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Sexual Inactivity Among Transfeminine Persons: A Canadian Respondent-Driven Sampling Survey

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Sexual health research with transfeminine persons (individuals assigned male at birth who identify as female or feminine) has focused on HIV infection and sexual function following medical treatments. Yet, approximately half of transfeminine persons in Ontario, Canada, reported no partnered sex in the previous year. Therefore, we identified sociodemographic, social, and psychosocial factors associated with past-year sexual inactivity among transfeminine Ontarians. A multi-mode respondent-driven sampling survey of transgender people was conducted in 2009–2010 (N = 433), including 173 transfeminine individuals who had ever been sexually active. Frequencies and regression models were weighted using RDS II methods; prevalence ratios were estimated from logistic regression models using average marginal predictions. Of sexually experienced transfeminine persons, 43% (95% CI [31, 55]) reported no past-year sex partners. Sexual inactivity was independently associated with older age, childhood sexual abuse, and residing outside of the province's largest city. Transfeminine persons who had genital surgery for gender affirmation were less likely to be abstinent, as compared to those who were living in their felt gender without surgery. Transphobic harassment and higher levels of trans-related sexual body image worries were also associated with sexual inactivity, as was reduced sexual satisfaction. Implications for research and clinical practice are discussed.

Research on the sexual health of transfeminine persons (individuals assigned a male sex at birth who identify as female, feminine, or something other than male) has largely been concentrated in two areas: HIV infection among transfeminine persons who have sex with men and, to a lesser extent, sexual function among transgender women who undergo hormone therapies and/or genital surgeries for gender affirmation (Bauer & Hammond, 2015). Such research is of the utmost importance in light of the high HIV burden among transfeminine persons in many settings (Baral et al., 2013; Poteat, Scheim, Xavier, Reisner, & Baral, 2016), as well as the patient-relevance of hormonal and surgical treatment outcomes. However, this extant literature may provide an incomplete picture of the sexual health of the broad transfeminine population, which is diverse with respect to sexual behaviors and medical transition trajectories.

In the Canadian context, a respondent-driven sampling (RDS) survey found that the majority of transfeminine residents of Ontario, the country's most populous province, identified as lesbian or bisexual, and only 23% reported past-year sex with a cisgender (non-transgender) man (Bauer & Hammond, 2015). Research on gender affirmation and sexual health has largely relied on samples of patients seeking hormonal and surgical treatments (Klein, Gorzalka, & Gorzalka, 2009; Wierckx et al., 2014). Among transfeminine Ontarians, however, 47% had never used feminizing hormones, and only 15% had vaginoplasty (Scheim & Bauer, 2015). Moreover, approximately half reported no partnered sex in the past year, suggesting that sexually abstinent transfeminine persons comprise a group more than twice as large as the group with a past-year history of HIV transmission risk (Bauer, Travers, Scanlon, & Coleman, 2012). In comparison, only 11% of Canadians aged 15–59 reported having no partnered sex in the past year (Hansen, Mann, Wong, & McMahon, 2003).

Most research regarding sexual inactivity concerns voluntary abstinence, primarily to prevent sexually transmitted infections (STIs) and unwanted pregnancies among youth. Some research has suggested that among adults, periods of sexual inactivity are associated with health-promoting behaviors (Nettleman, Ingersoll, & Ceperich, 2006). However, determinants and consequences of sexual inactivity in a population with average levels of sexual activity are unlikely to reflect the experiences of sexually stigmatized groups. For instance, among HIV-positive people in the United States, 31% reported no partnered sex in the past 6 months, of whom less than half were deliberately abstinent (Bogart et al., 2006). Approximately half of women living with

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HIV in a large Canadian cohort were sexually inactive, of whom half indicated sexual dissatisfaction (Kaida et al., 2015). Both intentionally chosen and unplanned abstinence among people living with HIV have been attributed to fear of rejection, internalized stigma, and problems negotiating serostatus disclosure (Adam, Cohen, & Maticka-Tyndale, 2002), as well as criminalization of HIV non-disclosure (Kaida et al., 2015).

