, you've got it, you've got it...It doesn't matter if you have one of those little things in your body, you can still give it to somebody else.”

Interviewer: “Have you ever heard from any of your friends, look my viral load is undetectable, we don't need to use condoms?”

Participant: “No.”

Another participant stressed that having an undetectable viral load was a source of pride and that condom use was a high priority for maintaining his own health.

“To me it's not about the danger to somebody else, it's the danger to myself. If my viral load is zero, why the hell am I going to want to have unprotected sex with somebody, not knowing their sexual history to cause more damage to myself. So call it selfish or whatnot, my viral load only makes me feel good about me and my health situation, not whether I can wear a condom or not.”

In contrast, a minority of participants noted that they have heard of people deciding to forgo condom use because they are undetectable and that partners had encouraged them to have sex without a condom when their viral load is undetectable.

“...that was an issue I had with my partner you know, he's like you're undetectable and blah blah blah and I'm like you know as well as I do that it doesn't mean (you can't transmit)... I don't know because he's very intelligent and he knows better, I just think he thought it would be less of a risk; I know that he knows that there is a risk, so you know what he was thinking, I know he doesn't like using condoms either or he doesn't like having them used.”

Interviewer: “So looking for a reason to hope...”

Participant: “It was more rationalization than anything you know.”

Discussion

Findings from this qualitative study highlight both the challenges and potential opportunities for developing sexual risk reduction programming for HIV-positive MSM. Overall, participants expressed enthusiasm for health promotion programming but provided cautionary input regarding optimal approaches to address the topic of sexual behavior change. Whereas support at the policy level for “prevention for positives” remains high, study findings suggest that sexual risk reduction is not necessarily a top priority among HIV-positive MSM. Indeed, a subset of HIV-positive MSM in our sample reported experiencing HIV prevention fatigue or “burnout,” a finding that corroborates previous reports [29, 30]. Others expressed an interest in programming that addresses a broad range

of health promotion needs, including, but not limited to, safer sex. Given the enduring impact of the HIV epidemic among MSM, it is perhaps not surprising to find that some HIV-positive MSM are skeptical of efforts to devise new sexual risk reduction programming. Whether accurate or not, programs that promote “prevention for positives” may inadvertently connote an outmoded vision of safer sex “workshops” that focus primarily on condom use without addressing the broader life context in which HIV-positive people live.

To achieve public health impact, programs to promote sexual health among HIV-positive people must not only be effective among those who enroll in a research-based program, but also must be appealing and marketable to the target population. Our findings confirm that sexual risk reduction interventions for HIV-positive MSM are likely to be more appealing if the intervention includes a broader focus on coping with a range of challenges related to living with HIV. Participants expressed enthusiasm for a group format that addresses safer sex within the context of a program that also provides support, stress management and related coping skills, and social support from others who are living with HIV. Of course, no single program can address all of the psychosocial challenges faced by persons living with HIV. Fortunately, many of the most salient stressors described by our participants – e.g., HIV and sexual orientation stigma, disclosure, and low social support – are broadly relevant to the topic of sexual health. As such, a promising direction is to develop programming that focuses on addressing psychosocial and behavioral mechanisms that interact to produce elevated vulnerability to both coping and behavioral health challenges [31, 32].

Our qualitative findings highlight important considerations for tailoring the content of safer sex programming for HIV-positive MSM. First, a majority of participants were well informed about the basics of HIV disease transmission and prevention and viewed the health and well-being of uninfected partners as a strong motive for using condoms. As such, health promotion programs for HIV-positive MSM should operate from the assumption that most HIV-positive MSM are knowledgeable about HIV prevention “basics” and are committed in principle to the goal of avoiding HIV transmission behaviors.

In terms of informational needs, many participants acknowledged confusion and anxiety concerning risks associated with oral sex, as well as interest in information about the risks associated with serosorting. Oral sex was correctly viewed as being much less risky than other penetrative sexual behaviors. Nonetheless, participants expressed frustration concerning the lack of clear information about whether oral sex poses a significant risk for HIV transmission. In the absence of clear information, most participants reported that they forgo condom use with oral sex, but often with accompanying anxiety. Future interventions should include content regarding oral sex, including HIV transmission risks to HIV-negative partners and potential health consequences of oral sex (e.g., acquisition of other STDs) with HIV-positive partners.

