



A Retrospective Review of Medical Records of Laboratory-Tested Sexually Transmitted Infections of Transsexual Men from Southern Brazil

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Abstract

The present study assessed the prevalence of sexually transmitted infections (STIs) in 90 transsexual men (female-to-male transsexual persons) from southern Brazil. A retrospective review of the medical records of all transsexual men who visited an outpatient clinic in Rio Grande do Sul from 1998 to 2017 was performed. Although the sample had a high prevalence of risk factors for contracting STIs, such as drug use, one-third of the participants had never been tested for STIs and, when screened, it was mostly for HIV, but not for syphilis or other STIs. Based only on laboratory-tested transsexual men, the prevalence of syphilis and hepatitis C was 3.4% and 1.6%, respectively, which is higher than the general population. It is clear that health professionals need to broaden their understanding of transsexual men, acknowledging STIs as a possible diagnosis.

Keywords Transsexual men · Transgender · Transsexualism · Gender dysphoria · Transsexuality · Sexually transmitted infections

Introduction

A systematic review and meta-analysis that included articles from the U.S. found 29 studies on transsexual persons and sexually transmitted infections (STIs) (Herbst et al., 2008). Among them, only five involved transsexual men (female-to-male transsexual persons). A more recent review on the subject found 25 peer-reviewed papers that considered transsexual men, corresponding to 18 quantitative and seven qualitative studies (Reisner & Murchison, 2016). One article by Herbst et al. (2008) was not among the 25 reports. Only 10 studies had laboratory-confirmed HIV serology. HIV seropositivity varied between 0 and 4.3% among transsexual men (Reisner & Murchison, 2016). Most studies were from the U.S.; however,

Canada (Bauer, Redman, Bradley, & Scheim, 2013; Bauer, Travers, Scanlon, & Coleman, 2012), Catalonia (Patrascioiu et al., 2013), Australia (Pell, Prone, & Vlahakis, 2011), and Brazil (Lobato et al., 2007) also published data on STIs among transsexual men. It is noteworthy that only one study had laboratory-confirmed screening data for other STIs, such as syphilis and Chlamydia (Chen, McFarland, Thompson, & Raymond, 2011). Considering that most of these studies were from the U.S. and that adult HIV prevalence there is 0.003% (representing 972,166 people with diagnosed HIV infection at the end of 2014, out of a total population of 320,900,000 inhabitants) (Centers for Disease Control and Prevention, 2016; US Census Bureau, 2015), HIV prevalence among transsexual men is low but not despicable. Therefore, it seems that transsexual men have a low risk of contracting STIs when compared with transsexual women (TW) and men who have sex with men (MSM), but not necessarily when compared with cisgender men and women (Stephens, Bernstein, & Philip, 2011).

Closely related to the small amount of research on STIs in transsexual men is the low percentage of transsexual men who are actually tested for STIs. According to the World Health Organization (WHO) Guidance on Provider-Initiated HIV Testing and Counseling (PITC), an HIV test is recommended

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as a standard component of medical care for all patients visiting health facilities during generalized HIV epidemics (World Health Organization, 2007). PITC specifically refers to HIV testing initiated by a provider and is associated with higher rates of HIV testing (Kennedy et al., 2013). Nevertheless, data from Canada found that only one in five transsexual men had been tested in the past year (Bauer et al., 2013). Data from Brazil, including 156 transsexual men, verified that almost half of them had been tested for HIV once in their lifetime, especially as part of a medical routine (Costa et al., 2018b). None of them reported HIV-positive status (Costa et al., 2018b). The main reason to avoid HIV testing among transsexual men was disbelief in the necessity of HIV testing (Costa et al., 2018b). In contrast, based on a sample of 59 North American transsexual men, only 7% of them had never been tested (Chen et al., 2011). Another study from the USA, including 45 transsexual men who have sex with men (TMSM), verified that 43 of them had been tested for HIV at least once (Sevelius, 2009).

Mental health issues, physical abuse, social isolation, economic marginalization, health care needs and HIV/AIDS risk misperceptions are associated with higher HIV/AIDS risk among transsexual individuals (Herbst et al., 2008; Rich et al., 2017) and may even predict both high-risk sexual behavior and HIV/STI incidence (Nuttbrock et al., 2014). Most studies involving transsexual people have samples composed predominantly of transsexual women, making it difficult to apply the results exclusively to transsexual men. In some articles, however, separate analyses were performed for transsexual men, which confirmed: lower quality of life, particularly mental health (Newfield, Hart, Dibble, & Kohler, 2006); high exposure to sexual abuse during childhood (Gehring & Knudson, 2005); greater drug use (Scheim, Bauer, & Shokoohi 2017) and heavy episodic drinking (Scheim, Bauer, & Shokoohi 2016). Half of them lived in poverty, and one quarter met criteria for depression. Although STI prevalence may not be particularly high among transsexual men, these risk-related factors are present in their daily lives.

