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Race/ethnicity, sexual partnerships with men involved with drugs, and sexually transmitted infections among a sample of urban young adult women

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Abstract

In many urban neighbourhoods in the United States, drug markets borne from disadvantage have produced risk for sexually transmitted infections through altered sexual norms and partnerships. Presently, we examined the association of race, sexual partnerships with men involved with drugs, and self-reported sexually transmitted infections among 240 African American and white women aged 18–30 years. Thirty seven per cent reported ever having a sexually transmitted infection. Almost 30% of Whites reported sex with a drug user, compared to 5% of African Americans. Fifty eight per cent of African Americans compared to 31% of Whites reported sex with a drug dealer. On Step 1 of a sequential logistic regression model, race was associated with lifetime sexually transmitted infections (OR = 4.7, 95% CI = 2.61–8.34). Results from the full sequential logistic regression model indicated a significant, but smaller association of race and lifetime sexually transmitted infections (Adjusted OR = 3.5, 95% CI = 1.78–7.02) and an association of sex with a drug dealer and lifetime sexually transmitted infections (Adjusted OR = 2.9, 95% CI = 1.55–5.20). Forming sexual partnerships with drug dealers may place women at increased risk for sexually transmitted infections and explain racial disparities. More research focused on drug dealers as core transmitters is needed.

Keywords

Race/ethnicity; women; drugs; sexual partnerships; drug dealers; core transmitters; sexually transmitted infections; sexual risk behaviour; United States

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Introduction

In the United States, African American women continue to be disproportionately affected by sexually transmitted infections (STIs), including HIV. Between 2008 and 2011 African Americans accounted for 64% of diagnosed HIV cases among women, with at least 75% of these cases being attributed to heterosexual sex.¹ However, while African Americans tend to have the highest prevalence rates of HIV and other STIs, they do not have the highest levels of risk behaviours.^{2–4}

To better understand racial disparities, researchers are increasingly considering differences in sexual partnerships and networks as contributors to HIV/STI disparities.^{5–10} For example, using national data Laumann and Youm found sexual networks accounted for racial/ethnic variations in self-reported STI rates.⁶ For African American women, sex with an infected male partner may be the single most important risk factor for STIs, at the individual level. Consequently, it is important to identify sex partner characteristics that increase HIV/STI risk.

When considering race/ethnicity differences in sexual partnerships some consideration of contextual factors (i.e. constraining economic and social factors) must be given.^{7–11} In the United States, poverty, the drug epidemic and high rates of HIV/STIs are inextricably linked. To this end, in many impoverished African American neighbourhoods drug markets borne from disadvantage produce risk for HIV/STIs through altered sexual norms and partnerships.

Presently, a plethora of literature focused on drug users and their sexual partners indicate that women who form sexual partnerships with men who use drugs are at increased risk for HIV/STIs.^{12–16} Although less attention has been given to drug dealers as high-risk sexual partners; a small base of literature suggests persons involved in drug dealing have high social status, are more sexually active, and engage in high-risk sexual behaviours more than their non-drug dealing counterparts.^{17–25} Like drug users, drug dealers may be among those groups responsible for driving and maintaining high rates of STIs among urban women.

Presently, we consider drug dealers as well as drug users as core transmitters of STIs. The specific aims are to: (1) examine racial differences in sexual partnerships with men involved with drugs and (2) examine the association of race, sexual partnerships with drug users and drug dealers, and lifetime STIs among a sample of urban women.

Methods

Study design and participants

Data were drawn from a cross-sectional study aimed at examining differences in HIV/STI risk behaviours, sexual partner characteristics, and rates of STIs among 120 African American and 120 white women. We employed snowball sampling techniques and recruited participants through street recruitment and newspaper advertisements. To be eligible for the study, women had to meet the following criteria: (1) identify as African American or White; (2) be between the ages of 18 and 30 years; and (3) have no history of regular drug use other than alcohol or marijuana. Participants who met the eligibility criteria and provided

informed consent completed a detailed semi-structured HIV risk behaviour interview. All assessments were conducted by a trained interviewer at the research site. Each participant received remuneration. The Johns Hopkins Bloomberg School of Public Health Institutional Review Board approved the study.

Measures

Demographic factors.—Participants provided information about their race/ethnicity, age, and education. Race was coded as African American (1) and White (0). Age was entered as a continuous variable. Education data were converted to a categorical variable: (1) less than 12 years, (2) received diploma/GED, (3) more than 12 years (reference group).

