

HIV and Sexually Transmitted Infection Risk Behaviors and Beliefs Among Black West Indian Immigrants and US-Born Blacks

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Black West Indian immigrants (hereafter West Indian immigrants) from the countries of the English-speaking Caribbean basin^{1,2} represent more than 20% of New York City's foreign-born population and more than one quarter of its Black population.^{3,4} Among Black New Yorkers newly diagnosed with HIV/AIDS, 23% are foreign born, and of these individuals, 50% originate from the Caribbean.⁵ Despite the size and significance of this immigrant group, little is known about these individuals' HIV and sexually transmitted infection (STI) risk and protective behaviors, which may differ considerably from those of US-born populations. If effective sexual health interventions are to be targeted toward Black populations of different national origins, a better understanding of the sexual and drug-use risk behaviors of these groups is necessary.

Characteristics associated with West Indians' migration experiences, including conditions in their countries of origin, may increase this immigrant group's risk of HIV and other STIs. The Caribbean region has the highest HIV prevalence in the Americas, approximately 2% among adults.^{6,7} Transnational ties among West Indian immigrants are strong, and circular migration and bidirectional travel, which may be associated with sexual mixing, are common.^{8,9}

Gender inequalities, which are prominent in West Indian societies, may promote conditions of risk; traditional relationship norms support early sexual initiation and multiple partnerships for men but restrict power in sexual relationships for women.^{10–12} Violence against women is socially tolerated and only recently has been proscribed in the legal system.^{13–15} Open discussion of sexual matters between adults and children and between men and women is discouraged,¹⁶ and homosexuality is highly stigmatized.¹²

Objectives. We compared Black West Indian immigrants' and US-born Blacks' sexual and drug-use risk behaviors and their beliefs related to using condoms and informing partners of sexually transmitted infections (STIs) to identify possible differences in risk.

Methods. We drew data from the baseline assessment of a clinic-based intervention designed to increase partner STI notification.

Results. Black West Indian men were less likely than were US-born Black men to report nonregular partners. There were no differences in condom use. US-born Black women were more likely than were Black West Indian women to be extremely confident that they could convince their regular partners to use condoms (odds ratio [OR]=2.40; 95% confidence interval [CI]=1.21, 4.76), whereas there were no differences between Black West Indian and US-born Black men on this measure (interaction $P=.06$). US-born Black women were more likely than were Black West Indian women to be extremely confident in their ability to discuss STI screening with their regular partners (OR=1.89; 95% CI=1.03, 3.47).

Conclusions. Black West Indian women's lower levels of confidence that they can discuss STI screening with their regular partners and convince these partners to use condoms may increase their infection risk. Gender-sensitive interventions are warranted for Black West Indian immigrants, especially women. (*Am J Public Health.* 2008;98:2042–2050. doi:10.2105/AJPH.2006.106443)

By contrast, other factors may decrease West Indian immigrants' risk of STIs, although evidence regarding such factors is limited. As an example, West Indian women frequently migrate on their own, and they participate in the workforce in high numbers in both their home countries and the United States.^{10,17} Their level of participation is especially high relative to other immigrant women in New York City.³ Thus, because economic independence may foster greater power in sexual relationships,¹⁸ West Indian women's higher workforce participation may increase their level of control in their sexual relationships with men. Alternately, undocumented, single immigrant women who are employed in personal and household service positions may be particularly dependent on men and may have limited power in their sexual relationships.

In addition, West Indian immigrants rank higher on various economic indicators than does the US-born New York City population as

a whole.³ It has been shown (in comparisons unadjusted for age) that West Indians are more likely to be homeowners and employed and less likely to be living in poverty than US-born New Yorkers; by contrast, their median incomes are lower and they are more likely to live in women-headed households.³

Although many West Indian immigrants prosper economically after their arrival in New York City, in other cases, these immigrants' life trajectories are influenced by the same social factors that affect the experiences of US-born Blacks. Examples of such factors are exposure to racial discrimination and to the potential for social and economic marginalization,^{19,20} with their attendant risk of engaging in sexual acts for money or other needs, intimate partner violence, and drug and alcohol abuse.^{21,22} Reflective of these processes is the fact that West Indian immigrants in New York City often live in racially segregated Black neighborhoods¹⁹ and in

neighborhoods in which HIV prevalence rates are among the highest in the city.²³

The goal of our study was to determine whether West Indian immigrant and US-born Black STI clinic attendees differed with respect to their sexual and drug-use risk behaviors and their self-efficacy, attitudes, and intentions related to condom use and partner STI notification. We hypothesized that West Indian women would have fewer casual or 1-time partners but would less frequently engage in protected sexual intercourse than would US-born Black women and that there would be no differences in sexual risk behaviors between US-born Black men and West Indian men.

