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HIV TESTING AMONG SEXUALLY EXPERIENCED ASIAN AND PACIFIC ISLANDER YOUNG WOMEN:

Association With Routine Gynecologic Care

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Abstract

Purpose—To describe the proportion of HIV testing in the past 12 months among sexually experienced Asian and Pacific Islander (API) women and to investigate to what extent routine gynecologic care (RGC) increases HIV testing among API women.

Methods—Data were derived from Wave III of the National Longitudinal Study of Adolescent Health (Add Health). Analyses were limited to 7,576 sexually experienced women (White, $n = 4,482$ [68.5%]; Black, $n = 1,693$ [25.6%]; Hispanic, $n = 923$ [13.9%]; API, $n = 478$ [7.2%]) aged 18–27 years. Multiple logistic regression analyses were used to estimate the association between RGC and HIV testing after controlling for predisposing, need, and enabling factors.

Findings—On average, 22.8% ($n = 1,504$) of sexually experienced women reported HIV testing in the past year. API women had the lowest proportion of testing (17.2%), and Black women had the highest (26.2%). Overall, 60.2% of API women reported receiving RGC; however, only 15.5% of API who received RGC reported HIV testing. After controlling for covariates, significantly positive associations were found for White, Black, and Hispanic women between RGC and HIV testing; however, there was no evidence that RGC was associated with HIV testing among API women.

Conclusion—Our data suggest that RGC does not increase HIV testing among API women. To eliminate disparities in HIV testing service utilization among API women, appropriate efforts should be directed to better understand the barriers and facilitators of HIV testing among this population.

Introduction

In the United States, the number of HIV/AIDS cases among Asians and Pacific Islanders (APIs) is growing at a staggering rate despite the fact that the number of HIV/AIDS cases among APIs is low (Centers for Disease Control and Prevention [CDC], 2008c). According to the CDC, the number of AIDS cases reported for API between 2003 and 2007 increased by 23.5%. Conversely, the number of AIDS cases reported for the same period decreased for all other groups (rates for African Americans decreased 10.6%, Hispanic 4.1%, White 5.9%, and American Indian/Alaskan Native 14.6%). The number of HIV/AIDS cases reported between 2004 and 2007 increased at a much higher percentage for APIs (44.3%) than for any other group (rates for African Americans increased 11.6%, Hispanic 21.0%, White 15.9%, and American Indian/Alaskan Native 28.8%; CDC, 2008c).

In addition to the implication of race and ethnicity for HIV infection, also alarming is the rapidly increasing rates of HIV/AIDS infection among women. At least half of all new HIV infections occur among young women, with heterosexual transmission being the most common mode of transmission for women in the United States (CDC, 1986, 2007). This is particularly true for API women, as 80% of all HIV transmissions are attributed to heterosexual transmission, compared with that of White (65%), Black (74%), and Hispanic women (69%; CDC, 2007). The high transmission of HIV infection among heterosexual API women suggests that infection occurs with both casual and long-term intimate partners. API women tend to have monogamous relationships it seems that they do not suspect exposure or infection. Consequently, they do not get tested for HIV until prompted by pregnancy or illness (Chin, Durvasula, & Wyatt, 1997).

The concern about the increased risk of HIV infection among API women is also supported by the increased incidence of sexually transmitted infections (STIs) among this population. Because STIs are often an antecedent, or marker, for HIV infection, unusual prevalence of STIs should be closely scrutinized within the context of HIV/AIDS (CDC, 2006a). Chlamydia rates for 15- to 24-year-old API females alone increased by 32.9% in 1998 (CDC, 1999). Between 1999 to 2003, the number of gonorrhea cases among API women increased by 21.1%. This was the highest increase when compared with Hispanic, White, Black, and American Indians (CDC, 2004). Between 2000 and 2004, while the rate of syphilis among African American women and White women decreased, syphilis diagnoses increased among API females from 0.1 to 0.2 cases per 100,000 (CDC, 2005).

