

**Gender identity and HIV risk among men who have sex with men in Cape Town,
South Africa**

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Abstract

Gender identity plays a potentially important role contributing to HIV risk among MSM in South Africa. Where studies have included a focus on gender identity, MSM reporting gender non-conformity have been found to have a higher risk of being HIV positive than other MSM. This article examines HIV risk among gender non-conforming MSM in a sample of 316 MSM in Cape Town, South Africa. Reporting gender non-conformity was associated with higher HIV prevalence and increased HIV risk behaviour. Gender non-conformity was also associated with a higher likelihood of being unemployed and reporting low household incomes. These findings highlight the importance of gender-identity as a factor affecting access to HIV treatment, care, and prevention in South Africa and this is an issue that needs to be addressed in interventions targeting MSM populations.

Introduction

Gender identity is an under-studied aspect of HIV risk among men who have sex with men (MSM) in South Africa. In the few studies that have reported results based on questions about participants' gender identities (in addition to their sex and sexual identities), individuals reporting transgender or female identities have generally been found to have a higher likelihood of HIV infection than other participants (Sandfort et al. 2015; Lane et al. 2014).

Estimates of the proportion of South African MSM who are gender non-conforming vary greatly between studies, and are further confused by the lack of a standardised definition of gender non-conformity in existing research. For example, Cook et al. (2013) report that 43% of their sample of 353 MSM in three South African provinces reported *presenting* themselves in a 'feminine way'. In contrast Sandfort et al. (2015) report 69.9% of their sample of 480 MSM in the city of Tshwane identified as 'gay or transgender'. However, this is potentially problematic as their definition combines a sexual orientation (gay) with a gender identity (transgender) (Sandfort et al. 2015). Finally, Sullivan et al. (2016) found that 9% of their sample of 292 participants in the cities of Cape Town and Port Elizabeth identified as transgender women.

There are multiple factors that are likely to affect HIV risk among transgender and female identifying MSM in South Africa. These include structural, behavioural, and psychosocial risk factors identified in research with the broader MSM population. However, the lack of research focusing on transgender and female identified MSM means that there may be additional factors driving HIV risk that have yet to be identified, and that particular previously identified risk factors may play a more

important role in driving HIV transmission in this population than in the general MSM population.

Factors affecting HIV risk in South African MSM include: structural factors, such as poverty, unemployment, and low levels of education (Dunkle et al. 2013; Tim Lane et al. 2011); behavioural factors, such as alcohol and drug use, multiple sexual partners, and transactional sex (Tim Lane et al. 2011; Nel et al. 2013; Tucker et al. 2014; Knox et al. 2010; Maleke et al. 2017); and psychosocial factors, such as experiences of stigma and discrimination, depression, gendered power dynamics within relationships (Maleke et al. 2017), and self-efficacy for safer sexual behaviours (Arnold et al. 2013; Tucker et al. 2014).

Sandfort et al. (2015) suggest that the high HIV prevalence in feminine and transgender identifying MSM should be viewed as the result of gender non-conforming MSM being the likely end points in high HIV-transmission networks centred on men who have sex with both men and women (MSMW). This is primarily due to the relatively high level of exclusivity in sexual role preferences within the MSM population, with feminine and transgender identifying MSM generally reporting engaging exclusively in receptive anal intercourse, and hence being at higher risk of contracting HIV than men who adopt the insertive role (Sandfort et al. 2015; Beyrer et al. 2010).

While there is mounting evidence of the relatively higher burden of HIV among gender non-conforming MSM, there remains a need for research focusing on identifying specific risk factors for HIV transmission in this population, in order to

develop appropriately targeted prevention interventions. This article contributes towards this end by examining risk factors associated specifically with female or transgender self-identity in a sample of MSM from Cape Town, South Africa.

Methods

Recruitment and sampling

Chain referral sampling was used to recruit 316 MSM from peri-urban townships in Cape Town. Initial participants were recruited from a local NGO's community outreach team. Participants were eligible to participate if they were over the age of 18, self-identified as having sex with men, and were able to provide written informed consent. Participants were invited to complete a questionnaire and to take an HIV and syphilis test. All study procedures took place at the offices of the implementing NGO, and participants completed the questionnaire in private. Participants were compensated financially for their time and travel costs (ZAR40 for travel, and a further ZAR40 for their time). The study was approved by the University of the Witwatersrand's Human Research Ethics Committee (M10101).