In addition, because West Indian norms discourage open discussion of sex between men and women, we expected that West Indians would not be as confident as US-born Blacks in their ability to discuss STI screening and condom use with their partners and would have less favorable attitudes toward doing so. We predicted that longer length of residence in the United States and younger age at arrival in the United States would increase West Indians' comfort in discussing these issues. We did not expect differences in drug-use behaviors between the 2 groups.

METHODS

Participants

Data were drawn from the baseline assessment of a randomized study, conducted between January 2002 and December 2004, examining the effectiveness of an intervention intended to improve STI partner notification (the study has been described in detail elsewhere²⁴). The sample from this study provided a unique opportunity to gain an understanding of the sexual and drug-use risk behaviors and beliefs of West Indian immigrants recruited from 2 public STI clinics in Brooklyn, NY, and to compare these behaviors with those of US-born Blacks recruited from the same clinics.

Potentially eligible participants were 18 years or older, had been sexually active within the preceding 2 months, and had been referred by a provider as having probable *Chlamydia trachomatis* or *Neisseria gonorrhoeae* genital infection. A total of 783 participants

met these criteria. We compared in our analyses 587 participants who, in addition to self-identifying as Black, identified themselves either (1) as West Indian or Caribbean and as being foreign born or (2) as African American and as being US born.

Measures

Trained interviewers used standardized measures to conduct structured in-person assessments in the following areas: sexual risk behaviors; self-efficacy, attitudes, and intentions related to condom use and informing partners of STIs; and substance use.

Sexual risk behaviors. Participants' sexual behaviors in the preceding 90 days were assessed in terms of total number and gender of partners; whether they had had any regular ("someone with whom you have had an ongoing relationship and who you have sex with often—like a spouse, lover, or boyfriend or girlfriend"), casual ("someone with whom you have sex occasionally"), or 1-time ("someone you have had sex with 1 time and whom you don't plan to have sex with again") sexual partners; and frequency of condom use during vaginal and anal intercourse with each type of partner (always, almost always, sometimes, or never; dichotomized into never vs at least sometimes). Participants were also asked to provide detailed information, including gender and length of relationship, on up to 5 of their most recent sexual partners (in the preceding 90 days).

Self-efficacy, attitudes, and intentions. Participants were asked to indicate, for each type of partner reported (regular, casual, 1 time), their overall level of confidence that in the next 90 days they could convince these partners to use a condom, the extent to which they felt favorably or unfavorably about always using a condom with these partners, and how likely or unlikely it was that they would always use a condom with these partners.²⁵ Responses were made on 7-point scales ranging from extremely confident, favorable, or likely to extremely unconfident, unfavorable, or unlikely.

Partner notification beliefs were ascertained separately for each of the participants' 5 most recent partners. Participants were asked to imagine that their doctor or other health care provider wanted them to tell this

partner that he or she needed to undergo STI screening and to indicate (1) how confident they were that they could bring up the topic, (2) how confident they were that they could convince this partner to undergo STI screening, (3) the extent to which they felt favorably or unfavorably about talking to this partner about being screened, and (4) the likelihood that they would notify this partner about STI screening. Again, responses were made on 7-point scales ranging from extremely confident, favorable, or likely to extremely unconfident, unfavorable, or unlikely. For each participant, we calculated a mean value across all reported partners of each type (regular, casual, 1 time).

Because self-efficacy, attitude, and intention scores for both condom use and STI partner notification were highly skewed, we used the Mann–Whitney test, stratified by gender, to compare US-born Blacks and West Indians. Then we dichotomized responses into "extremely" (i.e., a score of 7) versus all other categories and conducted the χ^2 test to assess associations. Comparisons from the Mann–Whitney test were consistent with comparisons from the χ^2 test. We report results from analyses in which the dichotomized variables were used (i.e., "extremely" vs all other categories).

Substance use. Alcohol use was measured with the Alcohol Use Disorders Identification Test (AUDIT).²⁶ Participants were asked to indicate how often they consumed alcohol and how often they had experienced problems related to alcohol use. AUDIT scores of 8 and above indicate a likelihood of harmful alcohol consumption. Participants' history of use of marijuana and other illegal drugs (e.g., heroin, crack, cocaine, methamphetamines, inhalants, street methadone, any injected drug) was ascertained, as well as their frequency of use of these drugs over the preceding 90 days.

Statistical Analyses

We used the χ^2 test, the Fisher exact test, the *t* test, and the Mann–Whitney test, as appropriate (with the α level set at .05), to compare West Indian and US-born Black women and men with respect to demographic characteristics and sexual and drug-use risk behaviors. We used linear regression (for continuous measures) and binary logistic regression (for

dichotomous measures) to assess main effects of ethnicity (US-born Black vs West Indian), after we controlled for gender, on demographic characteristics, risk behaviors, and condom use and partner notification variables, as well as to assess interactions between gender and ethnicity and any of these factors. (α levels were set at .05 for main effects and .10 for interactions). We evaluated whether mean length of relationship (for regular and casual partners only), educational level, and income level altered the associations between ethnicity and each outcome.

