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Sexual risk behaviors and psychosocial health concerns of female-to-male transgender men screening for STDs at an urban community health center

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Abstract

The sexual health of female-to-male (FTM) transgender men remains understudied. De-identified electronic medical records of 23 FTMs (mean age = 32, 48% racial/ethnic minority) who screened for sexually transmitted diseases (STDs) between July and December 2007 at a Boston, Massachusetts area health center were analyzed. Almost half (48%) were on testosterone and 39% had undergone chest surgery; none had undergone genital reconstruction. The majority (57%) were bisexual, and 30% reported sex with nontransgender males only in the prior three months. One individual was HIV-infected (4.3%) and two (8.7%) had a history of STDs (all laboratory-confirmed). Overall, 26% engaged in sexual risk behavior in the prior three months (i.e., unprotected sex with a nontransgender male, condom breakage, or anonymous sex). The majority (61%) had a DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition) diagnosis (52% depression, 52% anxiety, and 26% adjustment disorder), and regular alcohol use was common (65%). Alcohol use, psychosocial distress histories, and sex with males only (versus with males and females) were associated with sexual risk in the past three months. Transgender men have concomitant psychosocial health vulnerabilities which may contribute to sexual risk behaviors. Future research is needed to understand the myriad social, behavioral, and biological factors that contribute to HIV and STD vulnerability for FTMs.

Keywords

transgender; FTM; HIV; STD; psychosocial; sexual risk

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Introduction

Over the past decade, a small but growing body of literature has documented sexual and drug-using behaviors of transgender persons that can lead to the acquisition or the transmission of sexually transmitted diseases (STDs), including HIV (Bockting, Benner, & Coleman, 2009; Bockting, Robinson, Forberg, & Scheltema, 2005; Bockting, Robinson, & Rosser, 1998; Chen, McFarland, Thompson, & Raymond, 2011; Clements-Nolle, Marx, Guzman, & Katz, 2001; Herbst et al., 2008; Kenagy, 2002, 2005; Kenagy & Bostwick, 2005; Kenagy & Hsieh, 2005; Reisner, Perkovich, & Mimiaga, 2010; Rowniak, Chesla, Rose, & Holzemer, 2011; Schulden et al., 2008; Sevelius, 2009; Stephens, Bernstein, & Philip, 2011; Winningham & Seal, 2003; Xavier et al., 2004; Xavier, Bobbin, Singer, & Budd, 2005). Studies have consistently found high rates of HIV infection and sexual risk behaviors among male-to-female (MTF) transgender women, particularly those who engage in transactional sex (California Department of Health Services, 2006; Clements-Nolle et al., 2001; Clements-Nolle, Guzman, & Harris, 2008; Elifson et al., 1993; Herbst et al., 2008; Kellogg, Clements-Nolle, Dilley, Katz, & McFarland, 2001; Kenagy, 2002; Nemoto, Operario, Keatley, Nguyen, & Sugano, 2005; Operario, Soma, & Underhill, 2008; Reback & Lombardi, 2001; Reisner et al., 2009; Simon, Reback, & Bemis, 2000; Xavier et al., 2005). However, HIV and STD sexual risk behaviors among female-to-male (FTM) transgender men (assigned a female sex at birth who identify as male) remain largely understudied (Kenagy, 2002; Namaste, 1999). For example, a meta-analysis (Herbst et al., 2008) found only five studies reporting on HIV risks of FTMs in small community-based samples (Clements-Nolle et al., 2001; Conare, Cross, & Little, 1997; Kenagy, 2002, 2005; Xavier et al., 2005). With HIV prevalence among FTMs less than 2%, this meta-analysis concluded that “HIV and risk behaviors were low among FTMs” (Herbst et al., 2008).

