

Experiences of Racial Discrimination and Relation to Sexual Risk for HIV among a Sample of Urban Black and African American Men

E. Reed, M. C. Santana, L. Bowleg, S. L. Welles,
C. R. Horsburgh, and A. Raj

ABSTRACT *This study aimed to examine racial discrimination and relation to sexual risk for HIV among a sample of urban Black and African American men. Participants of this cross-sectional study were Black and African American men (N=703) between the ages of 18 and 65 years, recruited from four urban clinical sites in the northeast. Multivariate logistic regression models were used to analyze the relation of reported racial discrimination to the following: (1) sex trade involvement, (2) recent unprotected sex, and (3) reporting a number of sex partners in the past 12 months greater than the sample average. The majority of the sample (96%) reported racial discrimination. In adjusted analyses, men reporting high levels of discrimination were significantly more likely to report recent sex trade involvement (buying and/or selling) (adjusted odds ratio (AOR) range=1.7–2.3), having recent unprotected vaginal sex with a female partner (AOR=1.4, 95% confidence interval (CI), 1.1–2.0), and reporting more than four sex partners in the past year (AOR=1.4, 95% CI, 1.1–1.9). Findings highlight the link between experiences of racial discrimination and men's sexual risk for HIV.*

KEYWORDS *Racial discrimination, STD/HIV*

INTRODUCTION

The high prevalence of racial discrimination reported by African American men in the USA has been well-documented,^{1–6} and growing research showcases significant relations between experiences of racial discrimination and negative physical and mental health outcomes.^{7–10} To date, however, less is known about how experiences of racial discrimination may influence *health behaviors* within this population.

HIV is one health issue of particular concern among African American communities.¹¹ Although African Americans comprise 13% of the US population, they constitute 49% of those living with HIV/AIDS.¹² African American men are

Reed is with the Department of Prevention and Community Health, George Washington University School of Public Health, Washington, DC, USA; Santana is with the Social Behavioral Sciences Department, Boston University School of Public Health, Boston, MA, USA; Bowleg and Welles are with the Department of Community Health & Prevention, School of Public Health, Drexel University, Philadelphia, PA, USA; Horsburgh is with the Department of Epidemiology, Boston University School of Public Health, Boston, MA, USA; Raj is with the Division of Global Public Health, Department of Medicine, University of California, San Diego, California.

Correspondence: E. Reed, Department of Prevention and Community Health, George Washington University School of Public Health, Washington, DC, USA. (E-mail: elizared7@gmail.com)

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largely affected; the rate of new HIV infection for African American men is six times as high as that of White men, nearly three times that of Hispanic/Latino men, and more than twice that of African American women.¹¹ Community disenfranchisement and marginalization (resulting in high rates of unemployment, poverty, incarceration, and substance use) related to a history of institutionalized racism experienced by African American communities in the USA have largely been attributed to the disproportionately high prevalence of HIV in African American communities.^{13–17} However, less work has examined whether *individual experiences* of racial discrimination might also contribute to HIV risk behaviors among African American men in the USA. Based on findings in the literature documenting the association between increased HIV risk behaviors (including sex trade involvement) and other forms of social violence and discrimination (e.g., victimization/abuse from intimate partners and other forms of gender-based violence),^{18–24} it is reasonable to suggest that individual experiences of victimization from racial discrimination may also be linked to increased HIV risk behaviors, likely through similar mechanisms (e.g., by reducing perceptions of social power and self-worth).

The purpose of the current study was to assess whether experiences of racial discrimination are associated with HIV risk factors among a sample of Black and African American men recruited from urban neighborhoods in a northeast metropolitan area. More specifically, the current study investigated the relevance of racial discrimination to the following: (1) sex trade involvement, (2) recent unprotected anal and/or vaginal sex, and (3) reporting a number of sex partners in the past 12 months higher than the sample average.