Considering the evidence of increased vulnerability to HIV/AIDS infection among API women, we are in urgent need a better mechanism to reduce the increased risk of HIV/AIDS infection in this population. One of the most powerful tools in the fight against the global HIV/AIDS crisis has been the identification of one's HIV status as at least one in four HIV-positive individuals in the United States is unaware of their HIV status (CDC, 2003). HIV testing is an integral part of HIV prevention among young women because 1) women are tested less often than men (Das, Huengsberg, & Radcliffe, 2004); 2) women who test HIV positive report a reduction in risky sexual behaviors (Exner, Hoffman, Parikh, Leu, & Ehrhardt, 2002; Higgins et al., 1991); 3) an accurate understanding of HIV status can help prevent mother to child transmission during pregnancy and delivery; and 4) women with

HIV-positive serostatus are less likely to utilize services than men with HIV-positive serostatus (Hellinger, 1993). These factors may contribute to the gender disparity that exists in survival time from the onset of AIDS to death (Lamping & Mercey, 1996).

Despite the need for better understanding of the contextual factors of HIV testing among API women, the majority of HIV testing studies conducted for APIs has targeted API men who have sex with other men (MSM; Choi, Yep, & Kumekawa, 1998) and only one published study focuses specifically on non-MSM API (Huang, Wong, De Leon, & Park, 2008). In general, studies have document that APIs are significantly less likely than other groups to have been tested for HIV in the past 12 months despite the fact that there is a similar proportion of HIV risk between APIs and other racial/ethnic groups (Zaidi et al., 2005). According to Huang et al. (2008), the prevalence of HIV testing among Southeast Asians (Cambodian, Laotian, and Vietnamese) who are non-MSM men was 31%. Huang et al. (2008) indicated this prevalence was lower than other regional and national HIV testing statistics among other ethnic/racial groups as well as API MSM. Although this study examined HIV testing behaviors among non-MSM APIs, it was geographically confined to the Washington, DC, area, in which HIV/AIDS is disproportionately higher than any other region in the United States (CDC, 2008b). To overcome the pitfalls of previous study designs, our study utilizes a nationally representative sample of young women from the National Longitudinal Study of Adolescent Health (Add Health). We use the behavioral model of health services use (Andersen, 1995; Anderson & Bartkus, 1973) to determine which factors (predisposing, need, and enabling factors) are associated with HIV testing among API women. We focus on young API women, aged 18–27 years for several reasons. First, among API women, this age range comprises the largest number of recent HIV/AIDS diagnoses (CDC, 2007). Second, previous research documents that API women under age 30 display differences in psychosocial factors including family cohesion, ethnic identity, and social desirability when compared with API women over age 30 (Yip, Gee, & Takeuchi, 2008). Third, this is the age range of the population in Add Health in Wave III.

The Role of Routine Gynecologic Care in HIV Testing

Routine gynecologic care (RGC) is a particularly important factor in promoting HIV testing. Gynecologists have an unparalleled role in promoting HIV prevention strategies in their daily clinical practices (CDC, 2006b). During this era in which ethnic minority women are the fastest growing subgroup of new HIV diagnoses in the United States (CDC, 2008a), gynecologists play an integral role in HIV/AIDS prevention, often serving as the primary care physician for many reproductive aged women (Clark, Lampe, & Jamieson, 2008). According to national survey results from 7,300 U.S. physicians, OB/GYNs provided statistically significant higher rates of HIV testing to both pregnant, as well as non-pregnant women, when compared with all other physicians (25.6% vs 34.3% among non-pregnant women, 30.2% vs 81.4% among pregnant women; St. Lawrence et al., 2002). This evidence suggests that gynecologic care can act as the front line of HIV testing, diagnosis, and implementation of strategies for early disease treatment and prevention among women (CDC, 2006b).

Recognizing the roles of physicians in promoting HIV testing in health care facilities, the CDC published updated guidelines for HIV testing in September 2006, calling for routine testing in health care settings of all adolescents and adults aged 13–64, regardless of risk factors. Yet, there is insufficient research on the relationship between RGC and HIV testing to support the need for such recommendations. Furthermore, little research examines whether a particular ethnic/racial group has a stronger or weaker association between RGC and HIV testing. This is a concern because prior research revealed that API women had lower RGC rates than other ethnicities (Hiatt et al., 1996; McPhee & Nguyen, 2000).

Building on previous literature, we hypothesize that 1) the proportion of HIV testing is significantly lower among API young women compared with White, Black, and Hispanic women; and 2) RGC is not associated with HIV testing among API young women. However, RGC is significantly associated with HIV testing among White, Black, and Hispanic women. The results of this study raise new concerns and intriguing questions about uncovering specific barriers and facilitators of HIV testing among API women in the context of RGC.

