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A Mixed Methods Study of the Sexual Health Needs of New England Transmen Who Have Sex with Nontransgender Men

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Abstract

The sexual health of transmen—individuals born or assigned female at birth and who identify as male—remains understudied. Given the increasing rates of HIV and sexually transmitted diseases (STDs) among gay and bisexual men in the United States, understanding the sexual practices of transmen who have sex with men (TMSM) may be particularly important to promote sexual health or develop focused HIV prevention interventions. Between May and September 2009, 16 transmen who reported sexual behavior with nontransgender men completed a qualitative interview and a brief interviewer-administered survey. Interviews were conducted until redundancy in responses was achieved. Participants (mean age, 32.5, standard deviation [SD] = 11.1; 87.5% white; 75.0% "queer") perceived themselves at moderately high risk for HIV and STDs, although 43.8% reported unprotected sex with an unknown HIV serostatus nontransgender male partner in the past 12 months. The majority (62.5%) had used the Internet to meet sexual partners and "hook-up" with an anonymous nontransgender male sex partner in the past year. A lifetime STD history was reported by 37.5%; 25.0% had not been tested for HIV in the prior 2 years; 31.1% had not received gynecological care (including STD screening) in the prior 12 months. Integrating sexual health information "by and for" transgender men into other healthcare services, involving peer support, addressing mood and psychological wellbeing such as depression and anxiety, Internet-delivered information for transmen and their sexual partners, and training for health care providers were seen as important aspects of HIV and STD prevention intervention design and delivery for this population. "Embodied scripting" is proposed as a theoretical framework to understand sexual health among transgender populations and examining transgender sexual health from a life course perspective is suggested.

Introduction

The sexual health of transmen—individuals who were born or assigned female at birth and who identify as male—remains understudied. No national behavioral surveillance data are currently available on the incidence or prevalence of HIV or sexually transmitted diseases (STDs) among transgender populations in the United States. Studies have consistently found high rates of HIV infection and sexual risk behaviors among transgender women, particularly among transwomen who engage in sex work.[1–11] However, the inclusion of transmen in studies of HIV sexual risk behavior remains uncommon.[1,2,4,11–15] The current state of knowledge of HIV and STD risk among transgender men may be influenced by a common assumption that transmen only engage in sexual behavior with nontransgender women (i.e., presumed heterosexual orientation), and not with nontransgender men. However, transmen have diverse sexual identities, desires, and behaviors, including being attracted to and engaging in sexual behavior with nontransgender men, nontransgender women, and other transgender individuals, including transmen and transwomen.[12,14,16–26] To fully understand the sexual health needs of transmen, research must foreground and anticipate the diverse sexual identities, attractions, and sexual behaviors that transmen may engage in, including sex with nontransgender men.

Little is known about HIV and STD risk and broader sexual health needs among transmen who have sex with nontransgender men (TMSM), and a dearth of literature to date has documented the individual and contextual factors—both risk and protective—associated with HIV and STD risk behaviors among this subpopulation of transmen, including the

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role of psychosocial factors in sexual risk behaviors. A recent study conducted by Sevelius[26] with a national sample of TMSM ($n = 45$) found high rates of risky sexual behaviors among TMSM with their nontransgender male partners, with only 31% who reported "always" using condoms during vaginal sex and 40% "always" using condoms during anal sex. Although only 2% of the sample was HIV-infected, 91% had been diagnosed with an STD at some time in the past. Other risk factors were also observed for HIV and STDs, including transactional sex and drug use in the context of sexual behavior. These data suggest that although HIV prevalence among TMSM may be low, current risk behaviors, and high rates of STD could augment rates of HIV in the near future among TMSM. Given that men who have sex with men continue to be disproportionately affected by the HIV epidemic[27] and other viral and bacterial STDs,[28–30] it is likely TMSM who partner with gay or bisexual nontransgender men may be at increased risk for HIV and STDs[12,23,26] and additional research is needed to elucidate the risk and protective factors among TMSM.

In addition, situating the sexual health of transmen within the context of gender transition using a life course perspective[31,32] may allow for further consideration of the interrelationships between sexuality and gender identity development, including the timing, duration, and context of health behaviors. Simon and Gagnon[33(p118)] describe developmental periods of "transition," "disjuncture," and "sometimes crisis" as being important to consider in sexuality across the life course: "A potential crisis of the self process and production of scripts—sexual and nonsexual—is occasioned by change [life course transitions] not merely because some aspect of the self is under pressure to change, but also because the very ecology of the self has been disturbed; a moment requiring renegotiation of aspects of the self involved in or related to change."[33(p111)] Sexual experimentation, exploration, and change may be part of the gender transition process for transgender men, as the very "ecology" of the self is being negotiated during different developmental periods. Moreover, and consistent with prior research suggesting "transgender sexual scripts" and a "transgender sexuality,"[17] the fluidity and specificity of a transgender sexuality may have important implications for the sexual health of transmen, and warrants additional exploration.

The purpose of this formative mixed methods study was to gain a deeper understanding of the sexual health concerns and needs of transmen, including but not limited to HIV and STD risk, and to explore the influence of gender dynamics in sexual encounters with nontransgender men. The aims of the study were twofold: (1) to gather preliminary data to design and develop effective sexual health programming and interventions aimed at holistically improving the sexual health of transmen who partner with nontransgender men, including intervening on HIV and STD sexual risk and (2) to consider a life course perspective in understanding the complex and dynamic relationship between human sexualities and gender identities among this group.

Methods

Design and setting

Between May and September 2009, 16 transmen completed a qualitative interview and a brief interviewer-administered demographic, sexual risk, substance use, and psychosocial survey. Study activities took place at Fenway Health, a free-standing health care and research facility specializing in HIV/AIDS care and serving the needs of the lesbian, gay, bisexual, and transgender community in the greater Boston area.[34,35] The Fenway Health Institutional Review Board approved the study and each participant completed an informed consent process.

Sample

Eligibility criteria. Prospective participants were screened by trained study staff on the telephone or via email to determine eligibility. Individuals were eligible for the study if they: (1) were born or assigned female at birth; (2) self-identified as male or along the transmasculine spectrum; (3) self-reported oral, anal, or vaginal sex with a nontransgender man in the 12 months prior to study enrollment; (3) were age 18 years or older; and (5) lived in New England.