Similarly, transfeminine persons face the threats of rejection, stigma, and violence when disclosing trans status to potential sexual partners (Iantaffi & Bockting, 2011; Kosenko, 2010). Their engagement in sexual activity may be impacted by the high prevalence of personally experienced violence (Marcellin, Bauer, & Scheim, 2013; Stotzer, 2009), as well as vicarious experiences such as awareness of the elevated murder risk for transfeminine persons (particularly for persons of color; Dinno, 2017). In popular accounts, such homicides have often been attributed to the anger of cisgender men upon finding out that a romantic interest or sexual partner is transfeminine (Bettcher, 2007). Additionally, transfeminine persons also contend with potential fetishization; they worry both that people want to have sex with them only because they are trans and that people will not want to have sex with them because they are trans (Bauer & Hammond, 2015).

In addition to having limited access to affirming sexual opportunities, some transfeminine persons avoid sexual activity because of body image concerns related to gender incongruence (Doorduin & Van Berlo, 2014). While body image concerns for transfeminine persons may be both distinct and more severe, body-related shame (Sanchez & Kiefer, 2007), dissatisfaction with genital appearance (Schick, Calabrese, Rima, & Zucker, 2010), and poor body image (La Rocque & Cioe, 2011) are also associated with sexual avoidance among cisgender women.

Feminizing hormone therapy (Doorduin & Van Berlo, 2014; Van Goozen, Cohen-Kettenis, Gooren, Frijda, & Van De Poll, 1995) can contribute to lower perceived sexual desire or function. In a Belgian sample of transfeminine patients on hormone therapy, 70% believed that their current sexual desire was lower than before beginning hormone therapy, and a similar proportion reported never or rarely experiencing either spontaneous or responsive sexual desire (Wierckx et al., 2014). Sexual desire was higher among those who had completed vaginoplasty and lower among older persons and those primarily attracted to women.

General determinants of sexual activity are potentially applicable to transfeminine populations as well. Among cisgender people in the United States, increasing age (Rosen et al., 2009), higher levels of educational attainment (Laumann, Paik, & Rosen, 1999), and depression (Atlantis & Sullivan, 2012) are associated with low sexual desire. Childhood (Beitchman et al., 1992) and adulthood (Bartoi & Kinder, 1998) sexual abuse are associated with a range of sexual problems, including avoidance of sexual activity. Depressive symptoms are prevalent among transfeminine persons (61% in Ontario; Rotondi et al., 2011), and sexual and gender minority persons disproportionately experience sexual abuse (Friedman et al., 2011).

The Current Study

The present study drew on data from a RDS study of transgender people in Ontario, Canada. Extending our team's past descriptive research on transfeminine sexualities (Bauer & Hammond, 2015), we sought to identify sociodemographic, social, and psychosocial factors associated with past-year sexual inactivity among sexually experienced transfeminine persons.

Method

Study Design and Participants

The Trans PULSE community-based participatory research project surveyed 433 trans Ontarians in 2009–2010 using RDS. Participants completed a self-administered questionnaire, using visually identical online or paper versions. Eligible participants needed to be 16 years of age or older; live, work, or receive health care in Ontario; and identify as trans following an inclusive definition. Ethics approval was obtained from Research Ethics Boards at The University of Western Ontario and Wilfrid Laurier University. Gender spectrum was classified as transmasculine (i.e., assigned female at birth; n = 227) or transfeminine (i.e., assigned male at birth; n = 205), including individuals who identified as neither men nor women. This analysis includes 173 transfeminine participants who had ever had sex with persons of any gender and provided sufficient data (17 participants had no sexual experience and 15 were missing data).

RDS is a modified chain-referral sampling method for hidden populations (Heckathorn, 1997, 2002). In addition to facilitating recruitment of hidden populations through the use of peers, RDS analytic methods can produce asymptotically unbiased point estimates for the networked target population (Wejnert, 2009). We used RDS II weights, which are estimated as the inverse of the number of target population members known, to adjust for unequal recruitment probabilities due to personal network size. Recruitment began with 16 diverse seeds who were each given three coupons for recruitment of their peers. Upon completing the survey, participants were given three coupons for further recruitment. Participants received a $20 CAD gift card as honorarium or could choose to donate the amount to a trans-related charity. Secondary incentives ($5 gift cards) for recruitment of peers were added in the final months of recruitment, with no perceptible impact on the recruitment rate. Twenty-two seeds were added after 4–5 waves of recruitment were obtained; maximum chain length was 10 waves beyond the seeds. All but seven seeds were productive (i.e., recruited at least one participant). A recruitment network diagram has been published previously (Bauer et al., 2012).