Notable gaps remain in research examining sexual risk among FTMs. First, studies have rarely examined FTM sexual behavior by the gender of their sexual partner, as many assume transgender men have sex exclusively with female partners. Differentiating sexual risk behaviors by male and female partners may provide a very different portrait of sexual risk taking among FTMs, including the biological transmissibility of HIV. For example, a mixed-methods study with FTMs who reported sex with nontransgender males ($N = 45$) found high rates of risky sexual behaviors (Sevelius, 2009). Overall, 69% reported receptive vaginal/frontal sex in the past 12 months with only 31% reporting “always” using condoms. Similarly, 60% reported receptive anal sex in the past 12 months with 40% “always” using condoms. Although only 2% of this sample was HIV-infected, nearly half (47%) had been diagnosed with an STD at some time in the past (24% HPV, 11% Chlamydia, 11% herpes, 9% bacterial vaginosis, 7% gonorrhea, and 7% trichomoniasis) (Sevelius, 2009). While HIV prevalence among FTMs may be currently low relative to MTFs and nontransgender men who have sex with men (MSM), it appears there may be a subgroup of FTMs engaging in sexual risk behaviors that could lead to a rise in HIV and STD incidence in this community. Further, HIV prevalence is high for FTMs relative to behaviorally heterosexual nontransgender males and females.

A second gap in sexual health research among FTMs relates to the need to integrate an understanding of the psychosocial issues that surround HIV and STD risk behavior to

contextualize sexual health (Safren, Reisner, Herrick, Mimiaga, & Stall, 2010; Singer & Snipes, 1992; Stall et al., 2003; Stall & Purcell, 2000). Social, behavioral, and biological factors contribute to elevated HIV risk behaviors. “Syndemic theory” refers to the tendency for multiple co-occurring and interacting health epidemics to synergistically develop and reinforce one another, particularly under conditions of social marginalization (Singer & Clair, 2003). Among transgender individuals and communities, mental health and psychosocial problems such as depression, anxiety, psychological distress, and violence/victimization are frequently reported and have been shown to contribute to HIV risk behaviors among MTF transgender women (Brennan et al., 2012; De Santis, 2009; Operario & Nemoto, 2010). Further, many mental health and psychosocial problems synergistically co-occur (e.g., as “syndemics”) in transgender individual lives. Few studies have applied this framework to sexual risk among FTMs. Thus, in order to inform HIV prevention and sexual health interventions for this population, formative work to examine HIV risk factors, inclusive of psychosocial risk factors concomitantly with risk, is necessary (Operario & Nemoto, 2010).

The current study provides formative data with FTM transgender individuals who accessed STD testing services at an urban community health center in Boston, Massachusetts. The purpose of this analysis of patient's data was to examine initial associations related to HIV and STD risk behaviors and other psychosocial factors among FTMs. These data will serve as a starting point for additional research investigations with this population, in the hope of informing the design of culturally appropriate and contextualized HIV prevention interventions that also attend to the psychosocial health issues that FTMs face.

Methods

Design and procedures

A retrospective chart review was conducted of all transgender patients ($N = 23$) FTM (assigned a female sex at birth who identified as male) who were screened for STDs for a six-month period between July and December 2007 at Fenway Health. Fenway Health is the largest freestanding community health care and research facility serving the needs of the lesbian, gay, bisexual, and transgender community in the greater Boston, Massachusetts area (Mayer, Mimiaga, VanDerwarker, Gold-hammer, & Bradford, 2007). All FTMs who came into the clinic and were screened for the following STDs were included in this sample: HIV, Chlamydia, gonorrhea, syphilis, human papillomavirus (HPV), genital herpes, pelvic inflammatory disease (PID), anogenital warts, and trichomoniasis. The study was approved by the Fenway Health Institutional Review Board.

Measures

Fenway Health uses an electronic medical record (EMR) system that enables physicians and clinical staff to document patient encounters, streamline clinical workflow, and securely exchange clinical data with other providers, patients, and information systems. At the time of the chart review, transgender flags were utilized in the EMR to indicate transgender patients who had the diagnostic code of “gender identity disorder” (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision [DSM-IV-TR] 302.85).