Methods

Add Health Data and Sample

Data for this study were derived from Wave III of the National Longitudinal Study of Adolescent Health (Add Health). Detailed information about sampling design and methods are available on the Add Health website (Harris et al., 2003).

Add Health is a prospective, cohort study composed of a nationally representative sample of approximately 20,000 U.S. adolescents, followed through young adulthood on issues concerning general health, sexual health behaviors, and mental health. There are three data sets available in Add Health: Wave I (1994–1995), Wave II (1995–1996), and Wave III (2001–2002). For Wave III, original respondents from Wave I were located and subsequently re-interviewed when they were between 18 and 27 years old.

The original study participants were targeted from grades 7–12 in selected schools. Add Health employed regional stratification as well as a clustered sampling design, in which the primary sampling unit was the school. Weighted oversampling by design yielded population-based estimates. For Wave III, post-stratification sampling weights were calculated to account for persons non-responsive or lost to follow-up. The survey instrument used audio computer-assisted interviewing technology to help address concerns regarding sensitive questionnaire content, including sexuality, HIV/STIs, and substance use.

Our study sample was restricted to 7,576 young adult females (White, $n = 4,482$; Black, $n = 1,693$; Latina, $n = 923$; API, $n = 478$) who responded “Yes” to the following question: “Have you ever had sexual intercourse? Vaginal intercourse is when a man inserts his penis into a woman’s vagina.”

Measure of Outcome Variable

Self-reported HIV testing in the past 12 months was coded as “yes” or “no.”

Measures of Independent Variables

Predisposing factors—Age was measured in years. Race was measured by self-identification. Birth status was dichotomized to U.S. born versus foreign born. English use with family was coded when participants answered as “only English” when asked, “What language do you use most with your family and close relatives?”

Need Factors

Having more than one sex partner—Participants were asked how many different partners they had vaginal intercourse with in the past 12 months.

Early sexual debut—Participants were asked if they had sex before the age of 15. This was coded as “yes” or “no.”

Perceived HIV risk—Participants were asked, “What do you think are the chances that each of the following things will happen to you?—You will get HIV or AIDS.” Responses were on an ordinal scale from 1 (no chance) to 5 (almost certain). For this study, equal chance (3), good chance (4), and almost certain (5) were recoded to a single category (equal chance to almost certain) because of the small number of responses in the good chance and almost certain range.

Enabling Factors

Insurance coverage—Participants were asked about their insurance status. Responses were coded as private (through parent, spouse, work, union, school, active duty military, self), public (Medicaid), and no insurance.

Past Health Care Utilization

RGC—“When was the last time you had a gynecologic or pelvic examination?” Those who answered this question as “within 12 months” were categorized as having had RGC. We define RGC based on a previous study (Kaiser Family Foundation, 2006).

Ever seen a doctor due to suspicion of STD or HIV?—Responses to “Have you ever gone to see a doctor or nurse because you thought you might have a sexually transmitted disease or HIV?” Responses were coded as “yes” or “no.”

Statistical Analyses

Stata 9.0 was used for all analyses. Stata survey procedures were used to account for population weights, clustered sampling design, and regional stratification. All reported estimates were weighted according to the population-based sampling weights. Chi-square tests were used to analyze the associations between HIV testing and selected characteristics among the total sample as well as each race group. Multiple logistic regression analyses were used to estimate the association between RGC and HIV testing in the past 12 months after controlling for individual factors, perceived HIV risk, sexual risk behaviors, and insurance status.

Results

Sample Characteristics

Table 1 describes demographic characteristics of sexually experienced young adult API, White, Black, and Hispanic females. The majority of the sample was White (68.5%); 25.6% were Black and 13.9% were Hispanic, and 7.2% were API. Forty-one percent of API young women reported that they were not born in the United States; 71.3% of APIs reported that they spoke only English at home. The majority of respondents (87.6%) did not think that they were at risk for acquiring HIV/AIDS. Similar to young White women, only 2.3% of API women perceived that they had an “equal to almost certain chance” of acquiring HIV/AIDS. Approximately 12% reported that they had sex before the age of 15. In terms of insurance status, young API women reported the highest proportion of private insurance (77.2%), and the lowest rates of both Medicaid (5.0%) and uninsured status (16.5%).