Recruitment. A combination of venue-based recruitment strategies (including the use of the Internet) and snowball/chain referral sampling methods were used to recruit participants. Venue-based recruitment strategies consisted of direct outreach and posting of study flyers at Fenway Health, local community-based organizations, Internet partner meeting websites, bars/clubs, and community events. Snowball/chain referral sampling, in which enrolled participants referred potentially eligible peers, was also used. As is typical in qualitative methods, interviews continued until redundancy in responses was achieved.[36,37]

Data collection and measures

Participation in this study took, on average, 1.5 h. Participants were remunerated $50 for their participation in the study.

Quantitative survey. *Demographics, sexual behavior, and drug use questions.* Questions examining demographics, sexual behavior, and drug use during sex were adapted from the Centers for Disease Control and Prevention's National HIV Behavioral Surveillance Survey, MSM cycle.[38] Questions were also adapted from prior Fenway Health studies.[9,23,39,40] Sexual risk behaviors such as frequency of unprotected sex in the prior 12 months, sexual risk behavior (i.e., oral, anal, frontal/vaginal), partner gender (i.e., male, female, transgender partners) and type (i.e., casual, regular, etc.), and venues where they met sexual partners (including Internet use for sexual partner meeting) were assessed. Substance use during sex in the past 12 months was queried, including substances used and frequency of substances used during sex with nontransgender men. The survey captured self-reported HIV status and STD history, including history of HIV testing and STD screening. Participants were also asked about transactional sex (i.e., exchanging sex for money, drugs, or other goods and services) in their lifetime and in the past 12 months.

Depressive symptoms. Clinically significant depressive symptoms were assessed with the Center for Epidemiologic Studies Depression Scale (CES-D), a validated screener of clinically significant distress as a marker for possible clinical depression (Cronbach $\alpha = 0.84$).[41] The 20-items were scored on a 4-point Likert scale from 0 to 3. A score of 16 or greater was indicative of depressive symptoms.

Generalized anxiety symptoms. The Beck Anxiety Inventory (BAI) was used to assess physiologic and cognitive symptoms of anxiety.[42] Originally developed to reliably discriminate anxiety from depression while displaying convergent validity, the validated scale consists of 21 items, each describing a common symptom of anxiety. The respondent was asked to rate how much he had been bothered by each symptom over the past week on a 4-point scale ranging from 0 to 3. The items were summed to obtain a total score ranging from 0 to 63, indicating the severity of anxiety. Scores were further broken down and classified as "no anxiety" (score 0 to 7), "mild" (8 to 15), "moderate" (16 to 25), and "severe" (score 26 to 63).

Internalized homophobia. Two items were adapted from prior research to assess internalized homophobia[43]: (1) "I wish I was not attracted to men" and (2) "I am extremely comfortable with being very open about my sexual relationships with men." Responses were scored on a 4-point Likert scale from "strongly agree" to "strongly disagree"; item two was reverse scored.

Qualitative interview. The qualitative interview guide was developed by conducting a thorough literature review to identify gaps in knowledge and gathering input from transgender health specialists at Fenway Health. The interview included four broad topic areas: (1) gender transition and sexuality development across transition; (2) experiences with nontransgender men in the past 12 months, including most recent sexual encounter with a nontransgender male; (3) perception of HIV and STD risk and social networks; (4) ideas for HIV prevention interventions with this group. Each interview was digitally recorded and then transcribed verbatim. Researchers and staff with experience and competency working in transgender health were included at all levels of study design, development, implementation, and analysis.

Analytic approach

Qualitative analysis. Qualitative data were analyzed using content analysis,[37,44–48] broadly defined as a "technique for making inferences by objectively and systematically identifying specified characteristics of messages."[45(p14)] An emergent coding approach[37] was used to categorize the data in which thematic categories were established following preliminary examination of the data.

Transcripts were first reviewed for errors and omissions, and cleaned to focus on the content of what was said. NVivo® software[49] was used to aid with the coding, organization, and searching of narrative sections from each interview, as well as to facilitate the systematic comparison and analysis of themes across interviews.[37] The following steps were implemented to systematically evaluate the content of the data: (1) research staff independently reviewed the material and came up with a checklist of a set of preliminary features and codes; (2) researchers compared preliminary checklists and reconciled any differences that showed up on an initial pass through the data; (3) a consolidated checklist was created and a structured codebook was developed that contained the code mnemonic, a brief code definition, definition of inclusion criteria, definition of exclusion criteria, and sample passages that illustrated how the code concept might appear in natural language; (4) the coding scheme was independently applied to several transcripts by research staff; (5) percent coder agreement was checked to ensure acceptable reliability (>90%); (6) once reliability was established, the coding scheme was broadly applied to analyze all transcripts; (7) a quality control procedure was followed whereby coded transcripts were regularly reviewed by members of the research team, ongoing discussion helped resolve coding inconsistencies, and ensure consistency of code application and text segmentation.[50,51] Analyses were focused on the contextual issues surrounding HIV and STD risk and intervention development with TMSM.

Quantitative analysis. Survey data were used to provide a more comprehensive portrait of occurring themes, as well as to support qualitative results, and are integrated with the interview findings below. Descriptive analyses were conducted using SPSS® statistical software.[52]

Results

Demographic characteristics of the study sample ($n = 16$) are outlined in Table 1.

Table 1. Sample Demographics ($n = 16$)

Mean (SD) age	*32.5 (11.1)*	
	n	%
Race/ethnicity		
White	14	87.5
Mixed race/ethnicity (Asian, NH/PI, black, Hispanic/Latino)	2	12.5
Education		
Some college	5	31.3
College degree	6	37.5
Some graduate work	3	18.8
Graduate degree	2	12.5
Annual income		
$11,999 or less	6	37.5
$12,000 or more	10	62.5
Employment		
Full-time	9	56.3
Part-time	4	25.0
Unemployed	3	18.8
Disabled	1	6.3
Student	5	31.3
Health insurance		
No health insurance	4	25.0
Gender identification		
Male	8	50.0
Female-to-male (FTM)	9	56.3
Transgender	9	56.3
Transsexual	4	25.0
Genderqueer	3	18.8
Other	1	6.3
Access to transgender specific services		
Testosterone at time of study	14	87.5
Surgery ever for transgender-related purposes	11	68.8
Sexual identification		
Queer	12	75.0
Gay	2	12.5
Bisexual	2	12.5
Heterosexual	1	6.3
Unsure	1	6.3
Disclosure of transgender and MSM identities		
Out about being transgender	15	93.8
Out about MSM	5	31.3

SD, standard deviation; NH/PI, MSM, men who have sex with men.