Measures

All measures were based on self-report. A copy of the survey is available online at http://transpulseproject.ca/resources/trans-pulse-survey/.

Sociodemographic and background factors. Demographic variables included age, educational attainment, ethnoracial identity (coded into Indigenous, person of color, or white), and residence in Toronto (Ontario's largest urban center). Low-income status was based on Statistics Canada guidelines for the study period (Statistics Canada, 2009) and was calculated by dividing the mid-point of household income categories by the number of household members being supported. Sexual attraction was classified based on responses to a check-all-that-apply item and dichotomized for regression analyzes as primarily attracted to men (i.e., to trans and cis men only, or to men and genderqueer individuals only) versus attracted to multiple genders or not attracted to others. Background variables included sexual abuse (any unwanted sexual contact before age 16) and religiosity of upbringing (quite or extremely vs. fairly or less).

Gender transition and affirmation. Participants indicated whether they were living in their felt gender full-time, part-time, or not at all (social gender affirmation). Current feminizing hormone use and history of vaginoplasty (genital surgery) were self-reported. Considering collinearity between social and medical gender affirmation and results of preliminary analyses in which genital surgery – but not hormone use – was associated with sexual behaviors (both HIV-related sexual risk and sexual inactivity; results not shown), we created a combined social and medical gender affirmation variable. This consisted of three categories: not living in felt gender, living in felt gender (part- or full-time) without genital surgery, and living in felt gender with genital surgery. All participants with genital surgery were living in their felt gender full-time.

Social and psychosocial factors. Social factors potentially associated with sexual inactivity included lifetime experiences of perceived anti-transgender stigma (transphobia) and transphobic violence (physical or sexual assault, harassment or threats only, or none). Transphobia was measured with an 11-item scale (Cronbach's $\alpha = 0.81$) including items pertaining to enacted (e.g. employment discrimination) and internalized (e.g. fear of dying young due to being trans) dimensions of stigma (Marcellin et al., 2013). Psychosocial factors included sexual anxiety, fear, and satisfaction ($\alpha = 0.92$; 0.84; 0.96), assessed with the relevant subscales of the Multidimensional Sexual Self-concept Questionnaire (Snell, 1998). The research team developed a seven-item measure of trans-related sexual worries ($\alpha = 0.80$), including items such as "I worry that once I'm naked, people will not see me as the gender I am" and "I worry that there are very few people who would want to have sex with me." Center for Epidemiological Studies Depression scale (Radloff, 1977) scores ($\alpha = 0.93$ in our data) were categorized into low (<16), moderate (16–26), and high (27–60) depressive symptomatology.

Sexual inactivity. Participants were asked to indicate the number of sexual partners they had in the past 12 months, including an option to indicate having no sexual partners. Sex was explicitly defined to include oral, genital, or anal sex.

Statistical Analysis

Weighted frequencies and their 95% confidence intervals were calculated in SAS version 9.4 (SAS Institute Inc., 2013). RDS II weights (inverse of network size, rescaled to the sample size; Volz & Heckathorn, 2008) were used to account for differential recruitment probabilities. Confidence intervals were estimated using Taylor linearization and variances were adjusted for clustering by shared recruiter. Crude and adjusted prevalence ratios (PRs and APRs) for sexual inactivity were estimated using average marginal predictions from logistic regression models (Bieler, Brown, Williams, & Brogan, 2010) in SAS-callable SUDAAN version 11.

Bivariable associations were estimated for all covariates. Next, to identify their independent relationships with sexual inactivity, a multivariable model was fit including sociodemographic, background, and gender affirmation factors with p-values less than 0.25. This criterion was selected to minimize bias, as confounding variables need not be statistically significantly associated with the outcome (Maldonado & Greenland, 1993). Finally, adjusted associations were examined for each social or psychosocial covariate, controlling for those sociodemographic, background, and gender factors significant at $p < 0.25$. We tested for interactions between social/medical gender affirmation status and each social or psychosocial factor. As this analysis was exploratory and no confounding among social and psychosocial factors was theoretically expected, we did not enter all six into a single multivariable model.