In analyses among West Indians only, we used binary logistic regression to assess the effects of length of residence in the United States and age at arrival on self-efficacy, attitudes, and intentions related to condom use and informing partners of STIs. Length of residence in the United States was categorized as less than 5 years, 5 to 9 years, or 10 or more years; age at arrival was categorized as less than 12 years, 12 to 18 years, 19 to 24 years, or 25 years or older. We also estimated models including uncategorized measures of length of residence in the United States and age at arrival.

RESULTS

Table 1 shows the demographic characteristics of the 2 groups, stratified according to gender. The mean age of West Indian and US-born Black participants did not differ. Educational levels were significantly lower among West Indian women and men than among US-born Black women and men. A higher percentage of West Indian women than US-born Black women was living with a partner (33.1% vs 22.0%; $P=.06$). There were no significant interactions between ethnicity, gender, and the demographic variables.

Risk Behaviors

Table 2 presents a comparison of West Indian and US-born Black men and women with respect to sexual and drug-use risk behaviors. Substantial percentages (above 40%) of both groups reported a history of STIs. West Indian men were less likely than were US-born Black men to report casual (43.0% vs 55.8%; $P=.02$) and 1-time (32.5% vs

43.0%; $P=.04$) partners, and West Indian women were less likely than were US-born Black women to report 1-time partners (8.8% vs 18.0%; $P=.04$).

There were no significant differences between West Indian and US-born Black women and men in reported frequency of condom use during vaginal intercourse with any type of partner or in reports of partners refusing to use condoms; however, US-born Black men were more likely than were West Indian men to report that they had decided to forgo sexual intercourse because a condom was not available. West Indians were less likely than were US-born Blacks to report anal intercourse, even when same-gender encounters were excluded (data not shown). West Indian women were more likely than were US-born Black women to report using condoms during anal intercourse, whereas there were no differences between the 2 groups of men (interaction $P=.09$).

West Indian men were less likely than were US-born Black men to have ever used drugs other than marijuana (Table 2). There were no differences between West Indians and US-born Blacks with respect to reported frequency of alcohol or marijuana use or mean AUDIT score.

Controls for income and education did not alter any of the results shown in Table 2 with the exception of the association between ethnicity and engaging in sexual acts for drugs, food, or money. The adjusted odds ratio (OR) for engaging in sexual acts for drugs, food, or money among US-born Blacks (vs West Indians) was 4.31 (95% confidence interval [CI]=1.13, 16.44).

Condom Use Self-Efficacy, Attitudes, and Intentions

Table 3 displays results for self-efficacy, attitudes, and intentions related to condom use, with each measure treated as an outcome. Shown are the percentages of participants scoring extremely high on each measure for each partner type, by gender and ethnicity. ORs relating ethnicity to outcomes, after control for gender, are shown if no interaction was observed. When the interaction between gender, ethnicity, and the outcome measure was significant, ORs for ethnicity are reported separately for men and women. Models included controls

for relationship length when that variable altered the estimate. Because the addition of income level and educational level did not materially alter the results, models did not include controls for these variables.

US-born Blacks were more likely than were West Indians to be extremely favorable toward always using condoms with their regular partners in the subsequent 90 days (OR=1.59; 95% CI=1.07, 2.35) and to report that they would be extremely likely to always do so (OR=1.45; 95% CI=0.99, 2.12; Table 3). A significant interaction was found between gender, ethnicity, and confidence in one's ability to convince one's regular partners to use condoms. This interaction indicated that US-born Black women were more likely than were West Indian women to be extremely confident in their ability to convince their partners to use a condom (OR=2.40; 95% CI=1.21, 4.76), whereas there were no differences between the 2 groups of men (OR=1.02; 95% CI=0.59, 1.77; interaction $P=.06$). Controls for mean length of relationship did not alter these associations.

In contrast to the findings for regular partners, US-born Black women were less likely than were West Indian women to report being extremely likely to always use condoms with their casual partners in the subsequent 90 days (OR=0.15; 95% CI=0.03, 0.78), a difference not found among men (interaction $P=.07$; Table 3). There were no significant differences in the case of 1-time partners.

Partner Notification Self-Efficacy, Attitudes, and Intentions

Table 4 displays results for self-efficacy, attitudes, and intentions related to partner notification of an STI. US-born Blacks were more likely than were West Indians to report being extremely likely to inform their regular partners that they had an STI (OR=1.60; 95% CI=0.96, 2.63; Table 4). US-born Black women were more likely than were West Indian women to be extremely confident that they could discuss STI screening with their regular partners (OR=1.89, 95% CI=1.03, 3.47); there were no differences between the 2 groups of men (interaction $P=.10$).