Participants had a mean age of 32.5 (standard deviation [SD] = 11.1), and the majority (87.5%) were white. Most (87.5%) were taking testosterone for transgender-related purposes at the time of the study, and 68.8% reported transgender-related surgery (68.8% "top"/chest surgery, 18.8% hysterectomy, 12.5% oopherectomy). The majority (75.0%) self-identified as "queer."

Do HIV and STDs matter?

When asked about their top five health concerns, 87.5% of participants reported that sexual health issues were not ranked among their top three health concerns. With the exception of one participant who reported doing sex work with nontransgender males regularly and for whom HIV and STDs were ranked at #1, HIV and STD concerns most often ranked at #4 or #5. For some participants sexual health needs were not on the list of health concerns at all:

> I think, at least in this area, to most people that I spend time with and who live in Western Mass or in New England in general, I don't think it's [HIV] on the radar.

> It's just not even on the radar. When we were talking about top five [health concerns]—it's like oh, no, it's not in the top five.

Consistently reported as more important health issues were access to hormones, surgery, health insurance (i.e., getting transgender-related procedures covered by insurance), diet, exercise, weight management, and help quitting cigarette smoking. Access to culturally competent counseling services was described by several participants as key to their overall mental and emotional health, with a particular focus on body image. Moreover, several participants were more concerned about pregnancy than about HIV or STDs in the context of considering sexual health concerns.

Perceptions of HIV and STD risk

Although not a prioritized health issue for them, when asked about their perceptions of sexual risk among TMSM, participants generally perceived transmen as a group at moderately high risk for HIV and STDs:

> By and large, I think among the group of people that have sex with men, transmen fall higher than non-trans women. So I think it's like transwomen as most risky, then non-trans gay or bi men, then FTMs, and then non-trans heterosexual women. I think transmen who have sex with men have elevated risk compared to heterosexual women. But probably not as high as gay or bi men.

> If they're doing what I'm doing, then I feel FTMs are at high risk. I think transmen and transwomen are at the highest risk for HIV and STDs. Then straight women. Then probably men.

This self-perception of elevated risk was often interestingly juxtaposed against not prioritizing sexual health issues in relation to overall health concerns, since competing issues, such as obtaining hormones, was often times foremost in their thinking.

HIV and STDs

While the vast majority (93.8%) of the sample had been tested for HIV at some time in the past, 25.0% reported not having been tested for HIV in the 2 years prior to study enrollment (Table 2). Despite not recently being tested for HIV, all participants self-reported as HIV-negative. The majority (81.3%) of participants had been screened for STDs in their lifetime. A lifetime history of one or more STDs was reported by 37.5% of participants (18.8% herpes, 12.5% trichomonas, 6.3% bacterial vaginosis). Overall, 31.1% had not received gynecological care or a Pap smear (i.e., including STD screening) in the past 12 months.

Sexual behavior and sexual risk in the past twelve months

Table 2 summarizes participants' sexual behavior in the past 12 months and Table 3 details the most recent sexual encounter participants reported with a nontransgender man in the past 12 months.

Number of male, female, and transgender partners of unknown HIV status. In the past 12 months 100% of participants reported sex with a nontransgender male (this was required to enroll in the study), 68.8% also reported sex with a nontransgender female partner, and 56.3% with a transgender partner (56.3% transmen, 12.5% transwomen, and 12.5% both transmen and transwomen). Overall, participants reported sex with a mean 6.4 (SD = 10.1) unknown HIV serostatus sex partners of any gender in the past 12 months. A mean number of 5.4 (SD = 8.7) nontransgender male sex partners with unknown HIV serostatus were reported in the past 12 months.

Number of unprotected sexual acts with HIV unknown status partners. Overall, a mean number of 9.9 (SD = 17.4) unprotected sex acts (transmission risk episodes) were reported with unknown HIV serostatus partners: 43.8% reported a mean of 4.0 (SD = 9.0) unprotected receptive vaginal sex acts with nontransgender males, 25.0% reported a mean number of 4.5 (SD = 15.0) unprotected vaginal or anal sex acts with nontransgender females, and 18.8% reported a mean number of 1.4 (SD = 3.4) unprotected sexual acts with transgender sex partners.

Knowledge of sexual health

Many transmen were knowledgeable about sexual health issues, particularly TMSM who were gay-identified, and were aware of HIV and STD risk as well as pregnancy risk (for those transmen who had not had ovaries removed or hysterectomy). Some transmen just beginning to have sex with nontransgender men demonstrated inconsistent knowledge of sexual health information. Participants often mentioned having heard about or seen a TMSM sexual health website from Ontario, Canada (www.queertransmen.org/).

The general level of knowledge around sexual health risks exhibited by participants suggested that informal channels of knowledge flow around sexual health exist for many transmen. Several participants narrated how they learned about safer sex through friends. For example, after being diagnosed with herpes, one participant described how he learned about safer sex through a female friend:

> The first time I slept with my current partner, it was my first time in my life having safe sex. You know, using barriers, and I didn't even know how it worked. I have a friend who is really into safe sex and she was just showing me like all this stuff trying to prep me.

