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ABSTRACT

Background: Understanding what social factors are associated with risk of HIV acquisition and transmission among gay, bisexual and other men who have sex with men (MSM) is a critical public health goal. Experiencing discrimination may increase risk of HIV infection among MSM. This analysis assessed relations between experiences of sexual orientation- and race-based discrimination and sexual HIV risk behavior among MSM in New York City.

Methods: 1369 MSM completed a self-administered computerized assessment of past 3-month sexual behavior, experience of social discrimination and other covariates. Regression models assessed relations between recent experience of discrimination and sexual HIV risk behavior.

Results: Mean age was 32 years; 32% were white; 32% Latino/Hispanic; 25% African American/Black. Of MSM who self-reported HIV-positive or unknown status (377), 7% (N=27) also reported having unprotected insertive anal intercourse with an HIV-negative or unknown status partner (“HIV transmission risk”). Of MSM who self-reported HIV-negative (992), 11% (110) also reported unprotected receptive anal intercourse with an HIV-positive or unknown status partner (“HIV acquisition risk”). HIV acquisition risk was positively associated with sexual orientation-based discrimination in home or social neighborhoods, but not race-based discrimination.

Conclusions: We observed that sexual orientation-based discrimination was associated with sexual HIV risk behavior among urban-dwelling MSM. Addressing environmental sources of this form of discrimination, as well as the psychological distress that may result, should be prioritized in HIV prevention efforts.

BACKGROUND

In the United States (US), gay, bisexual and other men who have sex with other men (MSM) continue to be disproportionately affected by HIV, accounting for 61% of new cases in 2010(1;2). Young Black MSM were the only group in the US with a statistically significant increase (48%) in new HIV infections between 2006 and 2009 (2).

Increasingly, social and environmental factors are being assessed as contributors to sexual behavior that increases risk of HIV infection (8), among MSM specifically (9-12). Sexual orientation-based discrimination manifests the heteronormativity and homophobia that characterize the sex-gender-sexuality system (18). Those who identify as gay or bisexual, engage in same-sex sexual behavior, and/or are gender non-conforming, transgress the prescribed heterosexual and masculine norms; thus, they are often targets for acts of discrimination. Gay, bisexual and other MSM who are also racial or ethnic minorities potentially experience the “double whammy” of both the sex-gender-sexuality and the race systems (15) and associated racial discrimination and negative life events, leading to increased risk of adverse health outcomes (36-38).

Sexual minority stress theory posits that (23;24) chronic stress due to discrimination may contribute to depression, drug and alcohol use and/or sexual compulsivity as coping mechanisms (28). Associations between sexual orientation-based discrimination and sexual risk behavior have been found in several recent studies among MSM (31;33-35).

STUDY PURPOSE

The purposes of the study were to:

- Assess the relationship between sexual orientation- and race-based discrimination, separately and in combination, and sexual risk behavior.
- Stratify by self-reported HIV status and perceived partner HIV status to examine potential acquisition and transmission risks.
- Assess factors that may connect discrimination and sexual HIV risk behavior, such as internalized homophobia, psychological distress and sex while under the influence of alcohol and/or drugs.
- Control for factors independently associated with outcome, such as race/ethnicity-related identity and sexuality-related identity and attachment factors, peer norms and condom use self-efficacy.
- Limit analysis to African American or Black and Latino MSM to examine unique correlates of sexual HIV risk behavior for minority men.

METHODS

October 2010 to July 2013, MSM in NYC were recruited using a modified venue-based time-space sampling methodology for both physical (street locations, bars/clubs, etc.) and virtual (websites, apps, etc.) venues (50). Eligibility criteria: biological male at birth; at least 18 years of age; reside in NYC; report anal sex with a man in the past 3 months; communicate in English or Spanish; and willing and able to give informed consent for the study. IRB approval was received from the New York Blood Center and other collaborating institutions. 4,998 men were approached and provided contact information; 1,997 met eligibility criteria and scheduled a study visit and 1503 men enrolled (75%). After excluding 21 men who did not report any sex partners in the past 3 months and 107 men with significant missing data, 1369 MSM were included in the present analysis. All participants provided informed consent. Participants received \$50 and a two-way Metrocard for their time and transportation costs.

Primary Dependent Measures

- HIV acquisition risk behavior was coded as 1 among HIV-negative participants who had unprotected receptive anal sex with any type (e.g. primary, casual, etc.) of HIV-positive or unknown HIV status male sex partner; the remaining HIV-negative participants were coded as 0.
- HIV transmission risk behavior was coded as 1 among HIV-positive or unknown status participants who had unprotected, insertive anal sex with any HIV-negative or unknown status male sex partner; the remaining HIV-positive or unknown status participants were coded 0.

Independent Measures

Race-based discrimination: “Have you experienced discrimination, been prevented from doing something or been hassled or been made to feel inferior because of your race, ethnicity or color?”

Sexual orientation-based discrimination: “Have you experienced discrimination, been prevented from doing something or been hassled or been made to feel inferior because of your sexual orientation?”

In reference to both the home (where they lived) and social (where they spent most of their time socializing) neighborhoods of the participants.

4-category exposure variable: 1) experience of *neither* sexual orientation- nor race-based discrimination; 2) experience of *only* sexual orientation-based discrimination; 3) experience of *only* race-based discrimination; or 4) experience of *both* sexual orientation- and race-based discrimination, for each neighborhood type separately and in combination.

Covariates: Standard measures of sociodemographic, psychosocial and other theoretically-related factors were employed.