METHODS

Study Procedures

The current study used data from the Black and African American Men's Health Study, which involved a cross-sectional survey conducted with sexually active Black and African American (B/AA) men ($N=703$) between the ages of 18 and 65 recruited from four urban community health centers and primary and urgent care clinics within a large teaching hospital. Eligible B/AA men were those aged 18–65 years, who reported sex with two or more partners in the past year, and demonstrated no cognitive impairment (assessed using the Folstein Mini-mental Exam).¹⁸ Research staff recruited all B/AA men attending collaborating health centers and clinics from May 2005 to May 2006 during designated recruitment days and times. Days and times for recruitment to take place were rotated in order to reduce self-selection that could limit generalizability. Among the 2,331 men approached, 85% ($n=1,988$) agreed to be screened for study eligibility. Of those screened ($n=1,988$), 47% ($n=930$) were eligible and 81% ($n=754$) of eligible men agreed to participate in the study. The majority of men who were screened and ineligible did not report two or more sex partners in the past year. Among the 754 surveys collected, 51 (7%) were removed from further data analysis as a result of survey responses that did not meet study criteria based on age and number of sex partners.

Those who were eligible were invited to complete a 20–25-min audio computer-assisted survey interview (ACASI) assessing demographic variables (income, education, race, immigration, and employment), racial discrimination, and other related variables assessing health risks (e.g., sexual risk and substance use). The participants were reimbursed US \$35 upon completion of the survey and provided social and health

service referrals. All procedures of this study were approved by the Institutional Review Boards of Boston University Medical Campus and the Centers for Disease Control and Prevention. Additionally, a Federal Certificate of Confidentiality was obtained to provide further protections for study participants.

Measures

Demographic variables assessed included age (categorized as 18–34, 35–44, and 45–65 years of age), national origin (USA and US territories versus outside of the USA), education level (high school education without graduation, having received a high school diploma or GED, or at least some college), employment (full/part-time employment or unemployed), and current homelessness (living on the streets or in a housing shelter). Experiences of racial discrimination were measured by using seven items measuring major life events and everyday experiences of racial discrimination.^{25,26} The items were based on the Everyday Discrimination Scale²⁶ and focused on whether the participants perceived experiencing the following events because of their race: “looked over for a higher position” (mean=2.8; standard deviation (std dev)=1.2); “followed by a security guard or watched by store clerks” (mean=2.6; std dev=1.2); “followed, stopped, or arrested by police more than others” (mean=2.3; std dev=1.1); “house was vandalized” (mean=1.5; std dev=1.0) “someone disrespected me or ignored me because of my race” (mean=2.7; std dev=1.2); “called insulting names related to my skin color or race” (mean=2.7; std dev=1.3); or “was physically attacked or assaulted because of my skin color or race” (mean=2.0; std dev=1.1). Items used a five-item Likert response scale either ranging from “strongly disagree” to “strongly agree” or from “never” to “always/daily.” Each Likert response was recorded as a score of 1 (indicating low reported discrimination) to 5 (indicating a high level of discrimination). Average discrimination scores were calculated for each participant. The scores were dichotomized based on the median discrimination score of the sample (sample median=2.3) and categorized as high discrimination (greater than 2.3) or low discrimination (2.3 or less). The seven items had a Cronbach's alpha ($\alpha=0.81$) indicating reliability of these items. The Everyday Discrimination Scale has shown high levels of internal consistency and validity in the samples of African American men.^{27–29} While most B/AA men likely experience some form of racial discrimination throughout their lives, these items measure men's *perceived* experiences of discrimination.

The following self-reported risky sexual behaviors were measured: selling sex for drugs or money (past 6 months), giving drugs or money for sex (past 6 months), any unprotected vaginal or anal sex with a female partner in the past 90 days, any unprotected anal sex with a male partner in the past 90 days, and the number of sex partners (dichotomized as four or more in the past year versus less than four partners, based on a median split).

Data Analysis

Bivariate associations between discrimination (dichotomized as high or low discrimination) and demographics were evaluated using contingency table analysis; chi-square tests were conducted to assess statistically significant differences. Crude and adjusted logistic regression analyses were used to assess the associations of discrimination (dichotomized) with HIV risk variables (sex trade, unprotected sex, and reporting four or more sex partners). Demographic variables associated with an outcome variable (any sexual risk variable) in bivariate analyses at $p<0.1$ were included in the adjusted regression model for that outcome. Odds ratios and 95 %

confidence intervals were used to assess effect sizes, and significance of associations was measured using Wald chi-square tests.