Financial strain.—A single item measured financial strain. Participants were asked to indicate how difficult it is to pay their monthly bills. Response options include: (1) very difficult, (2) somewhat difficult, (3) not very difficult, and (4) not at all difficult. For the purposes of data analyses, a dichotomous variable was created (i.e. difficult and not difficult).

Lifetime STIs.—Participants were asked to indicate for which of the following STIs they had ever received a diagnosis: (a) chlamydia, (b) gonorrhoea, (c) syphilis, (d) herpes, (e) genital warts, (f) pelvic inflammatory disease, or (g) any other STI. For the purposes of data analyses, we created a dichotomous variable (i.e. STI and no STI).

Sexual partner characteristics.—Participants were asked in your lifetime: (1) have you ever had a sex with a man who sold drugs; and (2) have you ever had a sex with a man who used drugs other than marijuana and alcohol. Response options included yes and no.

Data analysis

Descriptive statistics were calculated to describe the study sample. We used Chi square and *t*-tests to examine differences between African American and white women with regards to their socio-demographics, partner characteristics, and STI history. We performed a series of simple binary logistic regression analyses to examine the relationships between each predictor and lifetime STI. Only variables that were significantly associated with having a STI in the simple logistic regression analyses were considered in the full model. We used sequential logistic regression to test the full model. Because research suggests race is one of the strongest predictors of STIs, race was entered into the equation on Step 1. Subsequently, age, education, and financial strain were entered. Finally, sex with a drug dealer was entered into the equation to determine if it increased the amount of variance explained beyond that of socio-demographic factors. Sex with a drug user was not included in full model because it did not emerge as a correlate of lifetime STIs in the preliminary analyses. All analyses were performed using SPSS 21.

Results

Two participants had missing data, therefore the final sample included 238 women ($M_{\text{years}} = 23.9$, $SD = 3.4$). Approximately 20% of the sample did not complete high school (30% of

African Americans and 8.5% of Whites) and 56% reported difficulty paying their monthly bills. Approximately 29% of white women compared to 5% of African American women reported sex with a drug user ($\chi^2 = 24.1$, $p < .001$). The proportion of African Americans reporting sex with a drug dealer was 58% compared to 31% for Whites ($\chi^2 = 16.5$, $p < .001$). Fifty three per cent of African Americans compared to 19% of Whites reported ever having a STI ($\chi^2 = 29.3$, $p < .001$). Chlamydia was the most prevalent STI. One participant reported being HIV positive (see Table 1).

In the unadjusted logistic regression models significant associations emerged. Being African American was associated with having a STI (OR = 4.7, 95% CI = 2.64–8.43). Age was not related to lifetime STIs (OR = 1.1; 95% CI = .98–1.15). Compared to women who attended college, women who did not complete high school had an increased odds of ever having a STI (OR = 3.1, 95% CI = 1.54–6.08) as did women who completed high school (OR = 2.2, 95% CI = 1.11–4.28). Financial strain was associated with ever having a STI (OR = 2.2; 95% CI = 1.26–3.81). Sex with a drug dealer was associated with lifetime STIs (OR = 3.6, 95% CI = 2.10–6.35). No relationship emerged between lifetime STIs and sex with a drug user (OR = 0.7, 95% CI = 0.34–1.46). Table 2 provides a summary of the results.

Sequential logistic regression analysis tested the association of race, indicators of socio-economic status, sexual partnerships with drug dealers, and life-time STIs. Race was significantly associated with life-time STIs (OR = 4.7, 95% CI = 2.64–8.43). On the second step, lifetime STIs were regressed onto race, age, education, and financial strain. Lifetime STIs were associated with race (AOR = 4.3, 95% CI = 2.19–8.24) and age (AOR = 1.1, 95% CI = 1.07–1.20). Adding socio-demographic variables did not improve the model fit (Step $\chi^2(4, N = 238) = 9.25$, $p > .10$). On step three, we included sex with a drug dealer, while retaining race, age, education, and financial strain in the model. The addition of sex with a drug dealer improved the model, significantly (Step $\chi^2(1, N = 238) = 11.6$, $p > .001$). Sex with a drug dealer and lifetime STIs were related (AOR = 2.8, 95% CI = 1.55–5.20). The strength of the association of race and lifetime STIs decreased, but remained significant (AOR = 3.5, 95% CI = 1.78–7.02). Results are summarised in Table 3.