Measures

The survey instrument included sections on: sexuality and gender identity, sexual health and HIV risk behaviours, access to health care services, mental health, social capital and community participation, alcohol and drug use, and peer norms. The survey asked two questions about gender identity, similar to the approach suggested by (Sausa et al. 2009). The first question asked "Are you?" with response options "Male", "Female", "Intersex", and "Other". The second question asked: "How would

you identify your gender?” with response options “Male”, “Female”, and “Transgender”.

HIV testing

Five millilitres of venous blood were collected from each participant and tested for HIV using a WHO approved protocol for diagnostic rapid testing. Results which were positive on initial test were confirmed with a second test; discrepant results were resolved through subsequent ELISA. Samples which tested positive for HIV were tested for CD4 counts.

Data analysis

Analyses were performed using STATA 10.0 (STATA Corp, College Station, Texas, USA). Bivariate and multivariate logistic regression analyses were used to assess associations between transgender or female self-identification and demographic variables, HIV risk, mental health, and experiences of discrimination. Associations with a p-value below 0.1 were considered for inclusion in the final model. $P < 0.1$ was used in order to include variables with borderline significance while developing a parsimonious model. Models were adjusted for age.

Results

Participants' median age was 26 (IQR 11). Two hundred and eighty (89%) participants self-identified as male, 9 (3%) as female, and 27 (9%) as transgender. Transgender and female identifying participants were grouped for the purposes of data-analysis, and are henceforth referred to as gender non-conforming participants. A total of 171 participants screened for HIV, including 18 (58%) gender non-conforming participants, and 153 (54%) male identifying participants. Twelve (57%)

gender non-conforming participants and 47 (31%) male identifying participants tested HIV positive. Of the 192 participants who screened for syphilis, 23 (12%) tested positive; of these participants, 4 (18%) were gender non-conforming, and 19 (11%) were male identifying.

Levels of unemployment and poverty were high across the sample, with 142 (45%) participants reporting unemployment, and 205 (65%) reporting monthly household incomes below R500. A higher proportion of gender non-conforming participants were unemployed (62% vs 43%) and stated incomes lower than R500 per month than male identifying participants (64% vs 47%) (Table 1).

In terms of HIV testing, fewer gender non-conforming participants had ever tested for HIV (72%) than male identifying participants (88%) (Table 1). HIV risk also differed between gender non-conforming participants and other participants, with 50% of gender non-conforming participants reporting no condom use at last sex versus 25% of other participants. Similarly, a lower proportion of gender non-conforming participants reported consistent condom use over the previous 6 months than other participants (28% vs 46%). Twenty five percent of gender non-conforming participants reported ever being forced to have sex, in comparison to 12% of other participants.

Significant bivariate associations between reporting gender non-conformity and study variables included: being unemployed, low household income, never having tested for HIV, not testing for HIV in the last 6 months, having had more than one transactional sexual encounter in the last 3 months, ever being forced to have sex, being the

Table 1 Characteristics of participants

<u>Variable</u>	Gender non- conforming (N=36) n(%)	Male (N=280) n(%)
Age		
18-24	14 (40)	118 (43)
>25	21 (60)	160 (57)
Education		
<12 years	14 (39)	74 (26)
>12 years	22 (61)	206 (74)
Unemployed	22 (62)**	120 (43)
Household income		
<R500	21 (64) ⁺	125 (47)
>R500	12 (36)	143 (53)
Know HIV status	13 (36) ⁺	156 (56)
Never tested for HIV	10 (28)*	34 (12)
HIV status (n=171)		
Positive	12 (57)*	47 (31)
Negative	9 (43)	103 (69)
Syphilis result (n=192)		
Positive	4 (18)	19 (11)
Negative	18 (82)	151 (89)
Been paid for sex in last 3	16 (46) ⁺	79 (30)

months		
Ever been forced to have sex	9 (25)**	33 (12)
Male sex partners in last 3 months		
Less than four	17 (47)	206 (74)
More than four	14 (39)*	79 (28)
Consistent condom use in last 6 months	10 (28)	130 (46)
Condom use at last sex	18 (50)**	211 (75)
Discrimination in past 6 months		
Any verbal abuse	24 (67)	229 (82)
Any threats of violence	20 (56)	167 (60)
Hit or beaten	15 (42)	133 (48)
Lost a place to stay	13 (36) ⁺	79 (28)
Lost a job or opportunity	7 (19)	57 (20)

+0.1 *0.05 **0.01 *** 0.001

Table 2 Variables significantly associated with Transgender identity in bivariate comparisons