Table 2. HIV and STD Testing, HIV Serostatus, Sexual Behavior in the Past 12 Months, and Other Psychosocial Factors of the Study Sample (n = 16)

	n	%
HIV testing and status		
Ever had an HIV test	15	93.8
No HIV test in 2 years prior to study enrollment	4	25.0
HIV-negative (self-report)	16	100.0
STD testing and STD history		
Ever had STD test	13	81.3
Pap smear in past 12 months	11	68.8
STD history (18.8% herpes, 12.5% trichomonas, 6.3% bacterial vaginosis)	6	37.5
In past 12 months sex with:		
Nontransgender males	16	100.0
Nontransgender females	11	68.8
Transmen	9	56.3
Transwomen	2	12.5
Transmen and transwomen	2	12.5
Relationship status at time of study		
Single	8	50.0
Monogamous	2	12.5
Nonmonogamous	6	37.5
Sex work (exchange of sex for money, drugs, or other goods and services)		
Sex work ever	7	43.8
Sex work past 12 months	3	18.8
Unprotected sex with partners of unknown HIV serostatus in past 12 months		
Nontransgender males: Unprotected receptive vaginal sex	7	43.8
Nontransgender females: Unprotected vaginal or anal sex	4	25.0
Transgender: Unprotected vaginal or anal sex	3	18.8
Substance use during sex at least monthly in past 12 months		
Alcohol ("sex while drunk")	10	62.5
Marijuana	10	62.5
Downers	3	18.8
Painkillers	2	12.5
Hallucinogens	1	6.3
Ecstasy	1	6.3
Where met sex nontransgender male partners in past 12 months		
Internet	10	62.5
Through friends	9	56.3
Social gathering	3	18.8
Bar or club	2	12.5
Private sex party	2	12.5
On street	2	12.5
History of sex with nontransgender men		
Had sex for the first time with a nontransgender man after gender transition	7	43.8
Internalized homophobia ("I wish I was not attracted to men" and "I am not comfortable with being very open about my sexual relationships with men")	6	37.5

	Mean (SD)
Number of sex partners in past 12 months	
Number of unknown HIV serostatus sex partners (nontransgender male, nontransgender female, and transgender)	6.4 (10.1)
Number of nontransgender male partners	5.4 (8.7)
Anonymous nontransgender male partners	4.5 (8.8)
Number of transactional (sex work) nontransgender male partners	2.4 (7.6)
HIV risk episodes—number of times engaging in sexual behavior with an unknown HIV status partner in past 12 months	
Total number of transmission episodes with males, females, transgenders	9.9 (17.4)
Nontransgender males: Unprotected receptive vaginal sex acts	4.0 (9.0)
Nontransgender females: Unprotected vaginal or anal sex acts	4.5 (15.0)
Transgender: Unprotected vaginal or anal sex acts	1.4 (3.4)
Self-perceived HIV and STD risk (scale 1 to 10)	
Nontransgender males	3.8 (2.7)
Nontransgender females	1.3 (1.1)
Transgender	1.4 (1.9)

STD, sexually transmitted disease.

Table 3. Characteristics of the Most Recent Sexual Encounter with a Nontransgender Male in the Past 12 Months Among the Study Sample ($n = 16$)

	n	%
HIV status of male partner		
Unknown HIV status male partner	8	50.0
HIV sexual risk behaviors		
Unprotected receptive anal or vaginal sex	5	31.3
Unprotected insertive anal sex	2	12.5
Unprotected receptive oral sex with ejaculate (performed)	3	18.8
Unprotected oral sex (received)	9	56.3
Communication		
Talked about safer sex before or during sex	10	62.5
How met		
Internet	9	56.3
Through friends	6	37.5
Social gathering	3	18.8
Participant substance use before or during encounter		
Alcohol	6	37.5
Marijuana	2	12.5
Sex partner's substance use before or during encounter		
Alcohol	5	31.3
Marijuana	2	12.5

Themes associated with sexual risk

A number of interrelated themes emerged as risk factors for unsafe sex among TMSM during interviews.

Lack of information. Nearly every participant (93.8%) noted the lack of adequate information regarding sexual health for TMSM:

> I have not been able to find any information on any type of penetration or protection or risks. Nobody is thinking about that, and I haven't heard like a lot of guys talk about it. If I like put my clit in a penetrative way in another tranny boy's vagina, am I at risk? What am I at risk for?

Most felt that what little information was out there for TMSM was inadequate or often times not relevant, having been simply adapted from materials for traditional heterosexual sex as opposed to tailored to the sexual lives, bodies, and desires of transgender men:

> When I started looking up information to trans guys having sex with bio[logical] guys, it was really hard to find stuff. I did find some stuff for trans guys. But it was basically like they just took hetero[sexual] female and changed the words for like anatomy.

Participants commonly mentioned wanting sexual health information that would be tailored to their bodies and lives. In particular, participants wanted information that was "by and for" transmen:

> We need information from transguys for transguys. Like I have this new clit that's like longer and I can do different things with it, like what are the risks? I have not been able to find any type of information on penetration and protection and risks. It's like nobody seems to be thinking of that.

The importance of recognizing transgender-specific sexual practices was underscored by many participants in describing needed sexual health information. This was also supported by quantitative data where 93.8% of the sample reported receptive frontal/vaginal sex in the past 12 months. Participants felt that in the context of sexual health, sensitivity and attention needs to be paid to the specificity of transgender men's sexual experiences, including the recognition that some men enjoy frontal/vaginal receptive sex:

> I had a really hard time identifying as a gay male because I didn't fit that and I was always, in the back of my head, saying well, but, I'm not really a gay guy because I don't have sex with men the way men have sex with men, and I don't want to.

Normalizing the sexual practices of transmen, including the experience of receptive frontal sex, was thought to be an important element of sexual health information tailored to meet the needs of TMSM.

Transition-related experimentation. Several participants mentioned the early stages of gender transition as a time of "heightened risk" and described it as being a period of boundary pushing and sexual experimentation:

> There's a re-socialization that happens. You have to learn what it means to be a man. And it's like when you're growing up, you have to figure things out for yourself. Boundary pushing is part of self-discovery—you have to see how far you'll go to see how far you won't go. It can definitely put some guys at risk.

A number of participants used the metaphor of "adolescence" to describe transmen younger in their gender transition (e.g., not necessarily younger in age):

> I worry about the kids. Kids in terms of being young in transition. It's that time between realizing you have to do something about your gender and getting back into a normal cycle of life where gender is not the most important thing in your life anymore. Adolescence is a good metaphor for it. But you have all the adult stuff there too. Plus, throw in hormone-induced menopause just for fun. I mean, puberty and menopause were never designed to take place in the same body! Take all that and throw in intense social anxiety about negotiating gender in work, family, partnerships. I think all that together, puts you in a really good position to get in some bad situations.