Discussion

Presently, we examined racial differences in sexual partner characteristics and the strength of the association of race, sexual partnerships with men involved with drugs, and lifetime STIs. Results indicated African American women had a higher rate of sex with drug dealers. White women had a higher rate of sex with drug users. African Americans were 3.5 times as likely to report ever having a STI. Women who had sex with a drug dealer were three times as likely to report a lifetime STI.

African American women may be at heightened risk for partnerships with drug dealers as a result of social and economic factors that influence dating behaviours and the number and quality of available men.^{8,9,25} In disadvantaged communities, participation in illegal drug economies provides men with an alternate means of income and power, which makes them attractive sex partners.^{17,19,20,26} Women may engage in sex with these men as a means of obtaining social status and material wealth.

However, these partnerships may place African women at heightened risk for STIs. Because men involved in drug dealing may engage in high-risk sexual behaviours more than their non-drug dealing counterparts,^{21–23} their partners are likely at increased risk for STIs. For example, in substance abuse literature drug-dependent individuals often report trading sex for drugs.^{27–29} These sexual relationships with drug users place the drug dealer in the centre of high-risk sexual networks. In addition, his ability to provide financial support to women provides the drug dealer with more opportunities for sexual relationships. Both concurrent partnerships and increased number of sexual partners have been identified as risk factors for STIs.^{8,9,14,30} The male drug dealer's role as core transmitter of STIs is supported further by his exposure to high-risk prison populations.^{31–33} While incarcerated 'heterosexual' men may engage in same-sex relationships, but return to heterosexual relationships with lower risk women upon release.^{32,33} Consequently, these men serve as a bridge between high-risk incarcerated populations and lower risk women. For these reasons, young adult women who are sexually involved with drug dealers are likely at increased risk for STIs.

This study is unique and contributes to the literature, considering not much attention has been given to the drug dealer as a plausible core transmitter of STIs. However, findings must be considered in light of the study's limitations. First, the small sample size likely resulted in the underestimates of some variables. In addition, we did not have enough power to formally test the moderating impact of sex with a drug dealer on the relationship between race and STIs. Next, the design and sampling strategy prevent us from making any statements about causality and limits the generalisability of the findings. Finally, under reporting of sensitive information likely occurred.

Notwithstanding these limitations, our study supports literature on racial differences in male sexual partner characteristics. The findings suggest forming sexual partnerships with men involved in the illegal manufacturing and distribution of drugs may place young women at increased risk for STIs. Moreover, high rates of sexual partnerships with drug dealers among African American women may contribute to disparities in STIs. More research focused on the drug dealer as a core transmitter of STIs among African American women is needed.

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References

1. Centers for Disease Control and Prevention (CDC). Health disparities in HIV/AIDS, viral hepatitis, STDs, and TB, <http://www.cdc.gov/nchhstp/healthdisparities/africanamericans.html> (2014, accessed 31 July 2014).
2. Hallfors DD, Iritani BJ, Miller WC, et al. Sexual and drug behavior patterns and HIV and STD racial disparities: the need for new directions. *Am J Public Health* 2007; 97: 125–132. [PubMed: 17138921]
3. Ellen JM, Aral SO and Madger LS. Do differences in sexual behaviors account for the racial/ethnic differences in adolescents' self-reported history of a sexually transmitted disease? *Sex Transm Dis* 1998; 25: 125–129. [PubMed: 9524987]