RESULTS

Demographic Characteristics and Experiences of Racial Discrimination

Three quarters of the sample were 44 years of age or younger. The majority (83 %) were US-born. Slightly more than one fourth of men (28 %) reported having less than a high school education, 62 % were unemployed, and 24 % were homeless in a shelter or on the street (Table 1).

Almost the entire sample (96 %) reported experiencing some type of racial discrimination (not shown in table). Men reporting high discrimination scores (i.e., a discrimination score above the sample median) were more likely to be among the older groups of participants ($\chi^2=25.6$, $df=2$, $p<0.0001$), homeless ($\chi^2=10.1$, $df=1$, $p=0.0015$), have a higher level of education ($\chi^2=13.3$, $df=2$, $p=0.0013$), and to be US-born ($\chi^2=9.2$, $df=1$, $p=0.0024$) compared to men reporting low discrimination scores. Discrimination was not significantly associated with employment in this sample (Table 1).

Crude and Adjusted Findings: the Relevance of Racial Discrimination to HIV Risk Variables

In crude analyses, men reporting high levels of discrimination were significantly more likely to report selling sex for drugs in the past 6 months (OR=2.5, 95 % CI=1.4–4.5), giving drugs or money for sex in the past 6 months (OR=1.9, 95 % CI, 1.3–3.0), having unprotected sex with a female partner (OR=1.4, 95 % CI, 1.1–2.0), and reporting more than four sex partners in the past year (OR=1.4, 95 % CI, 1.1–1.9). These findings remained significant in adjusted analyses (Table 2). Notably, while nativity (i.e., whether or not men reported being born in the USA) was adjusted for in all analyses, the analyses were also conducted that were restricted to those born in the USA; no difference in findings was found.

DISCUSSION

This study is among the first in the public health literature, to our knowledge, to document the association between racial discrimination and HIV risk behaviors specifically among African American men. However, the findings of the current study are in congruence with previous work documenting this link among other populations.^{30–32} The results demonstrate that men who experienced high levels of racial discrimination were significantly more likely than men experiencing less discrimination to report selling sex for drugs in the past 6 months, giving drugs or money for sex in the past 6 months, not using a condom for vaginal sex, and reporting a higher number of sex partners in the past year compared to the sample median.

Our study joins an abundant number of research studies documenting the high prevalence of racial discrimination among African American populations^{1–6,33,34} and builds on an increasing number of studies demonstrating the relation between racial discrimination and health behaviors for African Americans.^{35–38} Our findings are consistent with the existing, but limited, research on this topic area among other

TABLE 1 Demographics and distribution by average discrimination score ($n=703$)

Variable	Total sample ($n=703$)	Average discrimination score ≤ 2.3 ($n=300$) ^a	Average discrimination score > 2.3 ($n=403$) ^a	χ^2 , degrees of freedom (df), p value
	% (n)	% (n)	% (n)	
Age*				
18–34 years	45.7 (321)	55.1 (195)	36.1 (126)	$\chi^2=25.6$ $df=2$ $p<0.0001$
35–44 years	30.4 (214)	24.9 (88)	36.1 (126)	
45–65 years	23.9 (168)	20.1 (71)	27.8 (97)	
Education*				
Less than high school	27.6 (194)	31.9 (113)	23.2 (81)	$\chi^2=13.3$ $df=2$
High school diploma/GED	45.7 (321)	46.9 (166)	44.4 (155)	
Higher education	26.7 (188)	21.2 (75)	32.4 (113)	$p<0.0013$
Place of birth*				
US-born	83.1 (584)	78.8 (279)	87.4 (305)	$\chi^2=9.2$ $df=1$ $p<0.0024$
Born outside of USA	16.9 (119)	21.2 (75)	12.6 (44)	
Current employment				
Employed full/half-time	38.0 (267)	39.0 (138)	37.0 (129)	$\chi^2=0.30$ $df=1$ $p<0.58$
No employment	62.0 (436)	61.0 (216)	63.0 (220)	
Living situation*				
Homeless	24.3 (171)	19.2 (68)	29.5 (103)	$\chi^2=10.1$ $df=1$ $p<0.0015$
Not homeless	75.7 (532)	80.8 (286)	70.5 (246)	