Knowledge and concern about the potential risks associated with serosorting was variable, with some participants viewing seroconcordant sex without a condom as relatively harmless and others recognizing the potential health hazards. Regardless of knowledge about risks associated with serosorting, participants often reported that they forgo condom use for

sexual encounters involving a partner who is also HIV-positive, a decision that was described as being fueled by a desire for greater intimacy and the belief that there is little to lose if both partners are already HIV-positive. Among participants who recognized the potential health risks associated with serosorting, most expressed concern about HIV reinfection, with comparatively fewer men expressing awareness of the health risks posed about STD co-infections. This discrepancy in awareness is of some importance: whereas there is considerable evidence of the health risks posed by STD coinfections, evidence of health risks associated with HIV coinfection is mixed [33]. As such, our findings highlight the importance of raising awareness about the health compromising effects of STD coinfections in future risk reduction interventions.

Several motivational and skills-based factors emerged as potential barriers to consistent condom use. Participants confirmed that effective treatments for HIV have made the disease less threatening and, by association, led to a shift in community norms regarding the acceptability of unsafe sex. Although participants did not necessarily endorse treatment optimism as a personal excuse for lapses in condom use, there was general consensus regarding slippage in community norms regarding the importance of safer sex within the broader gay community. Surprisingly, only a small minority of participants perceived that HIV treatments themselves reduce infectivity. Thus, in contrast to other recent reports and empirical evidence confirming that being “undetectable” leads to a substantial reduction in transmission risks [34, 35], reduced infectivity beliefs were not cited as a major cause for lapses in condom use in our sample. Nonetheless, the broader input regarding general treatment optimism confirms other reports in the literature regarding the importance of addressing treatment optimism as a cause for lapses in condom use among HIV-positive MSM. Thus, interventions should inform HIV-positive MSM of other health risks posed by unprotected sex and incorporate content to enhance motivation for safer sex adherence, despite treatment advances.

Finally, partner communication, both in relation to negotiating condom use, and in the context of serostatus disclosure, was cited as a major stressor for HIV-positive MSM. Participants emphasized that subtle social cues often exert a powerful influence in the context of decisions about discussing safer sex and for decisions about HIV status disclosure. For example, some cited that a new partner's serostatus can often be inferred by the way the partner approaches the topic of safer sex. For encounters with new partners, participants stressed near universal agreement that HIV disclosure often leads to social rejection and stigmatization. As such, some participants reported that they insist on condom use with new partners to avoid the perceived necessity of disclosing their HIV status. Challenges associated with partner negotiation were highly salient among HIV-positive MSM and warrant careful attention in the context of interventions to promote safer sex. In addition to assertiveness and communications skills training, HIV-positive MSM would benefit from support and education that aims to promote sensible decision making about how and when to bring up condom use and HIV status with new or existing partners, as well as consideration of whether there is ever an acceptable circumstance where HIV status disclosure is not warranted (e.g., when there are safety concerns). Additionally, interventions should provide HIV-positive MSM with strategies to communicate and

negotiate the need for continued safer sex with primary partners, even for long-term relationships.

Interpretation of findings should be considered within the context of limitations that are inherent to qualitative research. In particular, caution is warranted in generalizing our findings given our relatively small sample of participants and the fact that participant input was generated based on a structured interview guide that, to some extent, shaped the types of input that was obtained. In addition, selection bias may have impacted study results. Men who were willing to participate in the focus groups may have been more knowledgeable about sexual risk behaviors or have engaged in less risky behaviors. Additionally, this study was conducted in a medium-sized, Northeastern city with a sample comprised primarily of middle-aged men and thus results may not generalize to other geographic locations or age groups.

These limitations notwithstanding, our qualitative findings highlight important considerations for developing an intervention approach that is marketable and seen as providing content that is tailored to address both the specific sexual challenges and broader psychosocial concerns of HIV-positive MSM. The current qualitative research helped to inform the development of a two session intervention that our team recently developed and pilot tested (findings will be reported in a separate publication). Our Men's Partnership for Health program integrates coping effectiveness and stress management training with a tailored curriculum that also addresses motivational, skills, and informational factors relevant to sexual risk reduction among HIV-positive MSM. Ultimately, a multifaceted approach to prevention that melds brief, provider-based interventions in the context of HIV care [36] with additional programming that is tailored to a given target population may provide the greatest hope for encouraging sustained behavior change among persons living with HIV.

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