For past health care utilization, API women reported the lowest proportion of having seen a doctor for HIV/STI suspicion (19.3%), compared with White (21.2%), Black (34.7%), and Hispanic (22.2%) women ($p = .001$). Approximately 74.1% of women reported that they had RGC in the past 12 months. A notably high rate of Black women reported use of RGC in the past 12 months (81.8%), whereas API women reported the lowest proportion of RGC in the same time period (60.2%). With regard to HIV testing in the past 12 months, 22.8% of women reported that they had done so. Again, API women had the lowest proportion of HIV testing (17.2%) compared with White (22.1%), Black (26.2%), and Hispanic (20.3%) women.

Proportion of HIV Testing by Selected Characteristics and Ethnic/Racial Groups

Table 2 presents the characteristics of those who were tested for HIV in the past 12 months by racial group. It is noteworthy that the relationship between some of these selected characteristics and HIV testing among API women show different patterns from other ethnic/racial groups. Unlike other ethnic/racial groups, a substantially lower proportion (5.0%) of API women who perceived they had an “equal chance to almost certain of getting HIV,” reported receiving HIV testing (White 34.3%, Black 23.4%, Hispanic 43.4%; $p < .001$). Among API women who perceived “some chance” of having HIV, approximately 40% received HIV testing. This pattern contrasts sharply with White and Hispanic women who, having perceived an equal to almost certain chance of contracting HIV, were more likely to receive HIV testing (34.3% and 43.4%, respectively). Among API women who reported seeing a doctor for a suspected HIV/STI, only 26.8% had HIV testing, whereas other ethnic/racial groups showed a consistently higher proportion of HIV testing (White 34.2%, Black 38.0%, and Hispanic 29.9%). In terms of the relationship between RGC and HIV testing for API women, only 15.5% who had received RGC in the past 12 months had been tested for HIV, compared with 5.1% who did not.

Lack of Independent Influence of RGC on HIV Testing among API Women When Using Multivariate Analyses

In Table 3, multiple logistic regression models examined the correlates of HIV testing in the past 12 months, both in the overall sample and separately for each racial group. Our

particular interest was whether RGC is associated with HIV testing behaviors among API women, and whether or not this association has similar patterns with other ethnic/racial groups. Covariates included in the model were predisposing, need, and enabling factors.

As we had hypothesized, there was no evidence that RGC increases HIV testing among API (odds ratio [OR], = 1.85; 95% confidence interval [CI], 0.64–5.38). However, the association between RGC and HIV testing was significant among White (OR, 2.76; 95% CI, 1.99–3.87), Black (OR, 2.77; 95% CI, 1.40–5.48), and Hispanic women (OR, 2.73; 95% CI, 1.16–6.39). Thus, these results suggest that the association between RGC and HIV testing was weakest among API when compared with White, Black, and Hispanic young women.

Discussion

This study yielded two principal findings concerning differences in proportion of testing behaviors among sexually experienced women and racial disparities in testing behaviors and their association with RGC.

API Women Reported the Lowest HIV Testing Proportion When Compared With White, Black, and Hispanic Women

The data suggest that the proportion of sexually experienced API women who have been tested for HIV was lowest (17.2%) when compared with Black (26.2%), White (22.1%), and Hispanic women (20.3%; $p = .001$). When compared with the nationwide proportion of HIV testing behavior (48%) of the U.S. general population aged 18 and over (Kaiser Family Foundation, 2006), these proportions of HIV testing behavior among sexually experienced young women were substantially lower.

This disparity in HIV testing among API women indicates that the need for HIV testing among API women does not correspond with their patterns of utilization of HIV testing, as demonstrated in our data. First, our data show that API women's HIV risk perception is not any lower than that of White women. For instance, the percent of API women who perceived having "equal chance or almost certain" HIV risk was similar to that of Whites (2.3%). However, only 5% of these API women who perceived having "equal chance or almost certain" sought HIV testing. This is substantially lower than White (34.3%), Black (23.4%), and Hispanic (43.4%) women. These data underscore that these individuals are reluctant to seek HIV testing services, even when they are at risk and in need of HIV testing. These API individuals' HIV risk perceptions do not necessarily translate into risk management or service utilization behaviors (Obermeyer & Osborn, 2007). The gap between public health needs for HIV testing and service utilization should be understood. It is important to note that lower HIV testing utilization among APIs does not seem to be explained by health insurance status or language difficulties. Our data showed that API women had the highest proportion of private insurance while having the lowest proportion of uninsurance. In addition, 71% of API women spoke only English at home.