Several participants expanded on the nature of their own sexual boundary pushing, suggesting that sexual fulfillment could be elusive for many TMSM and that some transgender men might be more willing to engage in risky behavior in search of sexual fulfillment:

> I don't think I've ever had a sexually fulfilling experience. Because of the biological body I have. To me—that's reality. I think that's where some of the confusion and the experimentation comes in.

The "gender role trigger". The risks associated with experimentation were not only concerning HIV and STD acquisition or transmission, but also about the risk of "being taken advantage of," getting into abusive or manipulative relationships and situations, and generally being pushed past sexual boundaries that might be comfortable. Many participants talked about standards and stereotypes in the gay male community and among men more generally, as well as how these inform and affect transgender men's risk for HIV and STDs. One participant felt that transgender men were

especially vulnerable to a "gender role trigger" associated with these stereotypes:

> I think transguys have a gender role trigger. You can push them to do almost anything by questioning their gender role . . . When I was first coming out, I got pressured into a lot of stuff that I didn't want to do because I was told "real gay men do it." I had bad experiences with safer sex etiquette because people pressured me, and said, "gay men don't do that."

Another participant felt the potential for similar pressures around gender roles, but felt that sex with nontransgender men could threaten or call into question his transgender identity:

> I think sometimes there's this weird, not-trans enough thing that a lot of people encounter when hooking up with men.

Participants often contrasted their experiences as transmen with their perceptions of the nontransgender gay male experience. Specifically, participants felt that transmen often come out later in life than many gay men. Respondents reported first coming out to themselves as transgender at a mean age 23.6 (SD = 8.7) and nearly half (43.8%) reported having sex with a nontransgender male for the first time only after beginning gender transition. Participants perceived that transmen in the early stages of coming out or transitioning may be more vulnerable to the pressure associated with gender stereotypes than gay men of the same age group:

> I kind of feel like men who came out as gay in their teens build up the self-esteem to just say, I don't have to live up to your stereotype bullshit. But I feel like transmen, especially the young, coming out college age transmen, haven't developed immunity to macho bullshit yet. And it's really important for them to get accepted as men and I think that's a real danger.

Increased interest in sex. All participants who reported hormone use (15/16; i.e., being on testosterone or "T") reported an increased interest in sex in general and awareness of their own sexual desires specifically compared to their experiences prior to taking hormones. In interviews, the majority of participants (75.0%) mentioned or joked about the connection between testosterone and attraction to non-transgender men, using phrases like "T makes you gay" or "turning gay on T":

> I heard about people liking men after testosterone before I started, and I was just like, oh, yeah, sure . . . I have one trans friend that I talk with pretty regularly and I told him, I'm like, "Dude, I think I am turning gay or something. I don't know. What the fuck." And he's like, "Why, you want to fuck men?" And I'm like, "Yeah." And he's like, "You're not gay, dude, you're just horny." And I'm like, "Well, that's true!"

Most commonly, the connection between testosterone and "being gay" was invoked as being a dominant "myth" in the transmale community, and participants often talked about how their experiences were different, particularly among transmen who reported sexual attraction and engagement with nontransgender men prior to gender transition. Others connected their interest in sex to an improved sense of confidence they felt that allowed them to act on desires they had always had, but had not felt comfortable expressing until after transition:

> It's hard to say that, like, it [testosterone] enhanced my sexual desire in general or—I think it probably had more to do with me just looking like a guy and feeling more confident and having that opportunity. I'm more comfortable having gay interactions with men than I am having, like, woman on man interactions.

Language. Many transmen described the challenge of talking about their bodies, especially with nontransgender male partners:

> I have a hard time talking about sex with someone I'm going to have sex with, in that really specific, "Here's what I want" kind of way.

Participants identified difficulty with language and words to talk about their bodies and "parts" to be a potential barrier to negotiating sexual safety. Difficulties negotiating the language transmen feel best respects their gender identity might also translate into difficulty negotiating and establishing comfortable sexual risk boundaries and limits more generally.

> I've been in uncomfortable situations in the sense that even though you've told someone, they still sometimes don't respect your gender identity. Like they refer to your body parts in ways that are not respectful.

Internalized transphobia. For several participants, internalized feelings about how their transgender identity and body might negatively affect their sexual and romantic lives were common themes. In early transition, participants often reported seeking validation from men. Several participants who were further along in transition reflected back on their experiences in early transition and remarked on the uncertainty they felt about being able to find sexual partners who would think their body was "hot" or "sexy":

> I was worried when I first transitioned that I would have trouble finding people who were interested in dating someone like me. I have learned that I can be picky. I have enough good offers that I can turn down the ones that aren't great. I still have to make more refusals than I really enjoy making. Which is great.

For a number of participants, fears that their transgender identity might negatively affect their sex lives left them feeling unworthy of sexual experiences and, when they did find potential sexual partners, "lucky to get laid." One participant talked about how this might influence safer sex practices for some TMSM:

> I think in general some trans guys might have that internalized fear that they can't get someone. And so they need to make concessions for them, like they might need to do something they're not comfortable with just because they need to find someone. This guy wants to have sex with me. But he doesn't want to use a condom. But, you know, he wants to have sex with me. So, maybe I should make a concession because, you know, I'm lucky that he wants me.

Participants also suggested that anxieties about sexual performance and attractiveness might put transmen at a greater risk of consenting to otherwise unacceptable sexual risk limits:

> There's an ugly phase in early transition where you feel like no one's going to hook-up with you. And you accept conditions that you might not accept normally because you think you don't have a better option. It's like, well, if I want to get laid I'm

> going to have to accept this because no one is going to want to sleep with a freak. Then you get through that phase and realize, actually, kind of a lot of people want to sleep with you!

Internet. The Internet played a prominent role in the sexual behaviors of TMSM in this sample, particularly with nontransgender male sex partners. The majority of participants (81.3%) made explicit reference to the Internet as a means of meeting nontransgender male sexual partners. Most (62.5%) reported having met an anonymous nontransgender male sex partner in the past 12 months online, and 56.3% reported meeting their most recent casual nontransgender male sex partner using the Internet:

> The Internet is kind of how I figure I'll meet anyone, any potential partner. They will already know I'm trans and everything will be out there and it won't be an issue.