A qualitative study comprised of 11 HIV-negative transsexual men described a diversity of sexual behaviors, including inconsistent condom use and receptive and insertive anal and genital sex, with both cis and transsexual men (Rich et al., 2017). Condom use was considered the most important risk reduction tool; however, some reported using condoms only with non-primary partners (Rich et al., 2017). Consistent with these findings, many other articles have reported risk behaviors among transsexual men, such as unprotected anal and vaginal sex, sex work and low use of screening tests and other preventive sexual health services (Bauer et al., 2012, 2013; Chen et al., 2011; Herbst et al., 2008; Horvath, Iantaffi, Swinburne-Romine, & Bockting, 2014; Kenagy, 2002; Kenagy & Hsieh, 2005; Reisner et al., 2014; Rowniak, Chelsea, Rose, & Holzemer, 2011; Sevelius, 2009; Stephens et al., 2011). While some articles reported high prevalence of risk

behaviors among transsexual men, others did not find a significant prevalence of those behaviors (Herbst et al., 2008; Lobato et al., 2007). These apparently contradictory data may not necessarily be inconsistent. These variations are probably related to the fact that studies rarely consider the specific sexual behavior of transsexual men or the gender of their sexual partner, and assume that transsexual men have sex exclusively with female partners (Reisner et al., 2014). Indeed, samples that included mainly TMSM have found higher risk behaviors and more cases of STIs (Sevelius, 2009). Furthermore, there is a tendency to engage in behaviors that are consistent with gender role-based expectations, such as heavy episodic drinking (Scheim, Santos et al. 2016), referred to as “gender role trigger” (Reisner & Murchison, 2016). TMSM, who may join gay-identified male communities, are expected to engage in anal-insertive intercourse more frequently than transsexual men who are not sexually active with men. In an effort to avoid stigma and rejection from gay-identified male communities, TMSM may elevate their risk of unsafe sexual encounters (Rowniak et al., 2011), whereas transsexual men who have sex only with women may not face these challenges.

In view of the fact that there are few published data available that examine STI prevalence among transsexual men outside of North America, this study reports the results of a population-based, cross-sectional study that assessed STIs, particularly HIV seroprevalence, among transsexual men in southern Brazil. Furthermore, considering the significant role of gender affirming outpatients’ clinics, such as Gender Identity Program (PROTIG), on healthcare of transsexual people, the present study aimed to assess the number of transsexual men who were screened for STI after the first outpatient visit at PROTIG.

Method

Subjects

Currently, all transsexual men from Rio Grande do Sul seeking gender affirmation surgery (GAS), including mastectomies and hysterectomies, must do so through the PROTIG. PROTIG is an outpatient clinic composed of a multidisciplinary team, which provides access to GAS, as well as hormonal therapy and psychiatric monitoring. The service’s database is made up of the population of transsexual persons from southern Brazil who sought and were able to obtain health assistance at PROTIG. In general, transsexual people who do not seek GAS are not included in PROTIG, and many remain without proper access to health. In the present study, all individuals who joined PROTIG seeking GAS, and had been diagnosed with Gender Identity Disorder (GID) or Gender Dysphoria (GD), were assessed through their medical records. Therefore, the present study is a retrospective review

of the medical records of all transsexual men ($N=90$) who visited PROTIG from 1998 to 2017.

Measures

Biological and Sociodemographic Profile

Collected data included age, ethnicity, place of residence, education, employment, marital status and length of the relationship in years, and age at first sexual intercourse. In regard to sexual life, only information about sexual identity was obtained.

STI Diagnosis

During the first meetings, the psychiatrist requests screening exams for STIs. These tests were performed by the hospital's general laboratory and, for the present study, collected through retrospective review of medical records. For the HIV diagnosis, the patient's serum was analyzed in the first consultation using the method of chemiluminescence in a Siemens ADVIA Centaur immunoassay system. If the test was positive, a manual immunochromatographic test (high specificity) was performed to confirm it. In positive samples, a new collection was taken. Positive results in the second collection were considered diagnostic. If the results of the first sample were positive and the second negative, a third collection was taken. Patients diagnosed with HIV were referred to the Office of Infectious Diseases at HCPA.