What explains this disconnect between the public health needs for HIV testing and the actual low utilization of HIV testing among API women? Although our data do not allow us to test this hypothesis, the most compelling explanation may be stigma.

The source of stigma related to HIV testing may in part stem from Asian-specific cultural context. In the Asian collectivist nature of cultural context, there is a strong tendency for avoidance of communication regarding highly personal information including sexuality, sexual activities, and gynecologic issues because the individual's behaviors are viewed and judged in the context of his or her family and community (Yoshioka & Schustack, 2001). Therefore, in this cultural context, disclosure of HIV/AIDS status may bring a potentially higher degree of stigma and shame on individuals with HIV/AIDS, and those people may possibly face higher levels of family intolerance and rejection compared with people from an individualistic cultural context in which each individual is viewed as a separate and independent entity (Kim, Atkinson, & Umemoto, 2001). This may be the reason why APIs have particularly low utilization patterns of stigmatized services, such as HIV related services and mental health services, as opposed to medical service utilization (Abe-Kim et al., 2007). A study by Pounds, Conviser, Ashman, & Bourassa (2002) shows that among people with HIV/AIDS enrolled at the Ryan White Comprehensive AIDS Resources Emergency (CARE) program, a relatively high proportion of APIs were found with advanced stages of HIV and were more likely to enroll later into the CARE program. In comparison, a recent study shows that there was no significant difference in cholesterol level testing among APIs when compared with White, Black, Hispanic, and other ethnic groups on the West Coast (Snyder, Cunningham, Nakazono, & Hays, 2000). These results further suggest a selective approach to health service utilization based on the level of stigma attached.

The Weakest Association Between Routine Medical Care/RGC and HIV Testing is Among API Women

Our multivariate analyses demonstrate that RGC among White, Black, and Hispanic women was significantly associated with more HIV testing, but not for the API group. The magnitude of the relationship between RGC and HIV testing was also similar among White, Black, and Hispanic women (OR for White 2.76, Black 2.77, and Hispanic 2.73). These findings have several important implications. This may mean that physicians might not effectively encourage API women who come for regular checkups to get tested for HIV. Evidence shows that U.S. physicians were less likely to order HIV testing among APIs (Maldonado, 1999). API women may not fully take advantage of their gynecologic care as an HIV prevention method. Evidence indicates that APIs report shame and display avoidance about disclosing highly private information (Yep, Merrigan, Matin, Lovaas, & Cetron, 2002–2003), and they are also less likely to discuss health care issues with their health professional (Pounds et al., 2002). API women also have lower awareness about HIV transmission/prognosis and reproductive health issues compared with other racial groups (Siegel, Lazarus, Krasnovsky, Durbin, & Chesney, 1991; Yi, 1998); this may partially explain their low prevalence of RGC in our data (API 60.2%, White 82.8%, Black 81.9%, Hispanic 68.7%). Furthermore, compared with Blacks and Hispanics, APIs are significantly less satisfied with physicians' primary care performance and with the providers' degree of emphasis on preventing illness and promoting good health (Murray-Garcia, Selby, Schmittiel, Grumbach, & Quesenberry, 2000). Finally, it is important that we consider this finding in the context of reduced sample sizes after stratification, and indeed the API sample in Add Health constitutes the smallest of the four subgroups under consideration ($n = 440$).

However, the available sample of API offers greater than 80% power to detect odds ratios of 2.3 or larger. Because observed effect sizes in the other subgroups were of this size or larger, we believe that a type II error is a possible, although not probable, explanation for our finding. Type II error refers to an incorrect failure to reject the null hypothesis (failure to achieve statistical significance) even though the null hypothesis is false (even though the true odds ratio is different from 1.0). Smaller sample sizes increase the probability of a type II error.