We found similar interactions between gender, ethnicity, and (1) a high level of confidence

TABLE 1—Demographic Characteristics of Black West Indian Immigrants and US-Born Blacks Attending Sexually Transmitted Infection (STI) Clinics: New York City, January 2002–December 2004

	Black Women			Black Men		
	West Indian	US Born	<i>P</i> ^a	West Indian	US Born	<i>P</i> ^a
Total, No.	136	100		151	200	
Age, y, mean (SD)	24.5 (5.16)	24.8 (6.67)	.70	28.0 (7.69)	28.1 (8.19)	.99
Income, \$, No. (%)			.32			.54
<18 000	103 (83.1)	71 (74.7)		82 (56.9)	98 (53.8)	
18 000–36 000	17 (13.7)	19 (20.0)		48 (33.3)	59 (32.4)	
>36 000	4 (3.2)	5 (5.3)		14 (9.7)	25 (13.7)	
Highest education level, No. (%)			.04			<.01
Junior high school (8th grade) or less	7 (5.1)	1 (1.0)		10 (6.6)	2 (1.0)	
High school diploma or less	104 (76.5)	69 (69.0)		109 (72.2)	129 (64.8)	
Some college or college degree	25 (18.4)	30 (30.0)		32 (21.2)	68 (34.2)	
No. of people in household, mean (SD)	2.3 (1.4)	2.2 (1.4)	.68	2.3 (1.6)	2.1 (1.4)	.29
Living with partner or spouse, No. (%)	45 (33.1)	22 (22.0)	.06	42 (27.8)	48 (24.1)	.43
Length of residence in the United States, y, No. (%)						.11 ^b
<1	6 (4.4)			4 (2.7)		
1–4	48 (35.3)			36 (24.0)		
5–9	34 (25.0)			40 (26.7)		
≥10	48 (35.3)			70 (46.7)		

Note. There were no significant interactions between gender or ethnicity and any demographic variable.

^aWithin-gender comparison of ethnic groups (Pearson χ^2 test or *t* test).

^bComparison of Black West Indian men and women (χ^2 test).

on the part of participants that they could convince their regular partners to undergo STI screening and (2) an extremely positive attitude toward talking to their regular partners about STI screening. These interactions indicate that West Indian women were less likely than were US-born Black women to have high scores on these measures, whereas there were no differences between US-born Black men and West Indian men (Table 4).

US-born Black women were less likely than were West Indian women to have an extremely favorable attitude toward discussing STI screening with casual partners (OR=0.12; 95% CI=0.03, 0.42); there were no differences between men in the 2 groups (interaction *P*=.01 after control for length of relationship; Table 4). US-born Blacks were less likely than were West Indians to be extremely confident that they could convince 1-time partners to undergo STI screening (OR=0.33; 95% CI=0.16, 0.69) or to have an extremely favorable attitude toward discussing STI screening with 1-time partners (OR=0.45; 95% CI=0.22, 0.93); no significant interactions were found.

Finally, analyses of data from West Indian immigrants only showed that there were no significant associations between length of residence in the United States or age at arrival and any of the condom use or partner notification variables (data not shown).

DISCUSSION

A large body of research indicates that immigrants to the United States, regardless of their race or ethnicity, have an advantage over native-born Americans across diverse health behaviors and outcomes; however, this advantage declines as length of residence in the United States and degree of acculturation increase.^{27–33} Less is known about the HIV-related risk behaviors of immigrants than about other aspects of their mental and physical health, and most of the literature pertains to Mexican immigrants residing in the southwestern United States.^{21,34–37} Moreover, scant information exists on the HIV-related risk profiles of Black immigrants,³² who are indistinguishable from US-born Blacks with respect to public health

indicators. In contrast to a substantial literature demonstrating that the behaviors of immigrants, including Black immigrants, are healthier than those of US-born populations, we found a mixed pattern in regard to sexual health behaviors and beliefs.

In our study, West Indians scored lower than did US-born Blacks on measures assessing key cognitions relevant to condom use. West Indians had less favorable attitudes toward using condoms with their regular partners and were less likely to intend to always use condoms with these partners in the future; such favorable attitudes toward condom use and intentions to use condoms are important predictors of actual use.³⁸

As expected, we also found that gender had varied effects in the 2 groups. West Indian women were not as likely as US-born Black women to be confident that they could convince their regular partners to use condoms, whereas there were no differences in the confidence levels of West Indian men and US-born Black men.