These are all column percentages

GED general educational development

* $p<0.05$, chi-square

^aCategorized by median discrimination score for sample (median score=2.3)

populations; ^{30–32} for example, our findings are parallel with a previous research among Latino gay and bisexual men indicating that men who reported more experiences with racial discrimination also reported more unprotected sex.³² In such previous work, psychological distress has been identified as a possible mechanism driving the relationship between racial discrimination and HIV risk behaviors. More research is needed to further investigate the mechanisms explaining the relation between racial discrimination and HIV risk, particularly among African American men.

While we did not find significant correlations between high levels of experienced racial discrimination and sex with male partners, it is likely that such analyses were limited in statistical power due to small numbers of men reporting these outcomes; future studies are needed among larger samples for future research on this topic. Likely this group of African American men may not only report racial discrimination, but may also be experiencing discrimination or feeling stigmatized based on having relationships with male partners. Given the heightened risk for HIV among African American men who have sex with men, more work is needed to better

TABLE 2 Discrimination and relation to sex trade involvement and other sexual risk factors for HIV (N=703)

Exposure variables	Total sample, % (n)	Average discrimination score ≤2.3 (n=300) % (n)	Average discrimination score >2.3 (n=403) % (n)	Crude odds ratio (OR) (95% CI)	Adjusted OR (95% CI) ^a
Sell sex for drugs or money, past 6 months					
Yes	9.4 (66)	5.3 (16)	12.4 (50)	2.5 (1.4–4.5)*	2.3 (1.3–4.2)*
No	90.6 (637)	94.7 (284)	87.6 (353)	1.0 (referent)	1.0 (referent)
Give drugs or money for sex, past 6 months					
Yes	16.6 (117)	11.7 (35)	20.4 (82)	1.9 (1.3–3.0)*	1.7 (1.1–2.6)*
No	83.4 (586)	88.3 (265)	79.7 (321)	1.0 (referent)	1.0 (referent)
Unprotected sex, with male, 90 days ^b					
Yes	5.4 (38)	4.3 (13)	6.2 (25)	1.2 (0.5–3.4)	1.3 (0.4–3.6)
No	94.6 (665)	95.7 (287)	93.8 (378)	1.0 (referent)	1.0 (referent)
Unprotected sex, with female, 90 days					
Yes	58.5 (411)	53.3 (160)	62.3 (251)	1.4 (1.1–2.0)*	1.4 (1.1–2.0)*
No	41.5 (292)	46.7 (140)	37.7 (152)	1.0 (referent)	1.0 (referent)
Reporting more than 4 sex partners, past 12 months					
Yes	45.8 (322)	49.1 (198)	41.3 (124)	1.4 (1.1–1.9)*	1.4 (1.1–1.9)*
No	54.2 (381)	50.9 (205)	58.7 (176)	1.0 (referent)	1.0 (referent)

This table presents the findings from logistic regression models with the racial discrimination variable as the independent variable and each sexual risk variable as the dependent variable. Separate crude and adjusted models were created for assessing the relation between racial discrimination and each of the five sexual risk variables (a total of five crude and five adjusted models)

* $p < 0.05$, Wald

^aAdjusted for age, education, place of birth, and living situation

^bAnalyses restricted to men who report male partners ($n = 63$)

investigate how various forms of experienced discrimination as well as marginalization are contributing to men's sexual risk behaviors and risk for HIV.

Additionally, current study findings show that men reporting high levels of racial discrimination were more likely to be US-born. Furthermore, research indicates that Black immigrants generally have better health outcomes compared to their US-born counterparts.³⁹ Thus, more work may be needed to examine whether the relation between discrimination and sexual risk behaviors varies by nativity among Black and African American men.