ANALYSIS

Data were analyzed in SAS (version 9.3); Unadjusted associations between the primary independent variables, sociodemographic factors, psychosocial factors (e.g., psychological distress, internalized homophobia, AOD use before sex, peer norms, etc.) and the primary dependent variable were assessed using chi-squares, t-tests, one-way ANOVAs, and Mann-Whitney non-parametric tests, as appropriate. The bivariate significance level was set at p<.05 for inclusion in the multivariable model. Continuous measures were standardized so that the odds ratios reflect one standard deviation change in the score of the measure. Multivariable logistic regression models were built entering variable in conceptually related sets; variables that did not retain statistical significance were eliminated at each step.

RESULTS

Of the HIV-negative MSM (992), 11% (110) reported unprotected receptive anal intercourse with an HIV-positive or unknown status partner (“HIV acquisition risk”).

Of the HIV-positive or unknown status MSM (377), 7% (N=27) reported unprotected insertive anal intercourse with a partner who was HIV-negative or unknown status (“HIV transmission risk”).

In the past 3 months:

- 15% of men reported experiencing *either* sexual orientation- or race/ethnicity-based discrimination in their home or social neighborhood;
- 5% reported sexual orientation-based discrimination only and another 5% reported race-based discrimination only;
- 6% reported experiencing both forms of discrimination in their home or social neighborhoods.

Sample Sociodemographic Characteristics:

The average age was 32.0 (SD=10.3); 32% were white (non-Hispanic); 32% Hispanic; 25% Black/African American and 13% other. 49% reported college degree or more; 33% had some college education; 6% had less than a high school degree. 40% worked full-time; 24% worked part-time; 30% was not working. 26% reported personal income of LT\$10,000 per year; 42% \$10-39,999; 32% GTE\$40,000. 48% reported not having enough money for rent, food utilities and other basic needs. 4% reported being married or in a registered domestic partnership with another man. 88% self-identified as exclusively gay or homosexual; 9% as bisexual; 3% as straight/heterosexual or “other”. Average “outness” was 8.2 (range: 1-10; SD=3.3), indicating that most men were “out” to most people they know.

Table 1. Unadjusted Associations among Sexual Orientation- and Race-based Discrimination (past 3 months) and HIV Acquisition and Transmission Risk Behavior, M2MNYC, N=1369

Characteristics	Total N (%)	Acquisition Risk (N=992)		p-value
		OR	95%CI	
Home Neighborhood Only				
- None	1204 (88.0)	ref		0.038
- Sexual orientation-based only	57 (4.2)	2.87	1.36, 6.07	
- Race-based only	56 (4.0)	1.48	0.61, 3.61	
- Both	52 (3.8)	0.78	0.24, 2.61	
Social Neighborhood Only				
- None	1270 (92.8)	ref		0.049
- Sexual orientation-based only	28 (2.1)	3.80	1.41, 10.23	
- Race-based only	43 (2.5)	1.03	0.31, 3.48	
- Both	36 (2.6)	0.41	0.06, 3.10	
Either Home or Social Neighborhood				
- None	1163 (85.0)	ref		0.002
- Sexual orientation-based only	63 (4.6)	3.36	1.71, 6.61	
- Race-based only	66 (4.8)	1.67	0.76, 3.68	
- Both	67 (5.6)	0.57	0.17, 1.88	

RESULTS, Cont.

Table 4. Adjusted Associations among Social Discrimination and HIV Acquisition Risk Behavior, M2MNYC, N=937

	MODEL#1 AOR (95%CI)	MODEL #2 AOR (95%CI)	MODEL #3 AOR (95%CI)
Discrimination (P3M)			
None	Reference	Reference	Reference
Sexual orientation-based only	3.36 (1.71, 6.61)	2.54 (1.26, 5.12)	2.50 (1.17, 5.35)
Race/ethnicity-based only	1.67 (0.76, 3.68)	1.39 (0.61, 3.14)	1.27 (0.53, 3.06)
Both sexual orientation- and race/ethnicity-based	0.57 (0.17, 1.88)	0.47 (0.14, 1.56)	0.43 (0.12, 1.60)
Psychosocial Factors			
- Psychological distress ¹		1.61 (1.33, 1.94)	1.43 (1.17, 1.76)
- Alcohol and/or drug use before/during sex		1.77 (1.17, 2.67)	1.76 (1.13, 2.72)
Condom Use-related Factors			
- Condom use self efficacy ¹			0.47 (0.38, 0.58)

- Sexual orientation-based discrimination *only* within the past 3 months was significantly associated with sexual HIV acquisition risk behavior, controlling for known psychosocial correlates.

- When sample restricted to African American and Latino men, same result, but not statistically significant.

- Psychological distress and alcohol and/or drug use @last sex attenuated estimate of association between sexual orientation-based discrimination and acquisition risk behavior, suggesting that they may link or “mediate” the association.

- No support for role of internalized homophobia as a correlate of HIV acquisition risk behavior, once psychological distress and alcohol and/or drug use before/during sex were controlled.

- Attachment to the gay community and racial/ethnic identity not protective.

DISCUSSION

Psychological distress and substance abuse at time of sex may partially explain the association between discrimination and risk behavior among MSM, which is generally consistent with sexual minority stress theory (27). However, further research is needed to assess causal relations among these factors, as neither mediation nor causation may be established using cross-sectional data from a single study.

Longitudinal research is needed to determine whether reductions in exposure to sexual orientation-based discrimination will decrease sexual HIV risk behavior among MSM.

Reducing the experience of sexual orientation-based discrimination is a critical social goal independent of its role in the HIV epidemic. There is increasing evidence that discriminatory behavior and policies adversely relate to the mental health and well-being of LGBTQ people in the US.

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