The limitations of this study include a lack of additional information in Add Health, including contextual information such as stigma related to HIV/AIDS and other sociocultural factors including passive sense of fatalism (Braun & Browne, 1998; Nemoto, Aoki, Huang, & Ching, 1998). Second, Add Health did not include questions regarding how individuals failed to receive HIV testing. Specifically, failure to receive HIV testing may result from either “opting out” when testing was offered, or not being offered HIV testing at all. Thus, from the Add Health data, it was not possible to distinguish between those who opted out and those who were not offered testing. Understanding the explicit reasons for failing to receive HIV testing is important to further understand the specific barriers and facilitators of HIV testing. Third, we did not disaggregate our samples by ethnic subgroups because cell sizes become scattered. In Add Health, although Koreans represented the highest rates of HIV testing among APIs (23.1%), the proportional differences were not statistically significant among API groups, suggesting that future studies should investigate possibly higher HIV risk behaviors among particular ethnic groups among APIs. Future research should also investigate Pacific Islanders separately because this group shows high injection drug use (Kim & Jackson, 2008) and injection drug use is highly correlated with HIV/AIDS (CDC, 2008c). Fourth, our outcome variable of HIV testing was based on self-report. Using self-report data on HIV testing can be less than ideal owing to possible measurement error stemming from participants’ faulty memory recollections or bias (Weinhardt, Forsyth, Carey, Jaworski, & Durant, 1998). Therefore, we may have underestimated HIV testing prevalence.

Despite these limitations, our findings may provide significant contributions to an area of limited research. We found that the proportion of HIV testing was lowest among API women, and the weakest association between RGC and HIV testing was observed among API women. These findings suggest potentially useful avenues for medical practice, health care policy, and health care research.

First, gynecologists should pay more attention to API women to effectively encourage routine HIV testing in this population. Research shows that practitioners base their decision on how strongly to recommend HIV testing on the practitioner’s perceived risks of exposure (Troccoli et al., 2002). Given the notion of APIs as a “model minority” (Osajima, 1988), coupled with APIs’ previously mentioned reticence regarding highly sensitive information (Yep et al., 2002–2003), practitioners may not perceive a high HIV risk for their API patients. Particular emphasis should also be placed on the importance of HIV testing for those API patients who choose to “opt out” of HIV testing.

Second, more culturally appropriate educational tools should be disseminated to increase the awareness of the importance of HIV testing during RGC in the API community. A recent study demonstrated that culturally appropriate patient education material was reported as the most helpful HIV testing material among prenatal care providers (Troccoli et al., 2002).

Finally, future research should also attempt to define the impact of culture-specific factors (e.g., stigma, passive sense of fatalism) that may prevent API women from receiving routine HIV testing (Braun & Browne, 1998; Hiatt et al., 1996). This may also help to clarify the prevalence of low HIV testing rates among women, and may eventually reduce the disparity in HIV testing among API women.

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Table 1
Demographic characteristics of sexually experienced women in Wave III (2001) of the National Longitudinal Study of Adolescent Health

Factors	Total (<i>n</i> = 7,576), <i>n</i> (%) or mean (SD)	API (<i>n</i> = 478) <i>n</i> (%) or mean (SD)	White (<i>n</i> = 4,482) <i>n</i> (%) or mean (SD)	Black (<i>n</i> = 1,693) <i>n</i> (%) or mean (SD)	Hispanic (<i>n</i> = 923) <i>n</i> (%) or mean (SD)	Cross-racial <i>p</i> value
Predisposing						
Age	22.0 (1.7)	22.4 (1.6)	21.9 (1.8)	21.9 (1.7)	22.4 (1.6)	NS
U.S. born						
Yes	6,150 (92.8%)	282 (59.0%)	4,267 (95.2%)	1,642 (97.0%)	710 (77.0%)	.001
No	1,426 (7.2%)	196 (41.0%)	215 (4.8%)	51 (3.0%)	213 (23.0%)	
Only English use at home						
Yes	6,028 (91.0%)	341 (71.3%)	4,109 (91.7%)	1,656 (97.8%)	480 (52.0%)	.001
No	599 (9.0%)	137 (28.7%)	373 (8.3%)	37 (2.2%)	443 (48.0%)	
Need						
Number of sex partners in the past 12 months	1.5 (1.6)	1.4 (1.4)	1.5 (1.5)	1.7 (1.9)	1.3 (1.0)	.001
Had sex before age 15						
Yes	1,169 (17.6%)	56 (11.7%)	781 (17.4%)	352 (20.8%)	137 (14.8%)	.005
No	5,458 (82.4%)	422 (88.3%)	3,701 (82.6%)	1,341 (79.2%)	786 (85.2%)	
Perceived HIV risk						
Equal chance or almost certain	165 (2.5%)	11 (2.3%)	102 (2.3%)	54 (3.2%)	27 (2.9%)	.001
Some chance	646 (9.8%)	47 (9.9%)	433 (9.7%)	168 (10.1%)	75 (8.3%)	
No chance	5,751 (87.6%)	418 (87.8%)	3,909 (88.0%)	1,446 (86.7%)	807 (88.8%)	
Enabling						
Insurance status						
Private insurance						
Yes	4,499 (67.9%)	369 (77.2%)	3,102 (69.2%)	1,048 (61.9%)	597 (64.7%)	.001
No	2,128 (32.1%)	109 (22.8%)	1,380 (30.8%)	645 (38.1%)	326 (35.3%)	
Medicaid						
Yes	720 (10.9%)	24 (5.0%)	374 (8.3%)	326 (19.3%)	85 (9.2%)	.001
No	5,907 (89.1%)	454 (95.0%)	4,108 (91.7%)	1,367 (80.7%)	838 (90.8%)	
Uninsured						
Yes	1,343 (20.3%)	79 (16.5%)	964 (21.5%)	299 (17.7%)	299 (24.8%)	.001