We found a similar pattern with respect to whether participants would notify their partner

TABLE 2—Sexual Risk Behaviors and Drug and Alcohol Use Among Black West Indian Immigrants and US-Born Blacks Attending Sexually Transmitted Infection (STI) Clinics: New York City, January 2002–December 2004

	Black Women			Black Men		
	West Indian	US Born	<i>P</i> ^a	West Indian	US Born	<i>P</i> ^a
Total, No.	136	100		151	200	
STI history, No. (%)						
Ever had an STI	59 (43.4)	54 (54.0)	.11	65 (43.0)	87 (43.5)	.93
Underwent an HIV test	125 (91.9)	91 (91.0)	.80	132 (87.4)	173 (86.5)	.80
HIV positive ^b	0 (0.0)	2 (3.1)	.15 ^c	2 (1.9)	5 (4.0)	.46 ^c
Sexual behavior in past 90 days						
5 or more partners, No. (%)	0 (0)	4 (4.0)	.03 ^c	13 (8.6)	29 (14.5)	.10
No. of partners in past 90 days, median (range)	1 (1–4)	1 (1–7)	.22	2 (1–10)	2 (1–21)	.02
Had regular partner(s), No. (%)	126 (92.6)	89 (89.0)	.33	128 (84.8)	156 (78.0)	.11
Length of relationship with regular partner(s), mo, mean (SD)	35.4 (47.2)	38.3 (88.6)	.76	37.0 (50.9)	38.5 (69.2)	.85
Had vaginal intercourse with regular partner(s), No. (%)	126 (100.0)	87 (97.8)	.17 ^c	126 (98.4)	151 (96.8)	.46 ^c
Frequency of condom use during vaginal intercourse with regular partner(s), No. (%)			.77			.77
Never	64 (50.8)	46 (52.9)		59 (46.8)	68 (45.0)	
At least sometimes	62 (49.2)	41 (47.1)		67 (53.2)	83 (55.0)	
Had casual partner(s), No. (%)	27 (19.9)	29 (29.0)	.10	65 (43.0)	111 (55.8)	.02
Length of relationship with casual partner(s), mo, mean (SD)	11.0 (47.2)	20.9 (27.7)	.10	13.9 (18.5)	19.8 (30.8)	.11
Had vaginal intercourse with casual partner(s), No. (%)	26 (96.3)	27 (93.1)	≥.99 ^c	64 (98.5)	103 (92.8)	.16 ^c
Frequency of condom use during vaginal intercourse with casual partner(s), No. (%)			.22			.71
Never	4 (15.4)	8 (29.6)		12 (18.8)	17 (16.5)	
At least sometimes	22 (84.6)	19 (70.4)		52 (81.3)	86 (83.5)	
Had 1-time partner(s), No. (%)	12 (8.8)	18 (18.0)	.04	49 (32.5)	86 (43.0)	.04
Had vaginal intercourse with 1-time partner(s), No. (%)	12 (100.0)	15 (83.3)	.26 ^c	45 (91.8)	70 (81.4)	.10
Frequency of condom use during vaginal intercourse with 1-time partner(s), No. (%) ^d			≥.99 ^c			.11
Never	7 (58.3)	9 (60.0)		30 (66.7)	56 (80.0)	
At least sometimes	5 (41.7)	6 (40.0)		15 (33.3)	14 (20.0)	
Had anal intercourse with any partner, No. (%)	7 (5.1)	12 (12.0)	.06	22 (14.6)	51 (25.5)	.01
Frequency of condom use during anal intercourse with any partner(s), No. (%)			.02 ^c			.37
Never	1 (14.3)	9 (75.0)		10 (45.5)	29 (56.9)	
At least sometimes	6 (85.7)	3 (25.0)		12 (54.5)	22 (43.1)	
Asked a partner to use condom, No. (%)	82 (60.3)	51 (51.0)	.16	60 (39.7)	86 (43.2)	.51
Partner(s) refused to use condom when asked, No. (%)	33 (40.2)	16 (31.4)	.30	14 (23.3)	21 (24.4)	.88
Decided not to have sex because condom was not available or partner did not want to use a condom, No. (%) ^e	31 (22.8)	23 (23.0)	.97	39 (25.8)	79 (39.9)	.01
Given or received sexual acts for drugs, food, or money, No. (%)	0 (0.0)	3 (3.0)	.08 ^c	5 (3.3)	10 (5.0)	.43
Drug- and alcohol-use behaviors						
Used marijuana in past 90 days, No. (%)	30 (54.5)	21 (51.2)	.75	75 (74.3)	112 (73.7)	.92
Used drugs other than marijuana in past 90 days, No. (%)	0 (0.0)	1 (1.0)	.42 ^c	1 (0.7)	11 (5.5)	.01
Alcoholism scale score, mean (SD)	1.83 (1.5)	2.37 (2.7)	.19	3.21 (3.1)	3.92 (3.6)	.13
Alcohol use frequency, No. (%)			.41			.14
Never	78 (57.8)	50 (50.0)		49 (32.5)	61 (30.5)	
1–3 times monthly	45 (33.3)	37 (37.0)		63 (41.7)	72 (36.0)	
Once a week	9 (6.7)	9 (9.0)		25 (16.6)	27 (13.5)	
Several times weekly	3 (2.2)	2 (2.0)		11 (7.3)	29 (14.5)	
Daily	0 (0.0)	2 (2.0)			11 (5.5)	

^aComparison of ethnic groups, stratified by gender (χ^2 test, Mann-Whitney test, *t* test, or Fisher exact test, as appropriate).