For many TMSM in the sample, the Internet appeared to facilitate anonymous sexual encounters. Participants reported an average of 4.5 (SD = 8.8) anonymous nontransgender male sex partners in the past 12 months, the majority of which they met online. During the most recent encounter with a nontransgender man, a higher proportion of TMSM who met sex partners online reported unprotected receptive vaginal or anal sex (55.6%) compared to TMSM who did not meet their most recent partner via the Internet (28.6%).

Although the Internet appeared to be a risk factor for some participants, it also appeared to serve a protective function for others. Some participants mentioned using the Internet as a tool to help screen out partners who might be uninterested or hostile to a sexual encounter with a transman. Specifically, the nature of online sexual networking allowed for TMSM to disclose sensitive information, including but not limited to their transgender identity, relationship status, and STD history, without risk of face-to-face rejection:

> Oh my God, the Internet is so awesome. I love the Internet more than TV. I mean I could get that tattooed "The Internet is so awesome." The Internet gives me access to literally hundreds of people who meet the basic criteria I need. I can put up a profile and say, by the way, I'm an FTM, I have herpes, I have a boyfriend, and anybody who contacts me after that knows. And then I'm not seeing people's negative reactions. Anyone who contacts me after that is interested. I don't have to deal with all that rejection—and that is huge to my staying sane.

Additionally, several participants mentioned the Internet as a useful tool in negotiating safer sex. Participants could establish their own comfort boundaries around sex acts and barrier usage prior to a sexual encounter in much the same way that the Internet allows transmen to disclose their transgender status. One participant described using the Internet in a similar manner to negotiate boundaries around sex work. In each case, partners are screened on the basis of sexual interests and comfortable boundaries prior to an encounter.

Transactional sex. For several participants, transactional sex (i.e., exchanging sex for money, drugs, or other goods and services) emerged as a potential source of HIV risk. Nearly half (43.8%) of the sample reported having ever engaged in sex work, and 18.8% reported engaging in transactional sex in the past 12 months with a mean number of 2.4 (SD = 7.6) transactional nontransgender male sex partners. All participants who reported transactional sex in the past 12 months reported not using barriers or condoms in one or more transactional encounters with nontransgender men due to being able to earn more money:

> I don't use any barriers or condoms. Sex work-wise with guys, I can do better without using them. Part of me is ok with it and part of me is not. I guess because of the work I do and because of what's put in your head by the people around you in society. I mean in this day in age, there's HIV. That part of me feels guilty. The other part of me says I gotta do what I gotta do.

Substance use. Alcohol and marijuana, reported by 62.5% of participants, were the most frequently reported substances during sex. Two participants reported unprotected vaginal intercourse during their most recent sexual encounter with an anonymous male sex partner and while using alcohol and marijuana. Where substance use around sex was reported, participants often attributed its use to a need to lower inhibitions, and to reduce anxieties and fears of not finding a sexual partner who could respect and validate their identity:

> A lot of my heavy drinking was so I could engage in sexual behavior.

> I know some trans guys who might not be as comfortable with their bodies, and use drugs or alcohol to disassociate themselves from certain experiences during sex, or as a way to loosen themselves up.

Mood triggers. Mood as triggers to engaging in risky sexual behavior represent an important area to consider further in understanding HIV risk among transmen. Several participants described seeking out sex with nontransgender men as connected to their feelings and mood. More than half (56.3%) of participants met criteria for clinically significant depressive symptoms (CES-D score 16+) at the time of the study. Most often, these participants described "feeling down" or "anxious," in connection with their search for male sexual partners on the Internet.

> Sometimes I feel lonely so I go online. It distracts me from feeling bad. I mean, looking for casual sex can be time consuming. It gives me something to do.

Anxiety was also commonly observed among this sample, with 56.3% meeting criteria for "mild" or "moderate" and 18.8% for "severe" anxiety related symptoms. Several of participants with higher anxiety symptom scores described an "obsessive" or "compulsive" quality to seeking sex with nontransgender men on the Internet:

> It's kind of obsessive. A lot of it is just about the attention. It's like how many responses am I going to get. How fast am I going to get them? You know? Like how many hot guys versus like creepy scary guys. Like, how many are actually going to want to follow through. And sometimes I don't even follow through. But there's something about that process that is kind of exciting.

> I think my compulsive behavior and need around it [sex with nontransgender men] is actually the biggest risk. Because so many times I've almost engaged with someone and then I jerked off and like was over it, you know.

Risk reduction. Some participants reported engaging in sexual behaviors with the intent to reduce their risk of HIV and STD acquisition or transmission. Intentional risk

reduction practices were reported and appeared to inform sexual decision-making:

> I don't always take cum in the mouth. I don't always take cum inside of me. To my knowledge, there's not any blood involved at least in a sexual way, unless I'm doing BDSM [bondage and discipline, sadism and masochism] but I only do that with people I know well.

> I will insist on a condom and that's something I make sure I have a ton of.

> The reason I don't tell my female partners now [about sex work with nontransgender men] is because I consider them to have no risk because I'm strictly a top with them. When I do sex work I'll bottom, but I'm not at risk of passing to my main female partners because there is no body fluid exchange. I've never used a condom in oral sex. But then the risks are fairly low.

Many participants distinguished between regular and casual nontransgender male sexual partners in their sexual risk reduction decision-making. In general, most participants reported being willing to use less or no protection only with regular partners with whom the participants had established boundaries:

> When I was hooking up with my partner's partner, that was a time that I wasn't sleeping with anybody else but him, and I knew his status, and we didn't use condoms.

The timing of barrier negotiation emerged as another risk reduction technique. Participants reported having difficulty regularly using barriers during a sexual encounter when they were feeling "in the moment." As such, many participants reported attempting to reduce their risk of unprotected sex by establishing expectations of barrier usage prior to the encounter:

> If there's any negotiation, it's usually before we meet up . . . because generally when I'm hooking up, it's just that.

Similarly, several participants described asking about a partner's STD history and current HIV serostatus prior to initiating sex:

> I'm very clear beforehand what I want. I'm very clear that if you're going to put me at risk, to just not even engage with me.

Potential educational and sexual health intervention components and programs

Peer support. Several participants reported difficulty talking openly about their sexual health and/or having sex with non-transgender men. This was particularly true for several participants who reported regular female partners:

> It's just not something that comes up. I mean, being with women is such a low risk thing. And I don't talk about being with men when I'm with other people so the topic [sexual health] doesn't really come up. I wish I had other guys to talk about this stuff. It would make me feel like I'm not the only one sorting through these issues.