Presentation of PRs using average marginal predictions requires selection of reference values for continuous variables; therefore, ratios for scale variables are presented as comparisons of the weighted 75th versus 25th percentiles and those aged 50, 40, or 20 were compared to those aged 30. For multivariable analyses only, simple imputation of the mean or mode was used for independent variables with less than 10% missingness. One variable (childhood sexual abuse [CSA]) had 12.2% missing and was imputed using individual marginal predicted risks of sexual abuse (rounded to 0 or 1) generated from a logistic regression model.

Results

Characteristics of transfeminine people in Ontario age 16 and over with any lifetime sexual experience are described in Table 1. An estimated 43% (95% CI [31, 55]) of this group had no partnered sex in the previous year. The majority (64%; 95% CI [53, 75]) described their relationship status as single, including 48% (95% CI [33, 63]) of sexually active and 87% (95% CI [74, 99]) of sexually inactive transfeminine persons (not shown). Of sociodemographic, background, and gender affirmation factors (Table 2), sexual inactivity was crudely associated with older age, CSA, white race/ethnicity, residing outside Toronto, and not having genital surgery. In the multivariable model, sexual inactivity remained associated with older age (APR for 50 vs. 30 years old = 1.47, 95% CI [1.01, 2.13]), CSA (APR = 1.82, 95% CI [1.18, 2.79]), not having genital

Table 1. *Weighted Characteristics of Sexually Experienced Transfeminine Persons in Ontario, Canada (N = 173)*

	Percentage or median [IQR]	95% CI
Sociodemographic and background factors		
Age (years)	35.2 [21.5]	(29.9, 40.5)
Ethnoracial group		
Indigenous	9.3	(2.5, 16.1)
Non-Indigenous white	84.8	(77.3, 92.3)
Non-Indigenous person of color	5.9	(2.1, 9.7)
Residence in Toronto	27.6	(17.3, 37.9)
Education		
High school or less	15.1	(7.4, 22.9)
Some postsecondary	28.1	(17.1, 39.1)
Postsecondary graduate	56.8	(44.9, 68.7)
Below low-income cutoff	37.8	(25.9, 49.6)
Sexual attraction		
Primarily to male-identified	17.2	(8.9, 25.6)
Primarily to female-identified	26.8	(16.1, 37.4)
Multiple genders	41.1	(29.6, 52.6)
Not attracted to anyone	14.9	(5.4, 24.3)
Experienced childhood sexual abuse	36.5	(24.6, 48.4)
01;Quite or extremely religious upbringing	28.3	(16.8, 39.9)
Gender transition and affirmation		
Social transition status		
Living full-time in felt gender	51.7	(39.3, 64.1)
Living part-time in felt gender	21.8	(12.5, 31.1)
Not living in felt gender	26.5	(14.3, 38.7)
Completed genital surgery	14.4	(6.6, 22.1)
Currently using hormones	57.7	(45.3, 70.2)
Social and medical gender affirmation		
Not living in felt gender	26.5	(14.3, 38.7)
Living in felt gender without genital surgery	59.2	(47.2, 71.1)
Living in felt gender with genital surgery	14.4	(6.6, 22.1)
Potential correlates of abstinence		
Lifetime transphobia scale score (range = 0–33)	14.6 [8.3]	(13.0, 16.2)
Lifetime transphobic violence		
None	38.6	(26.5, 50.6)
Verbal harassment or threats	40.9	(28.9, 52.8)
Physical or sexual assault	20.6	(11.8, 29.3)
Depressive symptoms		
Low: CESD score <16	37.1	(24.9. 49.2)
Moderate: CESD score 16–26	22.9	(13.1, 32.7)
High: CESD score 27–60	40.0	(28.2, 51.8)
Sexual body image worries (range = 0–4)	2.0 [1.3]	(1.8, 2.3)
Sexual anxiety (range = 0–4)	2.1 [2.0]	(1.7, 2.6)
Fear of sex (range = 0–4)	1.3 [1.6]	(1.0, 1.7)
Sexual satisfaction (range = 0–4)	0.6 [2.6]	(0.3, 0.9)
Outcome		
Past-year sexual inactivity	42.6	(30.6, 54.5)

CESD: Center for Epidemiologic Studies Depression Scale.

surgery (APR for genital surgery vs. living in felt gender without surgery = 0.27, 95% CI [0.12, 0.62]), and residence outside Toronto (APR for Toronto residence = 0.33, 95% CI [0.15, 0.73]).