^bAs a result of missing data, sample sizes were 65, 103, 126, and 103.

^cFrom Fisher exact test because of small sample sizes.

^dSignificant interaction (*P* = .09) between gender and ethnicity.

^eAs a result of missing data, sample sizes were 198 and 151 for men.

TABLE 3—Self-Efficacy, Attitudes, and Intentions Relating to Condom Use With Partners Among Black West Indian Immigrants and US-Born Blacks Attending Sexually Transmitted Infection Clinics: New York City, January 2002–December 2004

	Women		Men		Overall Ethnicity, ^b OR ^c (95% CI)	Interaction P	Ethnicity ^c	
	No. (%)	P ^a	No. (%)	P ^a			Women, OR (95% CI)	Men, OR (95% CI)
Regular partners^d								
Extremely confident in ability to convince partners to use condoms		.01		.94				
Black West Indians	87 (69.0)		98 (76.6)				Reference	Reference
US-born Blacks	75 (84.3)		120 (76.9)			2.40 (1.21, 4.76)	1.02 (0.59, 1.77)	
Extremely favorable toward always using condoms with partners		.02		.31				
Black West Indians	83 (65.9)		83 (64.8)		Reference			
US-born Blacks	72 (80.9)		110 (70.5)		1.59 (1.07, 2.35)			
Extremely likely to always use condoms with partners		.42		.42				
Black West Indians	80 (63.5)		82 (64.1)		Reference			
US-born Blacks	68 (76.4)		107 (68.6)		1.45 (0.99, 2.12)			
Casual partners^e								
Extremely confident in ability to convince partners to use condoms		.27		.70				
Black West Indians	25 (92.6)		58 (89.2)		Reference			
US-born Blacks	24 (82.8)		101 (91.0)		0.88 (0.37, 2.11)			
Extremely favorable toward always using condoms with partners		.16		.80				
Black West Indians	25 (92.6)		59 (90.8)		Reference			
US-born Blacks	23 (79.3)		102 (91.9)		0.75 (0.30, 1.86)			
Extremely likely to always use condoms with partners		.01		.69				
Black West Indians	25 (92.6)		57 (87.7)			Reference	Reference	
US-born Blacks	19 (65.5)		95 (85.6)			0.15 (0.03, 0.78)	0.83 (0.34, 2.07)	
One-time partners^f								
Extremely confident in ability to convince partners to use condoms		.66		.10				
Black West Indians	10 (83.3)		47 (95.9)		Reference			
US-born Blacks	16 (88.9)		75 (87.2)		0.49 (0.15, 1.57)			
Extremely favorable toward always using condoms with partners		.66		.91				
Black West Indians	10 (83.3)		48 (98.0)		Reference			
US-born Blacks	16 (88.9)		84 (97.7)		1.22 (0.26, 5.88)			
Extremely likely to always use condoms with partners		.58		.44				
Black West Indians	9 (75.0)		48 (98.0)		Reference			
US-born Blacks	15 (83.3)		82 (95.3)		0.91 (0.24, 3.38)			

Note. OR=odds ratio; CI=confidence interval.

^aBetween-group comparison (χ^2).

^bOdds of being extremely confident, favorable, or likely versus not confident, favorable, or likely in comparisons of US-born Blacks (coded 1) and Black West Indians (coded 0) after we had controlled for gender. Each row represents a separate model. Estimates are not shown in cases of a significant interaction.

^cORs are shown when the interaction between gender, ethnicity, and the outcome measure was significant at $P \leq .10$.

^dSample sizes were as follows: 89 US-born Black women, 126 Black West Indian women, 156 US-born Black men, 128 Black West Indian men.

^eSample sizes were as follows: 29 US-born Black women, 27 Black West Indian women, 111 US-born Black men, 65 Black West Indian men.

^fSample sizes were as follows: 18 US-born Black women, 12 Black West Indian women, 86 US-born Black men, 49 Black West Indian men.

that they had an STI, which is an important factor in STI control.³⁹ Overall, West Indians were not as likely as were US-born Blacks to indicate that they would notify their regular partners that they had an STI. Furthermore, West Indian women had lower scores than did US-born Black women on 3 measures related to STI notification with regular partners: confidence that they could discuss STI screening

with their regular partners, a favorable attitude toward discussing STI screening with their regular partners, and confidence that they could convince their regular partners to undergo STI screening.

In contrast to our finding of greater vulnerability among West Indian immigrants, especially women, in relation to self-efficacy, attitudes, and intentions to use condoms and

notify regular partners of STIs, West Indians had lower risk scores than did US-born Blacks on some behavioral measures. West Indians reported fewer nonregular partners than did US-born Blacks, a finding we had expected among women but not among men, and rates of use of illicit drugs other than marijuana were lower among West Indian men than among US-born Black men.