4. Halpern CT, Hallfors D, Bauer DJ, et al. Implications of racial and gender differences in patterns of adolescent risk behavior for HIV and other sexually transmitted diseases. *Perspect Sex Reprod Health* 2004; 36: 239–247. [PubMed: 15687082]
5. Adimora AA and Schoenbach VJ. Contextual factors and the black-white disparity in heterosexual HIV transmission. *Epidemiology* 2002; 13: 707–712. [PubMed: 12410013]
6. Laumann EO and Youm Y. Racial/ethnic group differences in the prevalence of sexually transmitted diseases in the United States: a network explanation. *Sex Transm Dis* 1999; 26: 250–261. [PubMed: 10333277]
7. Aral SO, Adimora AA and Fenton KA. Understanding and responding to disparities in HIV and other sexually transmitted infections in African Americans. *Lancet* 2008; 372: 337–340. [PubMed: 18657713]
8. Adimora AA and Schoenbach VJ. Social context, sexual networks, and racial disparities in rates of sexually transmitted infections. *J Infect Dis* 2005; 191: S115–S122. [PubMed: 15627221]
9. Adimora AA, Schoenbach VJ, Taylor EM, et al. Sex ratio, poverty, and concurrent partnerships among men and women in the United States: a multilevel analysis. *Ann Epidemiol* 2013; 23: 716–719. [PubMed: 24099690]
10. Doherty IA, Padian NS, Marlow C, et al. Determinants and consequences of sexual networks as they affect the spread of sexually transmitted infections. *J Infect Dis* 2005; 191: S42–S54. [PubMed: 15627230]
11. Sharpe TT, Voute C, Rose MA, et al. Social determinants of HIV/AIDS and sexually transmitted diseases among black women: implications for health equity. *J Womens Health (Larchmt)* 2012; 21: 249–254. [PubMed: 22196231]
12. Celentano DD, Latimore AD and Mehta SH. Variations in sexual risks in drug users: emerging themes in a behavioral context. *Curr HIV/AIDS Rep* 2008; 5: 212–218. [PubMed: 18838061]
13. Khan MR, Berger A, Hemberg J, et al. Non-injection and injection drug use and STI/HIV risk in the United States: the degree to which sexual risk behaviors versus sex with an STI-infected partner account for infection transmission among drug users. *AIDS Behav* 2013; 17: 1185–1194. [PubMed: 22890684]
14. Fleming PL, Lansky A, Lee LM, et al. The epidemiology of HIV/AIDS in women in the southern United States. *Sex Transm Dis* 2006; 33: S32–S38. [PubMed: 16794553]
15. Grieb SM, Davey-Rothwell M and Latkin CA. Social and sexual network characteristics and concurrent sexual partnerships among urban African American high-risk women with main sex partners. *AIDS Behav* 2012; 16: 882–889. [PubMed: 21861193]
16. Sikkema KJ, Heckman TG, Kelly JA, et al. HIV risk behaviors among women living in low-income, inner-city housing developments. *Am J Public Health* 1996; 86: 1123–1128. [PubMed: 8712272]
17. Andrinopoulos K, Kerrigan D and Ellen JM. Understanding sex partner selection from the perspective of inner-city black adolescents. *Perspect Sex Reprod Health* 2006; 38: 132–138. [PubMed: 16963386]
18. Friedman SR, Flom PL, Kottiri BJ, et al. Drug dealing and attitudes and norms about drug dealing among young adults and their peers in a high-risk community. *Int J Drug Policy* 2003; 14: 261–268.
19. Floyd LJ and Brown Q. Attitudes toward and sexual partnerships with drug dealers among young adult African American females in socially disorganized communities. *J Drug Iss* 2013; 43: 154–163.
20. Myers JJ, Maiorana A, Chapman K, et al. How the illicit drug economy contributes to HIV risk in St Vincent and the Grenadines. *J Int Assoc Physicians AIDS Care (Chic)* 2011; 10: 396–406. [PubMed: 21876217]
21. Stanton B and Galbraith J. Drug trafficking among African-American early adolescents: prevalence, consequences, and associated behaviors and beliefs. *Pediatrics* 1994; 93: 1039–1043. [PubMed: 8197004]
22. Stanton B, Li X, Cottrell L, et al. Early initiation of sex, drug-related risk behaviors, and sensation-seeking among urban, low-income African-American adolescents. *J Natl Med Assoc* 2001; 93: 129–138. [PubMed: 12653400]

