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Comparison of Selected Sociodemographic Characteristics and Sexual Risk Behaviors of Black/African American Men Who Have Sex with Men Only and Men Who Have Sex with Men and Women, Southeastern United States, 2013-2016

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Abstract

Purpose—Compare selected sociodemographic and sexual risk characteristics of black/African American (black) men who have sex with men only (MSMO) and men who have sex with men and women (MSMW) in the southeastern United States (the South).

Methods—We conducted bivariate and multivariable analyses to explore the sociodemographic characteristics and sexual risk behaviors of 584 MSMW and MSMO in the South.

Results—MSMW had lesser odds of having a college or graduate degree (aOR = 0.32; 95% CI = 0.19, 0.54) and having 2 male oral sex partners (aOR = 0.20; 95% CI = 0.08, 0.48) compared to MSMO. MSMW had greater odds of being homeless (aOR = 3.11; 95% CI = 1.80, 5.38) and selecting “top” sexual position (aOR = 1.70; 95% CI = 1.07, 2.72) compared to MSMO.

Conclusion—MSMW in the South experience social and structural factors that may affect their risk for HIVinfection. Strategies to address these factors should be considered in prevention and care efforts for this population.

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Keywords

African American; Black; Men who have sex with men and women; Men who have sex with men only; HIVrisk; Southern United States

Introduction

Black/African American (hereafter referred to as black) gay, bisexual, and other men who have sex with men (MSM) are disproportionately affected by HIV infection in the United States (US). In 2015, blacks accounted for 42.1% of the estimated incident HIV infections in the US [1], 60.5% of these infections were attributed to male-to-male sexual contact, and 34.0% were attributed to heterosexual contact [1]. In the same year, males accounted for 75.3% of incident HIV infections among blacks, with 80.3% of the infections attributed to male-to-male sexual contact [1, 2]. Among MSM only, who accounted for 68% of incident HIV infection in 2015, 37% of the infections were among black MSM [1, 2]. The disparities in HIV infection among black MSM are associated with myriad social and contextual factors that exist in their sexual and social networks [1, 3]. Addressing these factors is critical to eliminating disparities and reducing HIV infection among black MSM.

MSM include at least two subgroups, men who have sex with men only (MSMO) and men who have sex with men and women (MSMW); MSMW represent an estimated 35% of MSM [3, 4]. MSMW experience unique social and contextual factors that may affect their sexual risk behavior [3]. Because their sexual networks include both men and women, MSMW may experience a type of sexual minority stigma, e.g., “biphobia,” a social stressor that can affect their mental health and promote risky sexual behavior [4]. Additionally, experiences with biphobia may prevent MSMW from disclosing their sexual orientation to others [4]. Compared to MSMO, MSMW are also more likely to have lower educational attainment, live in poverty, and have unstable housing; these factors can increase their susceptibility to HIV infection [3-6]. Finally, black MSMO and MSMW face the additional burden of racism that could exacerbate the effects of the aforementioned social and contextual factors and promote risky sexual behavior [3]. Given the disproportionate burden of HIV infection among black MSMO and MSMW, there is a critical need to reach these populations with effective treatment and prevention services.

Although there is robust literature comparing the sexual risk behaviors and sociodemographic characteristics of MSMO and MSMW on a national level [3-6], there is a dearth of information on the sociodemographic and sexual risk behavior characteristics of black MSMO and MSMW in the southeastern US (hereafter referred to as the South), a region disproportionately affected by HIV infection [7, 8]. This region, that comprises 38% of the national population, accounted for 51% of annual new infections, 45% of persons with HIV and 50% of undiagnosed infections in 2016 [1]. Further, this region also lags behind other US geographic regions in important HIV treatment and care outcomes, e.g., knowledge of status and viral suppression among persons with HIV [8]. The purpose of this paper is to compare selected sociodemographic (i.e. age, education, employment, and residence) and

sexual risk behaviors of black MSMO and MSMW in the South. Outcomes from this research may be used to inform HIV prevention and care strategies for MSMW.