Programs that foster a sense of community and an exchange of information among TMSM may represent an important potential area of future intervention. Internet-based interventions: The Internet was thought to be essential in reaching TMSM and disseminating information within the transgender community. Several participants talked about online communities for "trannyfags" (defined as a transman who is attracted to males and gay-identified[53]) as critical spaces for TMSM to connect with one another and share information, including information on coming out:

> When I finally came out as trans, you know, years later, through all of this online research that I'm doing, I'm realizing that there's an entire community of trans men that also date other men and it was just this, like, burden that was lifted.

> It feels like most trans men stereotypically are lesbians and then they transition and like girls. When I go online it's great to be able to talk to other people that have had the same experience that I have had because I definitely felt like I was the only person. Because I wanted to date men and at that point I didn't think it would ever be possible for a non-trans guy to date a trans guy. Now I know that it is happening more and more and it like blows my mind and I think it's amazing.

Websites commonly mentioned when discussing community websites were Gay FTMs and the men who love them (http://tribes.tribe.net/gayftmandtheirmen), *Village Voice* article called "Introducing: Trannyfags" (www.villagevoice.com/2004-03-30/columns/introducing-trannyfags/), the Canadian website Queertransmen.org (www.queertransmen.org/), and XX Boys (www.xxboys.net/). Given the number of participants who reported going online to find sexual partners and/or information about TMSM, the Internet seems particularly well-suited as an intervention delivery mechanism surrounding safer sex. The Internet has the potential to not only foster more formal peer support structures, but also to create channels for the dissemination of more accurate information on sexual health. Moreover, a number of participants mentioned the potential of the Internet to reach nontransgender male sex partners of transmen with intervention efforts.

Several participants brought up the importance of risk reduction information about how to reduce overall risk in anonymous Internet sexual encounters, not just risk reduction focused on sexual health. Participants suggested that pamphlets about how to be smart and reduce their risk while hooking up online with men should include information on communication and disclosure issues, and tips for meeting a guy for the first time (i.e., meet in the hallway or lobby of his building or a more public space, etc.).

Another aspect of risk reduction that emerged was regular access to healthcare related to sexual health. Access to culturally competent HIV testing and STD screening were most commonly mentioned as important to incorporate into program delivery. Access to HPV vaccination was also highlighted.

Focus on pleasure and "hot sex." Focusing on pleasure and enjoyment in sexuality was thought to be an important dimension of any sexual health information designed for transgender men. Pornography was thought to serve as an important source of information for TMSM about sex and their bodies, as well as being with non-transgender men. TrannyWood Pictures (www.trannywoodpictures.com/) and Buck Angel (www.buckangel.com/) were mentioned. It was suggested that any safer sex materials and pamphlets also be "hot," in that the material should be erotic and a "turn on":

> It has to be hot. I don't want to look at boring stuff. It's a turn off. Like, I want to see people having a good time, having hot sex, and also taking care of themselves sexually.

Incorporating erotica and/or pornography into the circulation of relevant sexual health-related information was thought to be one way of increasing the uptake of information on sexual risk reduction.

Content of information. Participants identified a variety of sexual health-related concerns around the physiologic changes associated with hormone therapy and how those changes in their bodies might affect sexual risk and HIV or STDs, highlighting them as areas of particular interest for TMSM. Several participants expressed concern over the lack of information on exactly what types of protective barriers (e.g., latex condoms, "female" condoms, gloves, etc.) provide what levels of HIV and STD protection for the kinds of sex TMSM engage in with non-transgender male, non-transgender female, transmen, and transwomen partners.

Pregnancy, in particular, emerged as an arena where TMSM felt that more information and programming should be offered. Most participants were aware of the risks of pregnancy while on hormone therapy.

> When I signed the informed consent and started testosterone therapy, it said "this shouldn't be used as birth control," but it's like, does that mean there is risk of pregnancy?
>
> Condoms are not a question. Yes, we're using condoms because I don't want to be pregnant.

Several participants knew of TMSM who had had pregnancy scares and one participant described his own experience:

> I didn't think much about it [pregnancy], but then I had a scare where a condom broke and like [the doctor and nurse] came in and they're like, "Well, we really don't think there's a good chance." It freaked me out.

Another participant reported an experience he had prior to taking testosterone and had accessed abortion services:

> I did get pregnant at one point. That was pre-hormones. That was a nice little trip to Planned Parenthood. But thankfully, they were very good—I was impressed—they were very like trans aware.

Several participants also expressed an interest in possibly getting pregnant and having their own child at some time in the future; however, felt that no information was available to them about doing this and/or wanting to do this. Concern about navigating pregnancy-related healthcare services as a transman was especially noted:

> I guess my concern with pregnancy is not so much getting pregnant . . . it's just having to go through the services and stuff being a trans guy.

Additional areas that were thought to be especially salient sexual health arenas without sufficient or available pools of information were structural and anatomic changes (particularly changes to the vagina and clitoris during hormone use), including its effects on HIV and STD transmission, and information about hysterectomy.

Training for health care providers. Culturally competent medical providers were commonly reported by participants as an area in need of improvement with respect to considering sexual health services for transmen. Many participants described the general tone of healthcare providers as relatively uninformed about the particular needs of transmen, in particular those who report sex with non-transgender men. Several participants talked about having to educate their care providers about their specific health needs and generally found that experience to be frustrating. Culturally competent gynecological services were commonly mentioned as an area of particular need. One participant reported avoiding returning to the gynecologist for years because he perceived that competent and comfortable medical services were unavailable and because of it being a "women's clinic":

> I've avoided getting the Pap for the last three years because I don't want to go into a women's clinic. And there is no great place to go.

However, several other participants shared stories of positive experiences with a healthcare provider who were not necessarily knowledgeable about transgender health, but who were open and responsive to learning and understanding their transgender patients' sexual health needs.