For the syphilis diagnosis, a venereal disease research laboratory (VDRL) test was performed. It consisted of an antigen (composed of lecithin, cholesterol and purified cardiolipin) that specifically recognizes *Treponema pallidum* plasma membrane components. If positive, a fluorescent treponemal antibody test (FTA-ABS) was performed for confirmation purposes. FTA-ABS also indicated a history of infection. Patients diagnosed with syphilis received treatment and follow-up in PROTIG.

Serological markers for HBV infection include HBsAg, anti-HBs, HBeAg, anti-HBe, and anti-HBc IgM and IgG. For the hepatitis B diagnosis, HBsAg and total anti-HBc were taken from the medical records. Both were performed by electrochemiluminescence (ECLIA) reaction. If the HBsAg was positive and the total anti-HBc was negative, the test was repeated in 30 days to clarify whether it was an acute infection or a false positive. If HBsAg was negative and the total anti-HBc was positive, an anti-HBs test was requested to determine whether the result was a false positive or if the infection had been cured. If both tests were positive, an anti-HBc IgM test was performed for the purpose of diagnosing acute or chronic infection.

For the hepatitis C diagnosis, an anti-HCV test was performed by electrochemiluminescence (ECLIA) reaction.

It is a serological marker that indicates a previous contact with the virus, but not necessarily acute or chronic infection. To clarify this issue, patients with a positive reaction were referred to an infectious disease physician for an evaluation. Patients diagnosed with hepatitis B or C were referred to the Office of Infectious Diseases at HCPA.

Results

Sociodemographic Characteristics

The mean age of the participants was 26.5 years ($SD=7.2$), with an age range of 17–47 years, at the time of the first meeting. In terms of ethnicity, the majority self-reported as white (94.4%; $CI\ 87.5-98.2$). Two-thirds of participants were from cities with more than 200,000 inhabitants (67.8%; $CI\ 57.1-77.2$), such as Porto Alegre.

One-third of the sample had completed high school (27.0%; $CI\ 18.1-37.4$); however, only 7.9% ($CI\ 3.2-15.5$) had finished university. Most of them were working (80.3%; $CI\ 69.1-88.8$). Jobs related to computation and technology, as well as transportation and sales, were the most cited. None reported involvement in sex work.

One-third of the sample was single (28.0%; $CI\ 18.2-39.6$). All the others were married (26.7%; $CI\ 17.1-38.1$) or engaged or in a stable relationship (44%; $CI\ 32.5-55.9$). The mean duration of their relationships was 6.1 years ($SD=5.9$), with an overall range from 1 to 25 years.

The transsexual men reported their mean age at first sexual intercourse as 16.3 years ($SD=3.7$), with an overall range from 11 to 31 years, as shown in Table 1. Almost all transsexual men (92.9%; $CI\ 84.1-97.6$) are identified as heterosexual, reporting sex exclusively with women. Three participants (4.3%; $CI\ 0.9-12.0$) disclosed having sex with both men and women, whereas two transsexual men declared themselves as pansexual (2.9%; $CI\ 0.3-9.9$).

Gender Affirmation Process

Among transsexual men, 73.7% (62.3–83.1) were using hormonal therapy. Regarding gender affirming surgery, 63.6% ($CI\ 51.9-74.3$) of the transsexual men had never done GAS; 20.8 (12.4–31.5) had had a mastectomy, 1.3 (0.0–7.0) had undergone a hysterectomy, and 11.7 (5.5–21.0) had done both procedures. Finally, 2.6 (0.3–9.1) of the sample have undergone phalloplasty.