Associations between social or psychosocial factors and past-year sexual inactivity are presented in Table 3, including bivariable PRs and those adjusted for age, race/ethnicity, Toronto residence, attraction, CSA, and gender affirmation status. In bivariable analyses, transfeminine persons reporting transphobic physical or sexual assault (vs. no transphobic violence) were more likely to have had sex in the past year. After adjustment for sociodemographic, background, and gender affirmation variables, sexual inactivity was associated with transphobic verbal harassment or threats (APR vs. no violence = 1.76, 95% CI [1.14, 2.71]), sexual body image worries (APR for 75th vs. 25th percentile = 1.58, 95% CI [1.10, 2.26]), and lower sexual satisfaction (APR for 75th vs. 25th percentile = 0.67, 95% CI [0.46, 0.97]). Controlling for the same set of variables, no statistically significant multiplicative interaction was detected between gender affirmation status and any of the seven social or psychosocial factors (results not shown).

Discussion

We estimated the prevalence and correlates of sexual inactivity among sexually experienced transfeminine adults (aged 16+) in Canada's most populous province. To our knowledge, this is the first study to explore sexual inactivity among transfeminine persons. Previously published results from our dataset indicated that 51% of transfeminine Ontarians had no partnered sex in the past year (Bauer et al., 2012), and this proportion remains high (43%) when considering only those who had ever had sex. Some demographic and background correlates were similar to those identified as predictive of low sexual desire and/or inactivity in cisgender populations, including older age and CSA. In contrast, higher education (Laumann et al., 1999) was not associated with sexual inactivity in this population. Residence in Toronto was negatively associated with sexual inactivity, which may reflect a larger pooler of potential sexual partners, and more venues in which to meet potential partners. Notably, the prevalence of CSA among transfeminine Ontarians (37%, 95% CI [25, 48]) appears even higher than meta-analytic estimates for cisgender sexual minority males (21–25%; Friedman et al., 2011) and comparable to sexual minority females (32–40%; Friedman et al., 2011). Considering that very few, if any, Ontario transfeminine adults in 2009–2010 had socially transitioned in childhood (Scheim & Bauer, 2015), we would expect CSA prevalence to be similar to that of sexual minority males. However, gender variance in childhood is associated with increased risk of CSA, potentially due to targeting of nonconforming children for abuse (Roberts, Rosario, Corliss, Koenen, & Austin, 2012).

Having completed genital surgery had a strong effect in independently predicting engagement in sexual activity, in agreement with clinical research that has focused on trans women needing surgery (Klein et al., 2009). This is despite the fact that the reference group in our study included individuals with no desire for vaginoplasty. For those who need it, undergoing vaginoplasty may facilitate sexual activity by alleviating distress related to gender incongruence (Doorduin & Van Berlo, 2014) and worries about how

Table 2. *Sociodemographic and Gender Affirmation Factors Associated with Sexual Inactivity among Transfeminine Persons in Ontario, Canada (N = 173)*

	Bivariate associations			Full model[a]		
	PR	**95% CI**	***p***	**APR**	**95% CI**	***p***
Age			**0.01**			**0.04**
20 versus 30	**0.72**	**(0.53, 0.98)**		0.78	(0.59, 1.04)	
40 versus 30	**1.33**	**(1.04, 1.70)**		1.23	(0.99, 1.53)	
50 versus 30	**1.67**	**(1.10, 2.55)**		**1.47**	**(1.01, 2.13)**	
Ethnoracial group			**0.03**			0.20
Indigenous	0.56	(0.17, 1.79)		0.89	(0.48, 1.67)	
Non-Indigenous white	1.00			1.00		
Non-Indigenous person of color	**0.10**	**(0.01, 0.77)**		0.28	(0.05, 1.67)	
Residence in Toronto	**0.23**	**(0.10, 0.53)**	**<0.01**	**0.33**	**(0.15, 0.73)**	**<0.01**
Education			0.98			
High school or less	1.07	(0.52, 2.20)		_[b]	_[b]	_[b]
Some postsecondary	1.03	(0.53, 1.97)				
Postsecondary graduate	1.00					
Below low-income cutoff	1.31	(0.77, 2.25)	0.33	_[b]	_[b]	_[b]
Primarily attracted to men	0.46	(0.16, 1.26)	0.09	0.59	(0.28, 1.27)	0.12
Experienced childhood sexual abuse	**1.84**	**(1.06, 3.19)**	**0.03**	**1.82**	**(1.18, 2.79)**	**<0.01**
Quite or extremely religious upbringing	1.21	(0.67, 2.21)	0.54	_[b]	_[b]	_[b]
Social and medical gender affirmation			**<0.01**			**<0.001**
Not living in felt gender	1.11	(0.58, 2.15)		1.00	(0.60, 1.66)	
Living in felt gender, no genital surgery	1.00			1.00		
Living in felt gender, had genital surgery	**0.23**	**(0.08, 0.65)**		**0.27**	**(0.12, 0.62)**	