Methods

Data Source and Study Population

The Ecological Study of Sexual Behaviors and HIV/STIs among black/African American MSM in the Southeastern US Study was a two-city, population-based study designed to evaluate the multi-level contexts of HIV/STI risk and protective factors for black MSM in Jackson, MS and Atlanta, GA [9]. We enrolled participants from July 2013 through December 2016. Details of study recruitment and design were previously published [9]. Briefly, study participants were recruited using the following strategies: (a) printed advertisement, (b) face to face recruitment, (c) social networking website and mobile applications (“apps”), (d) geospatial sexual networking apps, and (e) word-of-mouth referrals. Eligibility criteria included the following: self-report African American or black race; male sex assigned at birth; 18 years or older; residence in the Jackson or Atlanta metropolitan statistical areas (MSA); and self-report of oral or anal sex with another man in the 6 months prior to study enrollment. Eligible participants were administered an audio computer-assisted self-interview (ACASI) survey that queried demographics, behaviors, and social and structural contexts. The study protocol was approved by the Sterling Institutional Review Board, and all participants provided signed informed consent.

Selected Sociodemographic Variables

The following variables were used to assess selected sociodemographic characteristics:

- *Age* (What is your age?), dichotomized as 18–29 years old or 30 years old and older;
- *Educational attainment* (highest level of education completed), categorized as high school graduate or less, some college education, or greater or equal to college degree or graduate school;
- *Employment status* (description of current job), dichotomized as employed or unemployed; and
- *Residence* (Are you currently homeless or have a physical address?), dichotomized as homeless or physical address.

Sexual Risk Behavior Variables

The following variables were used to assess sexual risk behaviors among the sample:

- *Sexual orientation* (What is your sexual orientation?), categorized as gay or homosexual, bisexual, straight or heterosexual, and questioning/do not identify;
- *Lifetime oral male partners* (During your lifetime, how many different men have you had oral sex with?), dichotomized as 0–1 partners or ≥ 2 partners [10–12];
- *Lifetime anal male partners* (During your lifetime, how many different men have you have anal sex with), dichotomized as 0–1 partners or ≥ 2 partners;

- *Casual male partners* in last 12 months (During the past 12 months, how many of your sex partners were casual?), dichotomized as 0–1 partners or ≥ 2 partners;
- *Condomless anal sex* (During the past 12 months, how often, if at all, did you or your main and casual [separate questions] use a condom during anal sex?), dichotomized as yes or no;
- *Sexual positioning* (When having anal sex, which sexual position are you?), categorized as top, bottom, or versatile [13];
- *Exchange sex for money* (In the past 12 months, have you had sex for money?), dichotomized as yes or no; and
- *Alcohol or drugs during/before sex* (In the past 12 months, did you use alcohol before or during sex?), dichotomized as yes or no.

Statistical Analysis

We conducted descriptive analyses to explore the sociodemographic characteristics and sexual risk behaviors of men in the sample. We then performed bivariate and stepwise multivariable logistic regression analyses to compare differences in these variables for MSMW and MSMO (reference group). Forward elimination (inclusion cutoff, $p = 0.10$) stepwise logistic regression on the complete model with all variables was used. Unadjusted and adjusted odds ratios (aOR) with 95% confidence intervals (CI) are presented. All statistical analyses were conducted with SAS version 9.4.

Results

Sociodemographic Characteristics

A total of 584 participants were enrolled in the study between July 2013 and December 2016; 50.3% of the sample reported having sex with men only (MSMO; $n = 294$) and 49.7% reported having sex with men and women (MSMW; $n = 290$). Table 1 provides a summary of the sociodemographic characteristics of the sample. Most MSMW and MSMO were 18–29 years old (54.1% and 70.4%, respectively), identified as gay or homosexual (52.8% and 81.4%, respectively), and had a physical address (75.5% and 89.5%, respectively). A majority of MSMW had a high school education or less (50.5%) and most MSMO had some college education (54.8%). Almost two thirds of MSMW were unemployed (61.8%) while more than half of MSMO were employed (55.9%).

Sexual Risk Behaviors

A majority of MSMW and MSMO had two or more lifetime oral (87.2% and 97.6%, respectively) and/or anal male sex partners (86.5% and 95.5%, respectively) and two or more casual male sex partners in the past 12 months (60.5% and 64.8%, respectively). Most engaged in condomless anal sex in the past 12 months (57.9% and 59.3%, respectively), did not exchange sex for money (76.0% and 85.7%, respectively), and used alcohol or drugs during or before sex (52.9% and 55.9%, respectively). Moreover, 35.7% of MSMW reported their sexual positioning as a top, whereas 47.8% of MSMO reported their sexual positioning as versatile.