Data were extracted from patients' EMR records where available, including the following: (1) demographic characteristics (age, race/ethnicity, education, employment status, and health insurance type); (2) current substance use (alcohol (5+ drinks per week), tobacco, marijuana, stimulant use (crystal methamphetamine, cocaine, or crack), injection drug use (IDU)); (3) current mental health clinical diagnoses (DSM-IV-TR Axis I: depression, anxiety, posttraumatic stress disorder (PTSD), substance use disorder (SUD), bipolar disorder, adjustment disorder, other (not specified) and DSM-IV-TR Axis II: personality disorders) (American Psychiatric Association [APA], 2000); (4) psychosocial history (history of sexual, physical, emotional abuse; history of inpatient psychiatric hospitalization; and outpatient mental health utilization); (5) history of any STD diagnosis (through keyword searches of the patients' electronic medical records and confirmed by laboratory reports); (6) sexual risk behavior in the three months prior to medical visit (perceived "high risk" sex, i.e., sex with a male without a condom, condom breakage, and anonymous sex partners), and gender of recent sexual partners (sex with males only, females only, and both males and female). Sex with transgender partners was not routinely recorded in medical records.

Data analysis

Patient's electronic medical records were extracted and entered into a study database and analyzed with SAS[®] version 9.1.3 (SAS Institute Inc., 2003). De-identified data were analyzed and univariable statistics were calculated. Given the small sample size, analyses focused on descriptively characterizing FTM patients, rather than on statistical significance. Chi-square global tests of independence and Fisher's Exact tests (for small cell sizes) were used to test independent associations between variables, including the relationship of behavioral and psychosocial factors to a binary indicator of sexual risk in the three months prior to medical visit ("high risk" sex operationalized as: sex with a male without a condom, condom breakage, or anonymous sex partner in the past three months yes/no).

Results

Table 1 summarizes the demographic characteristics of the study sample ($N = 23$). Participants ranged in age from 20 to 44 with a mean age of 32 years ($SD = 7$). Approximately half (48%) were racial/ethnic minority: 13% Black/African-American, 9% Hispanic, 22% Asian/Native Hawaiian/Pacific Islander, 4% other minority.

Table 2 descriptively presents the behavioral, psychosocial, and sexual health factors.

Gender affirmation

Overall, nearly half (48%) used hormones (i.e., testosterone), 39% had top surgery (i.e., mastectomy and chest reconstructions), and 13% had abdominal surgery (i.e., hysterectomy and oophorectomy). No FTM patients had undergone genital reconstruction procedures.

Sexual orientation identity

The majority (57%) identified as bisexual. FTM transgender patients reported sex with women only (30%), men only (30%), and both men and women (35%) in the three months prior to their STD testing visit.

History of psychosocial issues

As documented by a clinician in their medical record, participants had complex psychosocial histories, including physical abuse (39%), sexual abuse (35%), history of substance abuse (30%), prior inpatient psychiatric hospitalization (26%), and past suicide attempt(s) (22%).

Mental health diagnoses

The majority of participants (61%) had a current clinical mental health diagnosis (i.e., met DSM-IV criteria for depression, anxiety, PTSD, SUD, bipolar disorder, adjustment disorder, and other not specified). Most commonly, participants had been diagnosed with depression (52%), anxiety (52%), and adjustment disorder (26%). Two participants (9%) had a personality disorder that met DSM-IV criteria. Patients with a history of physical abuse ($p < 0.01$) or sexual abuse ($p < 0.01$) were more likely to have a current clinical mental health diagnosis (i.e., meet DSM-IV criteria for depression, anxiety, PTSD, SUD, bipolar disorder, adjustment disorder, and other not specified) compared to patients without these histories.

Utilization of mental health services

Despite the high prevalence of psychological health indicators, only one participant (4%) was receiving outpatient mental health counseling at the time of their STD screening visit.

Substance use

The majority (65%) of the sample drank alcohol (5+ drinks per week). Also documented were marijuana (17%), tobacco/smoking (13%), stimulant use (9%), and IDU (9%) use.