<u>Variable</u>	OR(95% CI)	p
Unemployed	2.85 (1.29 - 6.26)	<0.01
Household income	0.72 (0.55 - 0.95)	<0.05
Never tested for HIV	2.92 (1.25 - 6.85)	<0.05
HIV test in last 6 months	0.30 (0.13 - 0.72)	<0.01
More than one episode of transactional sex in last 3 months	2.92 (1.27 - 6.65)	<0.05
Ever been forced to have sex	3.09 (1.31 – 7.32)	<0.05
Last anal intercourse unprotected	3.0 (1.32 – 6.86)	<0.01
Receptive partner at last anal intercourse	4.28 (1.98 – 9.22)	<0.001

Table 3 Variables associated with Transgender identity in multivariate logistic regression

<u>Variable</u>	OR(95% CI)	AOR(95% CI)
Unemployed	2.5 (1.1 – 5.6)*	2.7 (1.2 – 6.1)*
HIV test in last 6 months	0.3 (0.1 – 0.8)*	0.3 (0.1 – 0.7)**
Ever forced to have sex	2.9 (1.2 – 7.2)*	2.9 (1.2 – 7.4)*
Condom used at last sex	0.4 (0.2 – 1.1) ⁺	0.4 (0.2 – 1.04) ⁺

+0.1 *0.05 **0.01

receptive partner at last anal sex, and not using a condom at last anal sex (see Table 2).

In the multivariate model (Table 3) gender non-conformity was significantly associated with being unemployed (AOR 2.7, 95%CI 1.2 – 6.1), ever being forced to have sex (AOR 2.9, 95%CI 1.2 – 7.4), and decreased odds of having had an HIV test in the previous 6 months (AOR 0.3, 95%CI 0.1 – 0.7). Gender non-conformity was also marginally associated with decreased odds of using a condom at last anal intercourse (AOR 0.4, 95%CI 0.2 – 1.04).

Discussion

The results of our exploratory research indicate that gender non-conforming MSM in South Africa may be at increased risk of HIV infection. The HIV prevalence rate among the gender non-conforming participants who tested for HIV in our sample was 56%, significantly higher ($p < 0.05$) than that of other participants (32%). It is important to note that this elevated risk was found relative to an already high risk population (MSM).

In South Africa, there is very little data available about important HIV risk factors for gender non-conforming MSM. While HIV treatment, care, and prevention services for MSM have recently begun being implemented in South Africa, the fact that our multivariate model showed that gender non-conforming participants were less likely to have tested for HIV in the previous six months than other participants may indicate their marginalisation from health services. Bivariate analyses also indicated that gender non-conforming participants were less likely to have ever tested for HIV than other participants.

In addition to not accessing HIV testing services, gender non-conforming participants differed from other participants across a range of demographic and behavioural variables (Table 1). Those variables that remained significantly associated with gender identity in our multivariate model included: being unemployed, ever being forced to have sex, and not using a condom at last anal intercourse (Table 2). These associations may indicate that gender identity is an important contributor to HIV risk in South Africa due to a combination of violence, socioeconomic exclusion, and sexual risk-taking. Unemployment and socio-economic exclusion in particular are risk factors that have been reported in research conducted internationally (cf. Nemoto et al. 2010), and it appears that the relatively higher rates of unemployment in gender non-conforming populations is due to higher levels of stigma and discrimination experienced by these individuals across their life courses. However, more research is required to improve our understanding of HIV risk in this population.

This study has several important limitations that need to be acknowledged. Our sampling method precludes the generalisability of our results, and the relatively small number of gender non-conforming participants means that it is possible that we accessed a particular network of individuals who share similar risk factors. It is also important to acknowledge that participants' chose "transgender" as a gender identity in a survey from a list of three options, and that this term does not necessarily reflect their own gender identities. Also, due to the small sample size, the categories 'transgender' and 'female' were aggregated for the purposes of analysis, and hence our analysis does not account for diversity within this group. However, this work highlights the importance of including gender non-conforming individuals in HIV

prevention, treatment and care programmes, and of the need for more research into local communities of gender non-conforming individuals. It also highlights the importance of asking specific questions about gender-identity separately from questions about biological sex in survey research.

Our sampling strategy aimed at recruiting MSM, and for this reason we decided to focus this analysis on gender non-conformity, rather than transgender identity. However, it is likely that some of our participants were transgender women, and this points to the critical need for research focusing on HIV risk in transgender individuals as a key population in their own right, rather than as a sub-population of MSM.

Conclusion

Gender non-conforming MSM in South Africa may have an increased risk of HIV infection relative to an already identified high-risk population (MSM). This highlights the importance of gender-identity as a factor affecting access to HIV treatment, care, and prevention in South Africa and this is an issue that needs to be addressed. It is likely to be necessary to adapt MSM-focused services to more specifically target gender non-conforming individuals.

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