Altogether, our findings underscore the importance of the structural and social context of HIV risk. Contextual factors such as unemployment, housing instability, and incarceration have been documented as risk factors for HIV (via increasing HIV risk behaviors but also directly increasing HIV risk)^{12,40–42} and also rooted in the history of *institutionalized racism*, particularly among African American communities. However, the current study further highlights that individual exposures to *racial discrimination* are also driving HIV risk behaviors among this sample of African American men. Thus, racism (as a structural form of violence) and racial discrimination (as an individually experienced form of violence), together, appear to be significantly driving increased HIV risk among Black and African American communities.

Current study findings must be considered with recognition of several study limitations. In terms of measures, reports of HIV risk behaviors may be under-

estimated; men may feel stigma attached to reporting these behaviors. However, the use of ACASI has been found to reduce reporting biases of stigmatized behaviors such as illicit drug use and sexual practices.^{43,44} Future studies may also want to include clinical outcomes for STI/HIV diagnoses as well. Racial discrimination is also subject to potential measurement issues (e.g., variation in recognition of incidents as discrimination), as described in a previous work examining the relevance of discrimination to health.⁴⁵ Like other forms of violence, reported discrimination is likely highly underestimated, both because it is stigmatizing to report victimization and also individuals sometimes do not recognize or identify certain scenarios or events as discrimination or forms of violence against them. Findings also have limited generalizability due to the Northeastern US clinic-based sample of African American men reporting a current female main partner and two or more sex partners in the past year; however, these findings are applicable to men who are at particular risk for HIV within urban, community-based health center settings. Additionally, as this study included men who were seeking varied types of nonmedical programs at recruitment sites, findings cannot be generalized to those seeking traditional or primary care. Given the geographic population of clientele served, the current study sample was also restricted to communities with similar racial/ethnic and sociodemographic profiles. However, such restriction reduced the risk for confounding by further “controlling” for the influence of sociodemographics in determining the relation between racial discrimination and STI/HIV risk and risk behaviors. While we also adjusted for potential confounders (e.g., age, nativity, and education), there may be unrecognized factors that were not measured and considered in the analyses. Overall, future studies on this topic are needed that employ larger and more diverse samples with greater variation in perceived experiences of discrimination in order to better detect various linkages between experiences of discrimination and HIV risk outcomes.

These limitations notwithstanding, our study has important implications for understanding HIV risk in African American communities and for future HIV prevention efforts as well. The findings of this work document that racial discrimination is associated with high-risk sex behaviors among Black and African American men, including sex trade involvement, unprotected sex, and multiple sex partners. More research is needed, however, to understand better the mechanisms driving this association, as this may improve efforts for intervention and prevention. Nonetheless, the current study demonstrates the need for intervention approaches (particularly those that alter social contexts, e.g., policy-related efforts) that consider racially motivated discrimination as a significant factor contributing to HIV risk among African American communities; such an approach corresponds well to the growing efforts toward structural HIV interventions for minority populations.⁴⁶

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REFERENCES

1. Thompson VL. Racism: perceptions of distress among African Americans. *Community Ment Health J.* 2002; 38(2): 111–118.
2. Klonoff EA, Landrine H. Is skin color a marker for racial discrimination? Explaining the skin color-hypertension relationship. *J Behav Med.* 2000; 23(4): 329–338.