TABLE 4—Self-Efficacy, Attitudes, and Intentions Relating to Partner Notification Among Black West Indian Immigrants and US-Born Blacks Attending Sexually Transmitted Infection (STI) Clinics: New York City, January 2002–December 2004

	Women		Men		Overall Ethnicity, OR ^b (95% CI)	Interaction P	Ethnicity ^c	
	No. (%)	P ^a	No. (%)	P ^a			Women, OR (95% CI)	Men, OR (95% CI)
Regular partners^d								
Extremely confident in ability to discuss STI screening with partners		.17		.04				
Black West Indians	92 (73.0)		105 (82.7)				Reference	Reference
US-born Blacks	73 (81.1)		111 (72.1)				1.59 (0.82, 3.07)	0.54 (0.30, 0.97)
Extremely confident in ability to convince partners to undergo STI screening		.04		.71				
Black West Indians	80 (63.5)		110 (86.6)				Reference	Reference
US-born Blacks	69 (76.7)		131 (85.1)				1.89 (1.03, 3.47)	0.88 (0.45, 1.73)
Extremely favorable toward discussing STI screening with partners		.15		.16				
Black West Indians	90 (71.4)		111 (87.4)				Reference	Reference
US-born Blacks	72 (80.0)		125 (81.2)				1.60 (0.84, 3.05)	0.62 (0.32, 1.20)
Extremely likely to notify partners to undergo STI screening		.05		.55				
Black West Indians	94 (74.6)		110 (86.6)		Reference			
US-born Blacks	77 (85.6)		137 (89.0)		1.60 (0.97, 2.63)			
Casual partners^e								
Extremely confident in ability to discuss STI screening with partners		.28		.84				
Black West Indians	16 (59.3)		45 (68.2)		Reference			
US-born Blacks	13 (44.8)		76 (66.7)		0.79 (0.45, 1.38)			
Extremely confident in ability to convince partners to undergo STI screening		.06		.61				
Black West Indians	16 (59.3)		49 (74.2)		Reference			
US-born Blacks	10 (34.5)		80 (70.2)		0.62 (0.35, 1.12)			
Extremely favorable toward discussing STI screening with partners		.001		.88				
Black West Indians	20 (74.1)		47 (71.2)				Reference	Reference
US-born Blacks	9 (31.0)		80 (70.2)				0.12 (0.03, 0.42)	0.95 (0.48, 1.86)
Extremely likely to notify partners to undergo STI screening		.26		.40				
Black West Indians	18 (66.7)		51 (77.3)		Reference			
US-born Blacks	15 (51.7)		94 (82.5)		0.99 (0.53, 1.86)			
One-time partners^f								
Extremely confident in ability to discuss STI screening with partners		.65		.18				
Black West Indians	7 (58.3)		35 (74.5)		Reference			
US-born Blacks	9 (50.0)		53 (63.1)		0.61 (0.31, 1.23)			
Extremely confident in ability to convince partners to undergo STI screening		.46		.004				
Black West Indians	7 (58.3)		38 (80.9)		Reference			
US-born Blacks	7 (38.9)		47 (56.0)		0.33 (0.16, 0.69)			
Extremely favorable toward discussing STI screening with partners		.46		.05				
Black West Indians	6 (50.0)		37 (78.7)		Reference			
US-born Blacks	6 (33.3)		52 (61.9)		0.45 (0.22, 0.93)			
Extremely likely to notify partners to undergo STI screening		.71		.30				
Black West Indians	6 (50.0)		38 (80.9)		Reference			
US-born Blacks	11 (61.1)		60 (71.4)		0.76 (0.36, 1.57)			

Note. OR = odds ratio; CI = confidence interval. Sample sizes (listed in footnotes c–e) reflect the numbers of participants responding to items on regular, casual, and 1-time partners and vary slightly from those reporting regular, casual, or 1-time partners (Table 2).

^aBetween-group comparison (χ^2).

^bOdds of being extremely confident, favorable, or likely versus not confident, favorable, or likely in comparisons of US-born Blacks (coded 1) and Black West Indians (coded 0) after we controlled for gender and, in casual partner models only, length of relationship. Each row represents a separate model. Estimates are not shown in cases of a significant interaction.

^cORs (with control for length of relationship in casual partner models) are shown when the interaction between gender, ethnicity, and the outcome measure was significant at $P \leq .10$.

^dSample sizes were as follows: 90 US-born Black women, 126 Black West Indian women, 154 US-born Black men, 127 Black West Indian men.

^eSample sizes were as follows: 29 US-born Black women, 27 Black West Indian women, 114 US-born Black men, 66 Black West Indian men.

^fSample sizes were as follows: 18 US-born Black women, 12 Black West Indian women, 84 US-born Black men, 47 Black West Indian men.