Table 1 Sociodemographic characteristics

Variable	Mean or % (95% CI)	N ^a
Age (in years)	26.5 (SD 7.2)	83
Ethnicity		90
White	94.4 (87.5–98.2)	85
Black or mixed race (Black and White)	5.6 (1.8–12.5)	5
Place of residence		90
4000–10,000 inhabitants	5.6 (1.8–12.5)	5
10,000–50,000 inhabitants	10.0 (4.7–18.1)	9
50,000–200,000 inhabitants	16.7 (9.6–26.0)	15
More than 200,000 inhabitants	67.8 (57.1–77.2)	61
Education		89
Primary school uncompleted	15.7 (8.9–25.0)	14
Primary school completed	12.4 (6.3–21.0)	11
High school uncompleted	16.9 (9.8–26.3)	15
High school completed	27.0 (18.1–37.4)	24
College uncompleted	20.2 (12.4–30.1)	18
College completed	7.9 (3.2–15.5)	7
Employed		71
Yes	80.3 (69.1–88.8)	57
No	16.9 (9.0–27.7)	12
Retired	2.8 (3.0–9.8)	2
Marital status		75
Married	26.7 (17.1–38.1)	20
Stable relationship (dating)	44.0 (32.5–55.9)	33
Single	28.0 (18.2–39.6)	21
Widower	1.1 (0.0–7.2)	1
Years of relationship	6.1 (SD 5.9)	42
First sexual intercourse	16.3 (SD 3.7)	35

^aN column indicates the number of persons that answered the respective variable. There is substantial variation in the number of missing values among the variables due to the availability of information in patients' records

Substance Use

In the sample, 44.4% (CI 32.7–56.6) of the transsexual men reported using some substance during their lifetime. One-third of all the participants (30.6%; CI 20.2–42.5) used alcohol socially, as well as in association with cigarettes, cannabis, cocaine and other drugs. A total of 19.4% (CI 11.1–30.5) of the sample smoked cigarettes, and 9.7% (CI 4.0–19.0) used cannabis. Eight (11.1%; CI 4.9–20.7) reported using cocaine, and five (6.9%; 2.3–15.5) reported using other illicit drugs, such as LSD, ecstasy or crack.

Sexually Transmitted Infections

A total of 31.1% (CI 21.7–41.2) of transsexual men had never been tested for STIs, and, when evaluated, almost one-third were only checked for HIV, and not for syphilis or other STIs. All of them tested negative for HIV and hepatitis B. One

Table 2 STIs in transsexual men

Variable	Mean or % (95% CI)	N ^a
Has any exam for evaluating STI been solicited?		90
Yes	68.9 (58.8–78.3)	62
No	31.1 (21.7–41.2)	28
HIV		90
Negative	68.9 (58.8–78.3)	62
Unsolicited	31.1 (21.7–41.2)	28
Hepatitis C		90
Negative	65.6 (55.5–75.4)	59
Positive	1.1 (0.0–5.8)	1
Unsolicited	33.3 (23.6–43.4)	30
Hepatitis B		90
Negative	50.0 (39.5–60.5)	45
Unsolicited	50.0 (39.5–60.5)	45
Syphilis		90
Negative	60.0 (49.0–69.6)	54
Positive	2.2 (0.3–7.5)	2
Unsolicited	37.8 (28.5–48.9)	34

^aN column indicates the number of persons that answered the respective variable. There is substantial variation in the number of missing values among the variables due to the availability of information in patients' records

transsexual man was diagnosed with hepatitis C, and two were positive for syphilis. Based solely on requested tests, the prevalence of syphilis and hepatitis C was 3.4% and 1.6%, respectively, as shown in Table 2. Comparing the odds of syphilis infection among transsexual men with the overall prevalence in Rio Grande do Sul, transsexual men have 18.29 (95%; CI 4.46–75.03) odds of being diagnosed with syphilis, $\chi^2(2, N=56)=31.5, p<.001$ (Department of Health of Rio Grande do Sul, 2016). In relation hepatitis C infection, when compared to general population, transsexual men have 10.71 (95%; CI 1.48–77.31) odds of being diagnosed with hepatitis C $\chi^2(2, N=60)=8.7, p=.019$ (State Health Surveillance Center of Rio Grande do Sul, 2017).

Discussion

The present research is among the few studies outside of North America to confirm STIs in transsexual men through laboratory testing. Worldwide, 10 other studies have also confirmed HIV serology through laboratory testing; however, unlike this study, they did not test for other STIs, such as syphilis.

Although a high prevalence of HIV among transsexual men was not noted, other STIs were more common: in the sample, the prevalence of hepatitis C and syphilis was 1.6% and 3.4%, respectively. Comparing to Rio Grande do Sul population, transsexual men had higher odds of being diagnosed with

syphilis (Department of Health of Rio Grande do Sul, 2016) and higher odds of being diagnosed with hepatitis C (State Health Surveillance Center of Rio Grande do Sul, 2017). Considering sexual behavior, STIs rates among transsexual men who have sex with women could be compared with STIs among cisgender women who have sex with women (WSW). WSW also engage in sexual practices associated with STIs transmission, such as inconsistent condom use and sexual activities under the influence of narcotics (Barbosa & Koyama, 2006; Pinto, Tancredi, Neto & Buchalla, 2005). Similarly, most Brazilian WSW have never been tested to STIs (Barbosa & Facchini, 2009) and, those who have been tested, had a previous history of STIs (38% of 145 women). More precisely, 0.0% and 2.1% have been diagnosed with syphilis and hepatitis C respectively (Pinto et al., 2005). In the Pinto et al. study, 36.6% WSW reported sex with cisgender men in the last 3 years, whereas only 7.1% of our sample disclosed having sex with other than cisgender women; it is not an ideal comparison.