PR: Prevalence ratio; CI: confidence interval; APR: adjusted prevalence ratio.

[a]Nagelkerke $R^2 = 0.351$.

[b]Not included in multivariable model.

Bolded values are significant at p<.05.

Table 3. *Social and Psychosocial Factors Associated with Sexual Inactivity among Transfeminine Persons in Ontario, Canada (N = 173)*

	Bivariate associations			Adjusted associations[a]		
	PR	**95% CI**	***p***	**APR**	**95% CI**	***p***
Lifetime transphobia scale score	0.91	(0.60, 1.39)	0.67	1.04	(0.78, 1.39)	0.78
Lifetime transphobic violence			**0.03**			**<0.001**
None	1.00			1.00		
Verbal harassment or threats	1.17	(0.65, 2.11)		**1.76**	**(1.14, 2.71)**	
Physical or sexual assault	**0.41**	**(0.17, 0.98)**		0.60	(0.29, 1.23)	
Depressive symptoms			0.65			0.86
Low (CESD <16)	1.00			1.00		
Moderate (CESD 16–26)	0.99	(0.45, 2.18)		0.91	(0.43, 1.91)	
High (CESD 27–60)	1.30	(0.67, 2.52)		1.07	(0.66, 1.74)	
Sexual body image worries			0.10			
75th versus 25th percentile[b]	1.44	(0.91, 2.25)		**1.58**	**(1.10, 2.26)**	**<0.01**
Sexual anxiety			0.49			
75th versus 25th percentile[b]	1.18	(0.74, 1.86)		1.11	(0.81, 1.53)	0.52
Fear of sex			0.22			
75th versus 25th percentile[b]	1.28	(0.85, 1.93)		1.13	(0.84, 1.52)	0.39
Sexual satisfaction			0.15			
75th versus 25th percentile[b]	0.67	(0.38, 1.18)		**0.67**	**(0.46, 0.97)**	**0.03**

PR: Prevalence ratio; CI: confidence interval; APR: adjusted prevalence ratio; CESD: Center for Epidemiologic Studies Depression Scale.

[a]Adjusted for sociodemographic and gender variables significant at $p < 0.25$ in Table 2: age, race/ethnicity, Toronto residence, attraction, childhood sexual abuse, and gender affirmation status. Not adjusted for other variables in table.

[b]Modeled as continuous; reference values required to calculate prevalence ratios from average marginal predictions.

Bolded values are significant at p<.05.

one's sexed embodiment will be received by others. The latter, as measured by a scale of trans-related sexual body image worries, was correlated with sexual inactivity in this study, consistent with research on the impact of poor sexual body image among cisgender women (Sanchez & Kiefer, 2007; Schick et al., 2010).

In addition to potentially alleviating gender dysphoria and sexual worries, genital surgery may contribute to sexual activity by reducing the amount of stigma and rejection that transfeminine persons face when seeking sexual and/or romantic partners. It is noteworthy that there was no indication of a difference in levels of sexual activity between individuals who were living in their felt gender without surgery and those not living in their felt gender. This suggests that social transition alone is insufficient to reduce intra- or inter-personal barriers to sexual activity and that genital surgery (rather than hormones) is particularly important in this regard, perhaps not surprisingly given the social emphasis placed on genitalia in defining womanhood (Westbrook & Schilt, 2014). Further, hormone use was not predictive of sexual inactivity, and previous results from our study demonstrate that hormone use was nearly universal among transfeminine persons who had genital surgery (Scheim & Bauer, 2015). Thus, it appears that hormone-related libido changes, while potentially related to sexual desire, are not salient determinants of abstinence.