Factors	Total (<i>n</i> = 7,576), <i>n</i> (%) or mean (SD)	API (<i>n</i> = 478), <i>n</i> (%) or mean (SD)	White (<i>n</i> = 4,482), <i>n</i> (%) or mean (SD)	Black (<i>n</i> = 1,693), <i>n</i> (%) or mean (SD)	Hispanic (<i>n</i> = 923), <i>n</i> (%) or mean (SD)	Cross-racial <i>p</i> value
Past health care						
Have gone to doctor for HIV/STI suspicion						
Yes	1,613 (24.4%)	92 (19.3%)	947 (21.2%)	584 (34.7%)	205 (22.2%)	.001
No	4,991 (75.6%)	384 (80.7%)	3,525 (78.8%)	1,097 (65.3%)	717 (77.8%)	
RGC in the past 12 months						
Yes	5,597 (74.1%)	359 (60.2%)	3,709 (72.8%)	1,545 (81.8%)	730 (68.7%)	.001
No	1,961 (26.0%)	237 (39.8%)	1,385 (27.2%)	343 (18.2%)	333 (31.3%)	
HIV testing behaviors in the past 12 months						
Yes	1,504 (22.8%)	82 (17.2%)	918 (22.1%)	441 (26.2%)	187 (20.3%)	.001
No	5,081 (77.2%)	394 (82.8%)	3,467 (77.9%)	1,241 (73.8%)	734 (79.7%)	

Table 2

Weighted means and percentages of sexually experienced women in Wave III (2001) of the National Longitudinal Study of Adolescent Health who received HIV testing in the past 12 months, by explanatory variables

Factors	Total (<i>n</i> = 7,576) % or mean (SD)	API (<i>n</i> = 478) % or mean (SD)	White (<i>n</i> = 4,482) % or mean (SD)	Black (<i>n</i> = 1,693) % or mean (SD)	Hispanic (<i>n</i> = 923) % or mean (SD)	Cross-racial <i>p</i> value
Predisposing						
Age	21.9 (1.7)	22.5 (1.5)	21.9 (1.7)	22.0 (1.7)	22.2 (1.7)	NS
U.S. born						
Yes	23.0%	18.0%	22.2%	26.0%	24.0%	.003
No	15.4%	10.6%	15.9%	26.6%	9.4%	
<i>p</i>	.020	NS	NS	NS	< .001	
Only English use at home						
Yes	23.1%	16.8%	22.5%	26.2%	25.0%	.001
No	13.9%	10.5%	12.3%	17.8%	15.1%	
<i>p</i>	.005	NS	.008	.030	.040	
Need						
No. of sex partners in past 12 months	1.8 (1.5)	1.9 (2.0)	1.8 (1.9)	1.8 (1.6)	1.4 (1.3)	< .001
Had sex before age 15						
Yes	27.0%	24.7%	25.9%	30.2%	27.2%	< .001
No	21.5%	13.2%	21.1%	24.8%	19.3%	
<i>p</i>	.001	NS	.010	NS	NS	
Perceived HIV risk						
Equal chance or almost certain	30.8%	5.0%	34.3%	23.4%	43.4%	< .001
Some chance	27.1%	39.0%	26.9%	23.8%	22.5%	
No chance	21.9%	12.4%	21.2%	26.4%	19.7%	
<i>p</i>	.020	.030	.007	NS	NS	
Enabling						
Insurance status						
Private insurance						
Yes	21.7%	13.7%	20.9%	26.6%	21.3%	.030
No	24.3%	17.8%	24.3%	25.3%	19.7%	