3. Krieger N, Sidney S. Racial discrimination and blood pressure: the CARDIA Study of young black and white adults. *Am J Publ Health*. 1996; 86(10): 1370–1378.
4. Williams DR, Williams-Morris R. Racism and mental health: the African American experience. *Ethn Health*. 2000; 5(3–4): 243–268.
5. Krieger N. Racial and gender discrimination: risk factors for high blood pressure? *Soc Sci Med*. 1990; 30(12): 1273–1281.
6. Reed E, Silverman JG, Ickovics JR, Gupta J, Welles SL, Santana MC, Raj A. Experiences of racial discrimination & relation to violence perpetration and gang involvement among a sample of urban African American men. *J Immig Minor Health*. 2010; 12(3): 319–326.
7. Sellers SL, Bonham V, Neighbors HW, Amell JW. Effects of racial discrimination and health behaviors on mental and physical health of middle-class African American Men. *Health Educ Behav*. 2009; 36(1): 31–44.
8. Taylor TR, Williams CD, Makambi KH, et al. Racial discrimination and breast cancer incidence in US Black women: the Black Women's Health Study. *Am J Epidemiol*. 2007; 166(1): 46–54.
9. Krieger N, Sidney S, Coakley E. Racial discrimination and skin color in the CARDIA study: implications for public health research. *Am J Publ Health*. 1998; 88(9): 1308–1313.
10. Mustillo S, Krieger N, Gunderson EP. Self-reported experiences of racial discrimination and black–white differences in preterm and low-birthweight deliveries: the CARDIA Study. *American J Public Health*. 2004; 94(12): 2125–2131.
11. CDC. Subpopulation estimates from the HIV incidence surveillance system—United States, 2006. *MMWR*. 2008; 57(36):985–989.
12. Hall HI, Song R, Rhodes P, et al. Estimation of HIV incidence in the United States. *J Am Med Assoc*. 2008; 300(5): 520–529.
13. Raj A, Reed E, Santana MC, et al. History of incarceration and gang involvement are associated with recent STD/HIV diagnosis in African American men. *Journal of Acquir Immune Defic Syndr*. 2008; 47(1): 131–134. 1.
14. Adimora AA, Schoenbach VJ, Martinson FE, et al. Heterosexually transmitted HIV infection among African Americans in North Carolina. *JAIDS*. 2006; 41(5): 616–623.
15. Adimora AA, Schoenbach VJ, Doherty IA. HIV and African Americans in the southern United States: sexual networks and social context. *STDs*. 2006; 33(7 Suppl): S39–S45.
16. Adimora AA, Schoenbach VJ. Contextual factors and the black-white disparity in heterosexual HIV transmission. *Epidemiology*. 2002; 13(6): 707–712.
17. Adimora AA, Schoenbach VJ. Social context, sexual networks, and racial disparities in rates of sexually transmitted infections. *J Infect Dis*. 2005; 191(Suppl 1): S115–S122.
18. Zierler S, Krieger N. Reframing women's risk: social inequalities and HIV infection. *Annu Rev Publ Health*. 1997; 18: 401–436.
19. Voisin DM. The relationship between violence exposure and HIV sexual risk behaviors: does gender matter? *Am J Orthopsychiatry*. 2005; 75(4): 497–506.
20. Jewkes R, Dunkle K, Nduna M, et al. Factors associated with HIV sero-status in young rural South African women: connections between intimate partner violence and HIV. *Int J Epidemiol*. 2006; 35(6): 1461–1468.
21. Gielen AC, McDonnell KA, O'Campo P. Intimate partner violence, HIV status and sexual risk reduction. *Aids Behav*. 2002; 6: 107–116.
22. El-Bassel N, Gilbert L, Krishnan S, et al. Partner violence and sexual HIV-risk behaviors among women in an inner-city emergency department. *Violence Vict*. 1998; 13: 377–393.
23. Wingood GM, DiClemente RJ. Child sexual abuse, HIV sexual risk, and gender relations of African-American women. *Am J Prev Med*. 1997; 13: 380–384.
24. Kalichman SC, Williams EA, Cherry C, Belcher L, Nachimson D. Sexual coercion, domestic violence, and negotiating condom use among low-income African-American women. *J Wom Health*. 1998; 7: 371–378.
25. Williams DR, Spencer MS, Jackson JS. Race, stress and physical health: the role of group identity. In: Contrada RJ, Ashmore RD, eds. *Self and identity: fundamental issues*. New York: Oxford University Press; 1999: 71–100.