Findings also suggest that hostility experienced by transfeminine persons in social life can impact sexual well-being, as experiences of verbal harassment or threats related to being trans were associated with sexual inactivity (although a broader measure of internalized and enacted transphobic stigma was not). Transphobic physical and sexual assault were crudely associated with lower prevalence of sexual inactivity, and although not statistically significant, the point estimate for the adjusted effect was in the same direction. However, while longitudinal and qualitative research would be required to better understand these findings, it is not implausible that these forms of violence differentially impact sexual activity. We can speculate that transphobic harassment and threat may contribute to avoidance of sexual activity through increased expectation of risk. Building on the concept of trauma-impacted sexuality among transfeminine persons of color introduced by Hwahng and Nuttbrock (2014), it also is plausible that for some transfeminine persons, transphobic physical and/or sexual assault could lead to greater sexual activity. Among cisgender women, assault is often associated with sexual avoidance (Van Berlo & Ensink, 2000); however, some studies have documented increased sexual activity as a coping strategy following sexual assault (Deliramich & Gray, 2008).

Those with higher levels of sexual satisfaction were more likely to be sexually active. As intentions or desires for sexual behavior were not measured, our measure of past-year sexual inactivity includes deliberately chosen, involuntary, and circumstantial inactivity. Sexual inactivity is likely more strongly associated with dissatisfaction among those who desire partnered sex. This distinction may also account for the lack of association detected between depressive symptoms and sexual inactivity. While depression is related to low sexual desire in cisgender populations (Atlantis & Sullivan, 2012), it may not impact other potential mediators of sexual inactivity for transfeminine persons, such as stigma and rejection from potential sexual partners.

Strengths and Limitations

Strengths of this study included the use of RDS with a diverse province-wide population, a community-based participatory research approach, multi-mode data collection, and measures of sexual behavior designed specifically to capture the diverse identities and embodiments of transfeminine persons. As the Trans PULSE survey collected data on sexual behavior and experience beyond HIV/STI transmission risks, we could contribute to filling the gaps in knowledge related to the sexual well-being of transfeminine persons (Bauer & Hammond, 2015).

The study also had some important limitations. Sexual activity was not a primary focus of the Trans PULSE study, and therefore, the questionnaire did not include open- or closed-ended questions about why respondents abstained from sex. Estimates were adjusted for bias related to network size, but RDS II weights do not account for unrelated sampling biases (McCreesh et al., 2012). Confidence intervals are often wide and should be cautiously interpreted considering the wide range of plausible values. In addition, while no modifying effect of gender affirmation status was detected, these analyses only considered the potential for multiplicative interaction, as available methods for estimating additive (causal) interaction using PRs only accommodate dichotomous modifiers. Finally, our cross-sectional data preclude casual inference, although survey measures accounted for temporality to the extent possible through use of lifetime and past-year measures.

Conclusion

In this broad population sample of transfeminine persons, sexual inactivity was more common than either low-risk sexual activity or sexual behaviors posing high risk for HIV (Bauer et al., 2012). Sexual inactivity was associated with trans-related sexual body image worries and with not having genital surgery, suggesting that gender incongruence or dysphoria plays a role in limiting sexual engagement. However, transphobic harassment was also predictive of sexual inactivity, indicating that social stigma and discrimination can also impact the sexual well-being of transfeminine persons. While these findings cannot necessarily be generalized beyond Ontario, sexual inactivity is likely more common among transfeminine persons in other settings than previously acknowledged, considering that sampling methods have tended to be biased toward transfeminine persons who are highly sexually active (Bauer & Scheim, 2013).

Future transgender sexual health research, as well as healthcare delivery and counseling, should inquire about desire for partnered sex, access to sexual opportunities, and satisfaction in addition to prevention of STIs and sexual functioning. Sexual health service providers will likely require additional resources and education to develop their capacity for addressing the holistic sexual health needs of transfeminine persons, including addressing stigma, sexual abuse, and trans-related

sexual body image worries as factors that may contribute to unwanted sexual inactivity.

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