Bivariate Analysis

Among the sample, respondents that were 18–29 years old (OR = 0.50; 95% CI = 0.35, 0.70) had some college education (OR = 0.51; 95% CI = 0.36, 0.74) or a college or graduate degree (OR = 0.32; 95% CI = 0.20, 0.50) had a statistically significant lesser odds of being MSMW than being MSMO. Respondents that were unemployed (OR = 2.05; 95% CI = 1.48, 2.86) were at a statistically significant greater odds of being MSMW than being MSMO.

Multivariable Analysis

Results from the multivariable analysis indicate that respondents who had a college or graduate degree (aOR = 0.32; 95% CI = 0.19, 0.54) and those who had two or more male oral sex partners (aOR = 0.20; 95% CI = 0.08, 0.48) had a statistically significant lesser odds of being MSMW than being MSMO. Respondents who reported being homeless (aOR = 3.11; 95% CI = 1.80, 5.38) and engaging in top sexual positioning (aOR = 1.70; 95% CI = 1.07, 2.72) were at a statistically significant greater odds of being MSMW than being MSMO.

Discussion

This study compared the sociodemographic characteristics and sexual risk behaviors of MSMW and MSMO who participated in an ecological study conducted in two southern cities. Our results indicate that MSMW in Jackson and Atlanta had greater odds of reporting lower educational attainment, homelessness, and engaging in sexual risk behaviors, than MSMO. Overall, the results suggest that the sociodemographic characteristics and sexual risk behaviors of MSMW in the sample may put them at greater risk for HIV infection compared to MSMO.

The finding about educational attainment is consistent with national representative, probability-based studies that show MSMW have less formal education than MSMO [3]. Lower educational attainment is associated with lower income and lack of health insurance, which may promote sexual risk behaviors among MSMW at risk for HIV infection and inhibit treatment and care among MSMW with HIV infection [14, 15]. Therefore, effective HIV prevention and care strategies and interventions for MSMW should consider educational attainment [14, 15].

The finding about homelessness is also consistent with other research that reports MSMW are more likely to be homeless or have a history of homelessness than MSMO [4, 6, 16]. Men who experience homelessness may engage in risk behaviors, e.g., exchange sex, that increase their risk for HIV infection [10, 17]. Though not significant, we found MSMW were more likely to engage in sex exchange compared to MSMO ($p = 0.08$). As such, including processes and methods to address homelessness should be considered in HIV prevention strategies and interventions for MSMW [11, 18].

Regarding sexual risk behaviors, our finding about MSMW being more likely to report top sexual positioning, or insertive sexual behaviors is consistent with previous reports [13]. Our data do not allow us to explore why men reported this positioning, e.g., to reduce risk or as a

preference. Future studies should explore this topic; results could assist with informing interventions to reduce HIV risk in MSMW [19].

Our finding about MSMW having fewer oral male sex partners than MSMO is contrary to previous studies where MSMW reported commonly occurring oral sex with both men and women, but those reports had small sample sizes and no comparative group of MSMO [20, 21]. Additionally, results showing that similar percentages of MSMW and MSMO engaged in condomless anal sex in the past 12 months is also inconsistent with the literature [12]. We cannot draw any conclusions from this result, however, because our data did not allow us to explore differences in condomless anal sex among MSMW by partner type.

Limitations

This study has several limitations. Because of the cross-sectional design, we cannot determine temporal associations. Further, the data were self-reported and, therefore, subject to social desirability issues and/or recall bias. Additionally, because the study was conducted in two cities with MSM who were seeking HIV prevention and care services, the results have limited generalizability to MSMW and MSMO who reside in other parts of the US, or who may not be otherwise engaged in seeking HIV prevention and care services.

Conclusions

Results from our analysis highlight the social and contextual factors associated with HIV risk among MSMW in the South. These results support the need to address factors, like stigma, educational attainment, and housing in HIV treatment and prevention efforts for MSMW [3]. Strategies could include community-level anti-stigma campaigns and linking MSMW at risk for and with HIV to social support, employment, and housing services. This approach could help decrease HIV infections and eliminate disparities among MSMW, particularly in the South.