26. Essed P. *Understanding everyday racism*. Newbury Park: Sage; 1991.
27. Williams DR, Yu Y, Jackson JS, Anderson NB. Racial differences in physical and mental health. *J Health Psychol*. 1997; 2: 335–351.
28. Barnes LL, Mendes De Leon CF, Wilson RS, Bienias JL, Bennett DA, Evans DA. Racial differences in perceived discrimination in a community population of older blacks and whites. *J Aging Health*. 2004; 16: 315–337.
29. Taylor TR, Kamarck TW, Shiffman S. Validation of the Detroit area study discrimination scale in a community sample of older African American adults: the Pittsburgh Healthy Heart Project. *Int J Behav Med*. 2004; 11: 88–94.
30. Yoshikawa H, Wilson PA, Chae DH, Cheng JF. Do family and friendship networks protect against the influence of discrimination on mental health and HIV risk among Asian and Pacific Islander gay men? *AIDS Educ Prev*. 2004; 16(1): 84–100.
31. Chae DH, Yoshikawa H. Perceived group devaluation, depression, and HIV risk behavior among Asian gay men. *Health Psychol*. 2008; 27(2): 140–148.
32. Diaz RM, Ayala G, Bein E. Sexual risk as an outcome of social oppression: data from a probability sample of Latino gay men in three U.S. cities. *Cult Divers Ethnic Minor Psychol*. 2004; 10(3): 255–267.
33. Landrine H, Klonoff EA. The schedule of racist events: a measure of racial discrimination and a study of its negative physical and mental health consequences. *J Black Psychol*. 1996; 22(2): 144–168.
34. Landrine H, Klonoff EA. Racial discrimination and cigarette smoking among Blacks: findings from two studies. *Ethn Dis*. 2000; 10(2): 195–202.
35. Mays VM, Cochran SD, Barnes NW. Race, race-based discrimination, and health outcomes among African Americans. *Annu Rev Psychol*. 2007; 58: 201–225. doi:10.1146/annurev.psych.57.102904.190212.
36. Williams DR, Neighbors HW, Jackson JS. Racial/ethnic discrimination and health: findings from community studies. *Am J Publ Health*. 2008; 98(S1): S29–S37.
37. Bennett GG, Wolin KY, Robinson EL, Fowler S, Edwards CL. Perceived racial/ethnic harassment and tobacco use among African American young adults. *Am J Publ Health*. 2005; 95(2): 238–240.
38. Gibbons FX, Gerrard M, Cleveland MJ, Wills TA, Brody G. Perceived discrimination and substance use in African American parents and their children: a panel study. *J Pers Soc Psychol*. 2004; 86(4): 517–529.
39. Hamilton TG, Hummer RA. Immigration and the health of U.S. black adults: does country of origin matter? *Soc Sci Med*. 2011; 73(10): 1551–1560.
40. Aidala AA, Cross JE, Stall R, Harre D, Sumartojo E. Housing status and HIV risk behaviors: implications for prevention and policy. *Aids Behav*. 2005; 9(3): 251–265.
41. Allen DM, Lehman JS, Green TA, Lindegren ML, Onorato IM, Forrester W. HIV infection among homeless adults and runaway youth, United States, 1989–1992. Field services branch. *AIDS*. 1994; 8(11): 1593–1598.
42. Culhane DP, Gollub E, Kuhn R, Shpaner M. The co-occurrence of AIDS and homelessness: results from the integration of administrative databases for AIDS surveillance and public shelter utilisation in Philadelphia. *J Epidemiol Community*. 2001; 55(7): 515–520.
43. Simoes AA, Bastos FI, Moreira RI, Lynch KG, Metzger DS. A randomized trial of audio computer and in-person interview to assess HIV risk among drug and alcohol users in Rio De Janeiro, Brazil. *J Subst Abuse Treat*. 2006; 30(3): 237–243.
44. Rogers SM, Willis G, Al-Tayyib A, et al. Audio computer assisted interviewing to measure HIV risk behaviours in a clinic population. *Sex Transm Infect*. 2005; 81(6): 501–507.
45. Krieger N. Discrimination and health. In: Berkman L, Kavooh I, eds. *Social epidemiology*. New York: Oxford University Press; 2000: 36–75.
46. National HIV/AIDS strategy. 2011. Website found at: <http://www.aids.gov/federal-resources/policies/national-hiv-aids-strategy/>. Accessed April 24, 2011.