The most relevant finding in the present study was the proportion of the sample that had never been tested for STIs: 31.1% of transsexual men had never been screened for STIs. Transsexual women and MSM face many barriers to access HIV testing; however, at the outpatient clinic of the present study, transsexual women are given several opportunities for testing and, in fact, are extensively tested (Costa et al., 2015). It seems, therefore, that health providers do not consider it important to test for STIs in transsexual men. Apparently, stereotypical ideas from the medical staff that transsexual men are not at risk of STI are not only responsible for the scant research focusing on STIs in transsexual men, but also for the low number of transsexual men who have actually been tested for STIs. Even though having never been tested for STIs does not necessarily represent a higher risk of STI, creating an enabling environment to support STIs testing is instrumental for access to treatment and, consequently, for increasing lifespan and quality of life. Difficulties in obtaining STI-testing, therefore, may be one facet of the innumerable barriers to health care that transsexual men face (Costa et al., 2018a).

Unlike many other studies, most of the individuals in the present sample are identified as heterosexual and mostly have sex with cisgender women. In North American studies, more than one-half of transsexual men were identified as gay, bisexual or queer (Bauer et al., 2013; Clements-Nolle, Wilkinson, Kitano, & Marx, 2001). Among non-heterosexual transsexual men, a huge variety of sexual risk behaviors were reported, including sex work (Bauer et al., 2013; Sevelius, 2009), inconsistent condom use (Chen et al., 2011; Clements-Nolle et al., 2001; Rowiak et al., 2011), receptive anal and genital sex, and anonymous partners (Reisner et al., 2014). This probably explains the low prevalence of STIs in our sample. However, it is important to consider that, contrasting with other studies, our samples were recruited in a hospital

environment, where revealing a non-hegemonic sexual identity could be perceived as a barrier to the access to GAS.

Although our study did not assess sexual behavior, singularities in sexual behavior may also justify the well-described contrasts between STIs prevalence of transsexual women and men. A previous study that analyzed transsexual women who attended the same outpatient clinic of the present study participants verified an HIV seroprevalence of 25% among them (Costa et al., 2015). Seroprevalence was higher among transsexual women with older age, who lived in the metropolitan area, with a history of other STIs, and who reported sex work (Costa et al., 2015). In addition to having sex exclusively with women, transsexual men engaged in the present study did not report sex work.

Another important factor is that most of the participants had never undergone any GAS. Considering changes in sexual practices of transsexual men after gender transition have been reported (Meier, Pardo, Labuski, & Babcock, 2013), mostly from sole attraction to women to attraction to both women and men (Meier et al., 2013), it is not impossible that, after performing GAS, the prevalence of STIs in the sample will increase.

This study had some important limitations. First, all the data were collected from the medical records of psychiatric appointments. Therefore, the information may vary according to the physician–patient relationship. The physician's willingness to register the meeting may also have influenced the data. Second, the study was comprised of a sample of transsexual men who desired and were able to access medical care, mainly seeking surgical procedures. Since there is a wide array of transgender identities, the sample does not represent all those populations. Third, the sample encompasses transsexual men from southern Brazil and, due to cultural specificities, its results may not be generalized. Finally, the cross-sectional nature of the study did not enable causal relationships to be established. A longitudinal study could provide essential information on the incidence of STIs among transsexual men, as well as assess associated factors.

In conclusion, it is clear that health professionals need to broaden their understanding of transsexual men, acknowledging the existence of behaviors that may enhance their exposition to STIs, such as drug use and sex with other men. Discussing the wide variety of sexual practices and formulating strategies to alleviate risks are essential for providing comprehensive health care. Although transsexual men may not be a high-risk population for STIs, STIs screening and orientation are a crucial part of providing medical assistance. In addition, future studies should acknowledge the diversity of transsexual men populations, as well as the heterogeneity of their sexual behavior.

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