HIV and STDs

One participant was HIV-infected (4.3%). Two participants (8.7%) had a history of one or more STDs (laboratory-confirmed).

Sexual risk

Overall, 26% of the sample engaged in sexual risk behavior in the prior three months as documented in their chart at the time of their STD visit. Having a history of one or more past suicide attempt(s) ($\chi^2 = 9.63$; $p = 0.008$) and current alcohol use (5+ drinks per week; $\chi^2 = 4.33$; $p = 0.048$) were associated with sexual risk behavior in the prior three months. Relative to participants who had sex with both men and women, individuals who engaged in sex with men only were more likely to have engaged in sexual risk behavior in past three months ($\chi^2 = 4.62$; $p = 0.049$). No significant differences were seen in sexual risk behaviors by gender affirmation (hormones or surgical status).

Discussion

One in four FTM transgender men in this clinic-based study had engaged in sexual risk behavior in the prior three months, and risky sex was associated with current alcohol use, history of psychosocial distress (i.e., past suicide attempt), and having sex with men only compared to sex with both men and women. One participant (4%) was HIV-infected (known diagnosis), and 9% had a history of one or more STDs (laboratory-confirmed). Transgender

men were found to have a complex array of psychosocial health problems documented in their medical records, most commonly depression, anxiety, sexual and physical abuse histories, and current alcohol use; these findings are consistent with prior research (Clements-Nolle, Marx, & Katz, 2006; Kenagy, 2005). Given that previous research has documented the role of psychosocial issues (i.e., depression, substance use, and childhood sexual abuse) in fueling sexual risk behavior among other populations (Safren et al., 2010; Stall et al., 2003), future research is warranted to examine sexual risk in relation to these factors among FTMs with larger sample sizes. Also needed are in-depth qualitative research inquiries to understand how sexual health and mental health concerns intersect in the lives of FTMs. These studies would benefit from differentiating sexual behavior by partner's gender (male, female, and transgender) and type (including casual and anonymous), as well as examining the co-occurring risk factors in relation to increased risk for HIV and STD infection or transmission (i.e., "syndemics") (Singer & Snipes, 1992; Stall & Purcell, 2000).

Findings from this formative study suggest that an expanded assessment of HIV risk behavior and psychosocial risk factors is required to characterize sexual risk among FTM transgender men. The current state of knowledge of HIV and STD risk among FTMs may be influenced by a common assumption that transgender men only have female sexual partners, and that it is only sex with men that poses STD and HIV risks for women who identify as lesbian or bisexual (Einhorn & Polgar, 1994; Lemp et al., 1995; Newman, 2000). FTMs who are assumed to engage in mainly sex with women, particularly those who have not had lower gender affirmation surgical procedures, may also not be regarded at high risk. However, prior research has found that as many as 44% of lesbian and bisexual women have a lifetime history of one or more STDs, depending on the sample characteristics and the STDs studied (Bailey, Farquhar, Owen, & Mangtani, 2004; Bevier, Chiasson, Heffernan, & Castro, 1995; California Department of Health Services, 2006; Carroll, Goldstein, Lo, & Mayer, 1997; Eaton et al., 2008; Fethers, Marks, Mindel, & Estcourt, 2000; Lindley, Kerby, Nicholson, & Lu, 2008; Marrazzo et al., 1998; Marrazzo, Coffey, & Bingham, 2005; Singh, Fine, & Marrazzo, 2011; Skinner, Stokes, Kirlew, Kavanagh, & Forster, 1996). Hence, cultural competency and educational trainings for providers are important so that they are more aware that FTMs who have sex with women are not necessarily at low or negligible risk for HIV and STDs.