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Comparison of sociodemographic characteristics and sexual risk behaviors of black/African American men who have sex with men and women and men who have sex with men only, Jackson, MS and Atlanta, GA, 2013–2016 ($n = 584$)

Table 1

	Total		MSMW [†] (N = 290)		MSMO ^{††} (N = 294)		Bivariate analyses		Multivariable analysis	
	N (%)	N (%)	N (%)	N (%)	OR (95% CI)	p value	aOR (95% CI)	p value		
Age										
18–29 years	364	157 (54.1)	207 (70.4)		0.50 (0.35, 0.70)	<0.0001				
30+ years	220	133 (45.9)	87 (29.6)		Referent					
Education										
High school or less	237	146 (50.5)	91 (30.9)		Referent		Referent		Referent	
Some college	228	103 (35.6)	125 (54.8)		0.51 (0.36, 0.74)	<0.001	0.56 (0.36, 0.85)	0.95		
College or graduate degree	119	40 (13.8)	79 (26.8)		0.32 (0.20, 0.50)	<0.0001	0.32 (0.19, 0.54)	0.0005		
Employment status										
Employed	275	110 (38.2)	165 (55.9)		Referent					
Unemployed	308	178 (61.8)	130 (44.1)		2.05 (1.48, 2.86)	<0.0001				
Sexual orientation										
Gay/homosexual	393	153 (52.8)	240 (81.4)		0.12 (0.04, 0.36)	0.0001	0.44 (0.12, 1.65)	0.001		
Bisexual	146	103 (35.5)	43 (14.6)		0.46 (0.15, 1.41)	0.17	1.49 (0.38, 5.87)	0.07		
Straight/heterosexual	25	21 (7.2)	4 (1.4)		Referent		Referent		Referent	
Questioning/do not identify	21	13 (4.5)	8 (2.7)		0.31 (0.08, 1.24)	0.10	1.13 (0.21, 6.00)	0.64		
Current residence										
Homeless	101	70 (24.5)	31 (10.5)		2.76 (1.74, 4.37)	<0.0001	3.11 (1.80, 5.38)	<0.0001		
Has physical address	480	216 (75.5)	264 (89.5)		Referent		Referent		Referent	
Lifetime male partners										
Oral										
0–1 partners	42	35 (12.8)	7 (2.4)		Referent		Referent		Referent	
2 or more partners	522	238 (87.2)	284 (97.6)		0.17 (0.07, 0.38)	<0.0001	0.20 (0.08, 0.48)	0.0004		
Anal										
0–1 partners	50	37 (13.5)	13 (4.5)		Referent		Referent		Referent	
2 or more partners	515	237 (86.5)	278 (95.5)		0.30 (0.16, 0.58)	0.0003				
Casual male partners in last 12 months										

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	Total	MSMW† (N = 290)		MSMO†† (N = 294)		Bivariate analyses		Multivariable analysis	
		N (%)	N (%)	N (%)	OR (95% CI)	p value	aOR (95% CI)	p value	
0–1 partners	208	107 (39.5)	101 (35.2)	Referent					
2 or more partners	350	164 (60.5)	186 (64.8)	0.83 (0.59, 1.17)	0.30				
Condomless anal sex									
Yes	347	172 (57.9)	175 (59.3)	0.94 (0.68, 1.31)	0.73				
No	245	125 (42.1)	120 (40.7)	Referent					
Sexual position during anal sex									
Top	170	106 (35.7)	64 (21.7)	2.46 (1.64, 3.69)	<0.0001	1.70 (1.07, 2.72)	0.03		
Bottom	157	68 (22.9)	89 (30.2)	1.13 (0.75, 1.71)	0.55	1.12 (0.70, 1.79)	0.49		
Versatile	236	95 (32.0)	141 (47.8)	Referent		Referent			
Exchange sex for money									
Yes	109	67 (24.0)	42 (14.3)	1.90 (1.24, 2.91)	0.003	1.57 (0.95, 2.59)	0.08		
No	464	212 (76.0)	252 (85.7)	Referent		Referent			
Alcohol or drugs during/before sex									
Yes	322	157 (52.9)	165 (55.9)	0.88 (0.64, 1.22)	0.45				
No	270	140 (47.1)	130 (44.1)	Referent		Referent			

MSMW men who have sex with men and women, MSMO men who have sex with men only