23. Tewksbury R and Mustaine E. Lifestyles of wheelers and dealers: drug dealing among American College Students. *J Crime Justice* 1998; 21: 237–256.
24. Floyd LJ, Alexandre PK, Hedden SL, et al. Adolescent drug dealing and race/ethnicity: a population-based study of the differential impact of substance use on involvement in drug trade. *Am J Drug Alcohol Abuse* 2010; 36: 87–91. [PubMed: 20337503]
25. Dunlap E, Johnson BD, Kotarba JA, et al. Macro-level social forces and micro-level consequences: poverty, alternate occupations, and drug dealing. *J Ethn Subst Abuse* 2010; 9: 115–127. [PubMed: 20509085]
26. Dishion TJ, McCord J and Poulin F. When interventions harm. Peer groups and problem behavior. *Am Psychol* 1999; 54: 755–764. [PubMed: 10510665]
27. Floyd LJ, Hedden S, Lawson A, et al. The association between poly-substance use, coping, and sex trade among black South African substance users. *Subst Use Misuse* 2010; 45: 1971–1987. [PubMed: 20438343]
28. Spittal PM, Bruneau J, Craib KJ, et al. Surviving the sex trade: a comparison of HIV risk behaviours among street-involved women in two Canadian cities who inject drugs. *AIDS Care* 2003; 15: 187–195. [PubMed: 12856340]
29. Elwood WN, Williams ML, Bell DC, et al. Powerlessness and HIV prevention among people who trade sex for drugs ('strawberries'). *AIDS Care* 1997; 9: 273–284. [PubMed: 9290833]
30. Morris M, Kurth AE, Hamilton DT, et al. Concurrent partnerships and HIV prevalence disparities by race: linking science and public health practice. *Am J Public Health* 2009; 99: 1023–1031. [PubMed: 19372508]
31. U.S. Department of Justice-Federal Bureau of Investigation. Crime in the United States, 2012, <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/> (2013, accessed 31 July 2014).
32. Thomas JC, Levandowski BA, Isler MR, et al. Incarceration and sexually transmitted infections: a neighborhood perspective. *J Urban Health* 2008; 85: 90–99. [PubMed: 18046653]
33. Seal DW, Belcher L, Morrow K, et al. A qualitative study of substance use and sexual behavior among 18- to 29-year-old men while incarcerated in the United States. *Health Educ Behav* 2004; 31: 775–789. [PubMed: 15539547]

Table 1.

Differences among African American and white women on demographics and sex-related variables.

	African American N (%)	White N (%)	X ²
Education			61.47 **
<12	36 (30.0)	10 (8.5)	
Diploma/GED	41 (34.2)	7 (6.0)	
Some college	43 (35.8)	100 (85.5)	
Financial strain	79 (65.8)	54 (45.0)	10.54 **
Male drug dealer	69 (57.5)	37 (31.4)	16.46 **
Male drug user	6 (5.0)	34 (28.8)	24.13 **
Lifetime STI	64 (53.3)	23 (19.5)	29.38 **
Gonorrhoea	25 (20.8)	3 (2.5)	19.2 **
Syphilis	2 (1.7)	0	2.0
Chlamydia	40 (33.3)	10 (8.5)	22.15 **
Herpes	6 (5.0)	5 (4.2)	0.08
Human papillomavirus	11 (0.09)	9 (0.07)	0.18
Pelvic inflammatory disease	9 (7.5)	2 (1.7)	5.6
Other ^a	11 (9.2)	2 (1.7)	6.4 *

*
p<.05.**
p .001.^aOther includes trichomoniasis, bacterial vaginosis, and HIV.

Table 2.

Respondent characteristics and lifetime STIs.

	N (%)	% With STI	Unadjusted OR (95% CI)
Race			
African American	120 (50.6)	53.3	4.7 (2.64–8.43)
White	118 (49.4)	19.5	1.0 (reference)
Age	–	–	1.1 (0.981.15)
Education			
<12 years	46 (19.3)	54.3	3.1 (1.546.08)
Diploma/GED	49 (20.6)	45.8	2.2 (1.114.28)
Some college	143 (60.1)	38.0	1.0 (reference)
Financial strain			
Yes	133 (55.9)	67.8	2.2 (1.26–3.81)
No	105 (44.1)	32.2	1.0 (reference)
Sex with drug dealer			
Yes	106 (44.5)	52.8	3.6 (2.10–6.35)
No	132 (55.5)	23.5	1.0 (reference)
Sex with drug user			
Yes	40 (16.8)	30	0.7 (0.34–1.46)
No	198 (83.2)	37.9	1.0 (reference)

OR=Odds ratio.

CI=Confidence Interval.

Table 3.

Results from sequential logistic regression examining the association of demographic factors, sex with a drug dealer, and lifetime STIs.

	Step 1 AOR (95% CI)	Step 2 AOR (95% CI)	Step 3 AOR (95% CI)
African American	4.7 (2.64–8.43)	4.3 (2.19–8.42)	3.5 (1.78–7.02)
Age		1.1 (1.07–1.20)	1.1 (1.01–1.20)
Education			
<12 years		1.6 (0.73–3.53)	1.8 (0.80–4.03)
Diploma/GED		1.0 (0.45–2.2)	1.0 (0.45–2.28)
Some college		1.0 (reference)	1.0 (reference)
Financial strain		1.6 (0.89–2.99)	1.4 (0.75–2.6)
Sex with a drug dealer			2.8 (1.55–5.20)

AOR: adjusted odds ratio; CI: confidence interval.

Nagelkerke $R^2 = 0.26$.