Furthermore, providers should be aware that FTMs have diverse sexual identities and engage in an array of diverse sexual behaviors (Blanchard, Clemmensen, & Steiner, 1987; Chivers & Bailey, 2000; Coleman & Bockting, 1989; Devor, 1997; Kenagy & Hsieh, 2005; Lev, 2004; Reisner, Mimiaga, et al., 2010; Reisner, Perkovich, et al., 2010; Rubin, 2003; Schleifer, 2006). Approximately one-third of FTMs in this study engaged in sex with both men only (30%) in the prior three months and 57% self-identified as bisexual. The group most likely to report sexual risk behavior was the group reporting only male sex partners. This is consistent with prior research which demonstrated that among a sample of 62 FTMs, only 10% identified their sexual orientation identity as heterosexual (i.e., primary orientation toward women); the majority (58%) self-identified as gay (i.e., primary orientation toward men), 5% bisexual, and 27% other (categorized as "other" or "don't know") (Kenagy & Hsieh, 2005). This finding suggests that FTM HIV and STD risks need to be acknowledged,

identified, and explored based on variations in sexual identity, sexual behavior, sexual attractions, and sexual partner types.

Indeed, fluidity of sexual attractions, identities, and behaviors may be the norm and part of a “transgender sexuality” for FTMs (Bockting et al., 2009). Another important factor to consider alongside gender identity is the diversity and heterogeneity of sexual behaviors that transgender people endorse (e.g., Bauer et al., 2012). Changes in sexual attractions, identities, and behaviors during and throughout gender affirmation/transition have been documented among FTMs with as many as 40% reporting a shift in sexual orientation (most commonly becoming attracted to men) during gender transition (Meier, Pardo, Labuski, & Babcock, 2013). Changing sexual attractions, desires, and identities during and throughout gender affirmation/transition are potentially relevant for understanding sexual risk, and may affect mental health and psychosocial functioning. Prior research with MTF transgender women (Melendez & Pinto, 2007; Nuttbrock et al., 2013) suggests that symptoms of depressive distress, which can increase motivations for engaging in unprotected sex as a means for cognitive escape, may also be related to increased desires for gender validation (especially in the absence of or desire for genital reconstruction surgery), and further fuel sexual risk behaviors linked to seeking greater intimacy and closeness. Understanding gender affirmation pathways among FTMs represents an important future research endeavor, including how changes in sexual orientation over time throughout gender transition relate to, or do not relate to, sexual risk behaviors.

This study has limitations to consider. First, the primary reasons that transgender individuals presented for care at Fenway Health were not captured in this chart review (i.e., primary care, mental health, HIV, and STD testing specifically). Second, education and employment, though queried on intake forms, are often skipped by patients, as seen by the percentage of FTMs missing data on these variables. Third, data are constrained by the study design itself (i.e., retrospective chart review), which has several limitations including incomplete documentation, missing charts, information that is unrecorded, difficulty interpreting information found in the documents (e.g., acronyms), and variance in the quality of information recorded by medical professionals (Dworkin, 1987; Gearing, Mian, Barber, & Ickowicz, 2006; Hess, 2004; Pan, Fergusson, Schweitzer, & Hebert, 2005; von Koss Krowchuk, Moore, & Richardson, 1995). An example of this is that providers did not ask patients routinely whether they had sex with transgender partners. Asking about transgender partner's history is important and has implications for taking an accurate sexual history with FTM patients, including biological transmission of HIV and STDs. Fourth, FTM patients were identified using a “gender identity disorder” code. Given that not all FTMs receive this diagnosis, it is possible more FTMs were STD screened in clinical practice but did not get included in the retrospective chart review because their chart did not contain a diagnosis (e.g., selection bias). Lastly, the small sample size limits generalizability of findings; thus, findings should not be overinterpreted, given the small sample. Not stigmatizing the sexual health and mental health of transgender individuals is also important in light of current findings. A strength of this study is that it provides initial descriptive data from which to build further investigations. We characterized the HIV and STD and mental health histories of a sample of urban FTMs engaged in and seeking community-based services who have not had genital reconstruction surgery, a topic on which little clinical and research literature

exists. Additional research is warranted with larger samples of FTM transgender men, including mixed methods research utilizing qualitative and quantitative components.