These findings are similar to those of studies showing lower sexual and alcohol-use risk behaviors among Latino immigrants.^{21,34–36} Notably, however, there were no differences in rates of condom use during vaginal intercourse between West Indian and US-born Black women or men (counter to our expectation for women); rates were low among all of these STI clinic attendees.

If our participants' reports are factual, West Indian immigrants' reduced likelihood of having any casual or 1-time partners may place them at lower risk of exposure to HIV or other STIs than US-born Blacks. However, their low levels of condom use place both West Indians and US-born Blacks at risk of infection if they are exposed to an infected partner.

It might seem puzzling that US-born Blacks did not report higher levels of condom use with their regular partners, which would have been consistent with their more favorable condom-related beliefs. Although reporting bias could account for this result, a better explanation is that these beliefs were assessed in relation to future behavior, and having just been diagnosed with an STI is a powerful motivator for behavior change. Thus, West Indian men and women had less favorable attitudes toward condom use and weaker intentions to use them with regular partners in the future than did US-born Blacks in the same circumstances. Moreover, newly diagnosed West Indian women were less confident than newly diagnosed US-born Black women in their ability to convince their regular partners to use condoms.

Another puzzling finding was that West Indian immigrants scored more positively than US-born Blacks on some protective beliefs in relation to casual and 1-time partners, in contrast to their lower scores on these measures in relation to regular partners. Given that the number of women reporting nonregular partners was low (and therefore estimates might be unstable), we have less confidence in our findings for casual and 1-time partners than in our findings for regular partners.

Limitations

One limitation of this study is that our measures of attitudes and behaviors regarding condom use did not account for gender inequality in control over condom use. Although both men and women may need to convince their

partners that a condom should be used in a sexual encounter, there are important differences between a man convincing his partner that a condom should be used and a woman doing so. These differences could have affected comparisons between women and men, but it is not likely that they altered the results of the comparisons of women in the 2 ethnic groups. Similarly, our failure to find differences in self-efficacy, attitudes, and intentions to use condoms and notify partners of STIs according to length of residence in the United States or age at migration may reflect the fact that these indicators of acculturation are crude.⁴⁰

Because a sample of individuals with probable STI selects for higher-risk individuals, it is not possible to draw inferences from our data concerning the larger population of West Indian immigrants and US-born Blacks. It is notable, therefore, that despite the "equalizing" effect of selection of individuals who had an STI from both the West Indian and US-born Black groups, we found between-group differences in behaviors as well as perceptions related to protective behaviors.

Conclusions

Our findings suggest that (with respect to our STI clinic population) West Indian immigrants, especially men, may be at lower risk of exposure to HIV and other STIs than US-born Blacks because they are less likely to have casual or 1-time partners. Yet, West Indian immigrants, especially women, may be at higher risk of STI infection if exposed by a regular partner, because West Indian women are less confident in their ability to convince regular partners to use a condom and undergo STI screening.

Even though West Indian women may have relatively more economic power than do immigrant women from other regions, norms supporting gendered power inequalities in relationships may constrain them from talking to their regular partners about condom use and notifying their partners of their STI diagnosis and the need for testing. West Indian men's perceptions regarding these behaviors, which are less favorable in some cases than those of US-born Black men, may also influence risk in regular partnerships. Thus, in situations in which they have partners who engage in risky behaviors or do not inform them if they have an STI, West Indian women seem

to lack the requisite attitudes and skills to alter patterns of risky behavior within their relationships or to respond to such behaviors.

Overall, our findings highlight significant heterogeneity among Black populations that typically is masked as a result of the use of broad racial/ethnic categories in public health research. Future studies are needed to assess the validity of these findings in representative samples and to rule out reporting bias as a possible explanation for the differences we found. In-depth research needs to focus on sociocultural and sociostructural factors, including educational level, upbringing in one's country of origin, migration experiences, and postmigration life circumstances that may explain the reluctance of West Indian immigrant women to discuss condom use and STI screening with their regular partners.

We urge public health officials and researchers to carefully assess place of birth in routine public health data and in detailed surveys of Black populations so that they can gain a better understanding of HIV- and STI-related risks among all Black immigrants. Moreover, to address the challenges that West Indian women face in talking to their regular partners about condom use and STI screening, there is an urgent need for interventions that target gender norms and behaviors among West Indian immigrants. ■

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Contributors

S. Hoffman conceptualized and oversaw analyses and wrote and edited the article. S. T. Beckford Jarrett helped conceptualize analyses and contributed to the data analysis and the writing of the article. E. A. Kelvin conducted the data analyses and contributed to the writing of the article. S. A. Wallace contributed to the writing of the article. M. Augenbraun, M. Hogben, N. Liddon, W. M. McCormack, and S. Rubin contributed substantially to the parent study conception and to the writing of the article. M. Augenbraun, W. M. McCormack, and S. Rubin contributed to study implementation. T. E. Wilson designed the parent study, oversaw all aspects of its implementation, and contributed to the writing of the article.

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