Factors	Total (<i>n</i> = 7,576) % or mean (SD)	API (<i>n</i> = 478) % or mean (SD)	White (<i>n</i> = 4,482) % or mean (SD)	Black (<i>n</i> = 1,693) % or mean (SD)	Hispanic (<i>n</i> = 923) % or mean (SD)	Cross-racial <i>p</i> value
<i>p</i>	NS	NS	.050	NS	NS	
Medicaid						
Yes	32.5%	30.1%	36.7%	25.8%	34.8%	< .001
No	21.4%	13.5%	20.7%	26.1%	18.9%	
<i>p</i>	< .001	NS	< .001	NS	.004	
Uninsured						
Yes	20.8%	15.2%	20.3%	15.4%	13.2%	.010
No	23.1%	13.2%	22.4%	22.9%	15.2%	
<i>p</i>	NS	NS	NS	NS	NS	
Past health care						
Ever gone to doctor for HIV/STI suspicion						
Yes	35.1%	26.8%	34.2%	38.0%	29.9%	< .001
No	18.7%	11.7%	18.7%	20.1%	17.7%	
<i>p</i>	< .001	NS	< .001	< .001	.020	
RGC in past 12 months						
Yes	24.6%	15.5%	24.1%	27.3%	23.2%	< .001
No	7.9%	5.1%	8.0%	8.8%	6.0%	
<i>p</i>	< .001	.020	.001	.001	.001	

The *p*-values within each factor represent comparisons of proportions of HIV testing between the levels of the factor.

Table 3

Odds ratios and confidence intervals among sexually experienced women in Wave III (2001) of the National Longitudinal Study of Adolescent Health

Factors	Total (<i>n</i> = 5,692) adjusted OR (95% CI)	API (<i>n</i> = 400) adjusted OR (95% CI)	White (<i>n</i> = 3,899) adjusted OR (95% CI)	Black (<i>n</i> = 1414) adjusted OR (95% CI)	Hispanic (<i>n</i> = 781) adjusted OR (95% CI)
Predisposing					
Age	0.94 (0.89–1.00)*	1.08 (0.86–1.36)	0.94 (0.88–1.00)	0.98 (0.88–1.08)	1.01 (0.86–1.18)
U.S. born	1.08 (0.68–1.72)	1.14 (0.37–3.50)	0.97 (0.50–1.85)	0.87 (0.34–2.24)	2.23 (1.22–4.05)*
Foreign born	1.00	1.00	1.00	1.00	1.00
Only English use at home (Yes)	1.54 (0.94–2.52)	1.10 (0.36–3.40)	1.78 (0.95–3.33)	2.97 (0.86–10.31)	1.15 (0.61–2.15)
Only English use at home (No)	1.00	1.00	1.00	1.00	1.00
Need					
No. of sex partners	1.07 (1.00–1.14)*	1.19 (0.99–1.44)	1.13 (1.07–1.20)***	1.00 (0.94–1.05)	1.08 (0.91–1.28)
Had sex before age 15	1.07 (0.88–1.29)	1.30 (0.45–3.81)	1.05 (0.84–1.30)	1.04 (0.71–1.51)	1.29 (0.61–2.73)
Perceived HIV risk	1.17 (0.96–1.41)	2.51 (0.70–8.99)	1.23 (0.99–1.54)	0.81 (0.59–1.11)	1.30 (0.66–2.56)
Enabling					
Insurance status					
Private	1.01 (0.82–1.25)	0.85 (0.27–2.64)	0.99 (0.77–1.27)	1.00 (0.69–1.43)	1.33 (0.75–2.38)
Medicaid	1.48 (1.09–2.01)*	2.02 (0.33–12.27)	1.93 (1.34–2.78)**	0.82 (0.54–1.25)	2.19 (1.06–4.51)*
Uninsured	1.00	1.00	1.00	1.00	1.00
Past health care					
Ever gone to doctor for HIV/STI suspicion	2.01 (1.64–2.47)***	1.96 (0.89–4.30)	1.87 (1.48–2.35)***	2.39 (1.68–3.39)***	1.60 (0.88–2.93)
RGC in past 12 months	2.76 (2.07–3.70)***	1.85 (0.64–5.38)	2.77 (1.99–3.87)***	2.77 (1.40–5.48)**	2.73 (1.16–6.39)*

* $p < .05$

**

 $p < .01$

 $p < .001$.