Results from this formative study in Massachusetts suggest that further research is needed to examine sexual risk among sexually active transgender men, including the role of sexual identity and behaviors and gender roles and norms. Similar to assumptions about lesbian and bisexual women (Bauer & Welles, 2001; Carroll et al., 1997; Kwakwa & Ghobril, 2003; Skinner et al., 1996), the assumption that FTMs are at negligible risk for HIV and STDs may be based upon infrequent screening, lack of knowledge of FTM sexual practices (i.e., some FTMs engage in receptive anal and frontal/vaginal sex) (Reisner et al., 2009; Sevelius, 2009) and/or the discomfort that FTMs or their providers may feel concerning the disclosure of the particulars of their body, gender identity and expression, sexual identity, and sexual behaviors (Cromwell, 1999; JSI Research & Training Institute, 2000; More, 1998; Rubin, 2003). Further research with a larger, longitudinal sample is necessary to look more carefully at sexual risks and sexual health among transgender men and their relation to co-prevalent substance and alcohol use, psychopathology, and other psychosocial and environmental factors over time. Developing a better understanding of disease prevalence and incidence rates, reasons for and barriers to screening and quality treatment will be helpful in training providers in conducting appropriate screening, diagnosis, and care for STDs and other gynecologic infections among FTMs.

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Table 1

Demographics of FTM transgender patients accessing STD testing at an urban community health center ($N = 23$).

	<i>N</i>	%
Age (years)		
Mean (SD)	31.6 (7.3)	
Race/ethnicity		
White (not Hispanic/Latino)	12	52.2
Black/African-American	3	13.0
Hispanic/Latino	2	8.7
Asian/Native Hawaiian/Pacific Islander	5	21.7
Other racial/ethnic minority	1	4.3
Education		
High school diploma/GED or less	6	26.1
Some college	3	13.0
College degree	4	17.4
Graduate school or professional degree	2	8.7
Unknown	8	34.8
Employment status		
Employed full- or part-time	7	30.4
Unemployed/disabled	3	13.0
Student	3	13.0
Unknown	10	43.5
Health insurance		
Private	8	34.8
Public	8	34.8
Self-pay	5	21.7
Other	2	8.7

Table 2

Behavioral, psychosocial, and sexual health of FTM transgender patients accessing STD testing at an urban community health center ($N = 23$).

	<i>N</i>	%
Gender affirmation		
Hormones (testosterone therapy)	11	47.8
Top surgery (mastectomy, chest reconstruction)	9	39.1
Abdominal surgery (oophorectomy, hysterectomy) ^a	3	13.0
Sexual orientation identity		
Straight/heterosexual	1	4.3
Gay	2	8.7
Bisexual	13	56.5
Unknown	7	30.4
Gender of sexual partners in prior three months		
Females only	7	30.4
Males only	7	30.4
Both females and males	8	34.8
Unknown	1	4.3
HIV status and STD history		
HIV-infected	1	4.3
History of one or more STDs	2	8.7
Sexual risk behavior		
Sexual risk in prior three months reported at time of visit	6	26.1
Mental health		
Axis 1 diagnosis	14	60.9
Depression	12	52.2
Anxiety	12	52.2
Adjustment disorder	6	26.1
Substance use disorder (SUD)	5	21.7
PTSD	3	13.0
Bipolar disorder	1	4.3
Other axis 1	1	4.3
Axis 2 diagnosis	2	8.7
Utilization of mental health services		
Outpatient mental health counseling at time of visit	1	4.3
Psychosocial history		
Inpatient psychiatric hospitalization	6	26.1
Suicide attempt(s)	5	21.7
Sexual abuse	8	34.8
Physical abuse	9	39.1
Substance abuse history	7	30.4
Current substance use		

	<i>N</i>	%
Alcohol (5+ drinks/week)	15	65.2
Marijuana	4	17.4
Stimulant use (crystal methamphetamine, cocaine, crack)	2	8.7
IDU ever	2	8.7
IDU 12 moths	1	4.3
Tobacco/smoking	3	13.0
Any substance use	16	69.6

Note

^a All patients retained their original assigned sex at birth anatomy and had not undergone genital reconstruction procedures.