In the context of HIV and STD testing, participants often described the difficulty of disclosing their sexual behavior with men to a health care provider. One participant described disclosure of both transgender status and sexual behavior with men as a barrier to him getting an HIV test and screening for STDs:

> It's hard to talk about our bodies. I mean, how do you tell a counselor who you've never met that you recently hooked up with some dude you didn't know and you let him fuck your boy pussy without a condom? You have to disclose being FTM first, before you can really talk about sexual behavior and risks. And you have to be comfortable coming out about being with men. I think this is a barrier for a lot of guys—thinking that providers will not understand why they are transmen and want to be with men.

Discussion

To our knowledge, this study represents the first formative mixed methods examination of the sexual health needs of transmen who have sex with nontransgender men on the East Coast, including a discussion of risk and protective factors that are likely associated with HIV and STD sexual risk among this community. Overall, 43.8% of the sample reported unprotected receptive vaginal sex with nontransgender males of unknown HIV serostatus in the past 12 months. Consistent with previous research from a national sample of TMSM,[26] the current findings suggest that TMSM may be at elevated risk for HIV and STDs, particularly given that recent increases in HIV and other viral and bacterial STDs have been noted among MSM in the United States.[27–30] Sexual health programs and interventions that are culturally competent and address the transgender-specific sexual health needs of TMSM and their nontransgender male sexual partners are needed. Integrating sexual health information "by and for" transmen into other healthcare services, involving peer support, addressing mood triggers such as depression and anxiety, Internet-delivered information and services for transmen and their sexual partners, making safer sex materials "hot" (i.e., erotic) and pleasure-focused, and training for healthcare providers were seen as important aspects of intervention design and delivery for this population.

Findings also suggest that understanding the sexual health needs of transmen, including HIV and STD risk and protective factors, necessitates that sexuality be contextualized within the broader process of gender transition. A life course perspective[31,32] offers a framework to begin conceptualizing the broader developmental context in which sexual risk behavior occurs for TMSM. For example, transmen might be especially vulnerable to experiencing depression and anxiety during "sensitive periods"[31,32] of developmental transition and change. Gender transition, whether it involves body modification (i.e., hormones, surgeries, etc.) or not, represents a time when many transmen explore and discover what it means for them to be embodied differently in the world as men. Thus, mood triggers may be more salient in sexual risk behaviors during certain periods of gender transition than others. Additional research with larger samples is needed to further elucidate, test, and advance a life course framework to understand the sexual health of transgender populations.

A dominant theme that emerged in this study was the paucity of culturally relevant and accurate sexual health information tailored to the sexual health needs of TMSM. This lack of information may put TMSM at risk for HIV and STDs due to misinformation or inaccurate information, limited support, lack of access to sexual health resources (i.e., STD testing) and/or sexual partners who are knowledgeable and respectful of their bodies, preferred sexual practices, and identities. Safer sex education materials are needed that are tailored to meet the needs of TMSM, including differentiating by partner genders (i.e., male, female, transmen, transwomen), type (i.e., casual, anonymous, monogamous, etc.), and sexual behaviors (i.e., frontal/vaginal or anal sex; oral sex; body contact with exchange of body fluids; sex toys, etc.). Also needed is information about sexual health more broadly, including information about pregnancy and how to navigate pregnancy-related health care services as a transman.

The Internet, in particular, appeared to play an important role in the lives of many TMSM, not only in facilitating sexual partnerships with nontransgender men, but also in reducing risk of violence or rejection from potential sexual partners, and negotiating sexual safety upfront and prior to engaging in a sexual encounter. Protective factors included using the Internet as a way to screen potential sex partners and risk reduction practices, including type of partners, timing of safer sex negotiation, and evidence of science-based decision making. The Internet also appeared to be pivotal in connecting individual transmen with one another and forming communities that provide social support for TMSM. Getting accurate information into online networks may be one potential strategy to improve the sexual health of transmen, and involving nontransgender male sexual partners was thought to be important. Additional research examining the social and sexual networks of transmen, using methodological recruitment methods shown to be effective at recruiting "hidden" populations, such as respondent-driven sampling,[54,55] may represent an important next step in recruiting a diverse sample, and understanding and improving the sexual health of transmen.

Some limitations pertain to the current study and should be considered in interpreting findings. First and foremost, sexual risk behaviors and prevention needs may vary by gender of transgender partner and represents a significant omission in the present study. Although participants were queried as to whether they had engaged in any sexual activity with nontransgender men, nontransgender women, transmen, and/or transwomen in the past 12 months, HIV and STD sexual risk episodes were not differentially assessed by gender vector of transgender partners (e.g., transmen compared to transwomen). Future research on sexual health should include transgender gender vector (i.e., transmen, transwomen, genderqueer, etc.) and attend to the nuances of sexual identities, behaviors, and bodies which are likely important in designing HIV and STD prevention and sexual health information.

Second, as a formative investigation of sexual health needs of TMSM, the study enrolled a small convenience sample of primarily white transmen, many of whom reported access to health care and economic resources (i.e., health insurance, stable housing, employment, education, and transgender-related hormones and surgery). Given that previous research has shown that transmen of color are less likely than their white counterparts to have access to primary care services,[56,57] it possible that sexual behaviors and healthcare needs of transmen of color, TMSM of lower socioeconomic position, and/or those lacking access to economic and social resources may differ than results reported from this sample (i.e., limitation of nongeneralizability).[26] Similarly, a large proportion of the current sample self-identified as "queer" (75.0%); thus, it is possible that findings may not be generalizable to gay or bisexual transmen. Research is needed with larger and more diverse samples of transgender men that contextualizes sexual health within broader issues of access to health care, other health-related concerns such as psychological health (e.g., depression and anxiety), and further considers the role of identity (e.g., gay, bisexual, queer), all of which may affect risk-taking behavior.

The current study suggests that more nuanced theoretical understandings of the dynamics that affect sexual health among TMSM is necessary, including the influence of gender roles and identities within sexual partnerships. New theoretical approaches are needed to conceptually understand sexual health among transmen, particularly examining gender roles in safer sexual practices across the life course. Aspects of being embodied that are transgender-specific—such as the effects of long-term use of testosterone on anatomy[58,59]—warrant theoretical consideration in sexual health. Integrating a social epidemiologic framework of embodiment[60] with a social psychological framework of sexual scripting[33]—i.e., an "embodied scripting" approach—may allow for more sophisticated understandings of the pathways of sexual risk among this population, especially the biologic aspects of HIV and STD transmission risk, and should be further developed.

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