High Rates of HIV Testing Despite Low Perceived HIV Risk among African-American Sexually Transmitted Disease Patients

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Purpose: In the current diagnosis-based, human immunodeficiency virus (HIV) prevention climate, previous testing among persons at elevated HIV risk has cost and efficacy implications, as it signals continued behavioral risk, limited HIV knowledge or overuse of services. This study sought to determine the proportion of African Americans newly seeking sexually transmitted disease (STD) diagnosis who previously had obtained HIV counseling and testing.

Methods: This was a clinic-based, cross-sectional survey of African-American adults (N=408) seeking STD diagnosis at a public STD clinic located in a high-HIV and STD prevalence city in the U.S. south.

Main findings: Eighty-four percent of respondents had previously obtained HIV counseling and testing; 68% had previously obtained care at the clinic. Sixty-five percent of respondents perceived themselves as having low or no HIV risk. Seventy-two percent correctly answered ≥3 of 4 HIV knowledge items.

Conclusions: Although diagnosis-based HIV prevention initiatives promote HIV counseling and testing for both primary and secondary HIV prevention, these findings suggest that many African-American STD patients remain at risk following testing. Future research should explore how the counseling portion of standard HIV counseling and testing influences subsequent knowledge, attitudes, risk perceptions and behaviors.

Key words: HIV/AIDS ■ diagnosis, prevention and control ■ sexually transmitted diseases ■ African Americans

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INTRODUCTION

Since 2001, the Centers for Disease Control and Prevention's (CDC) primary approach to human immunodeficiency virus (HIV) prevention has been to promote widespread HIV counseling and testing both for primary HIV prevention and for early detection of previously undiagnosed infection (i.e., secondary HIV prevention). This approach responds to an important trend in the epidemic: despite decreases in mortality, prevalence remains high, and 25–33% of those who are HIV positive have not yet been diagnosed.[1-5] Testing is readily available, however, at low or no cost to consumers via existing public sexually transmitted disease (STD) clinics.

Rates of HIV infection are higher among African Americans than other U.S. racial/ethnic groups, and undiagnosed infection is higher among STD clinic patients than among other clinic or nonclinical populations.[4,6-9] In 1998, 25% of STD patients who obtained an HIV test received a positive diagnosis.[10] HIV test pre- and posttest counseling may be used to deliver tailored, educational messages to at-risk individuals and to facilitate entry into treatment for those receiving positive test results.[11]

Within the current diagnosis-based, HIV prevention climate, previous or repeat testing among persons at elevated HIV risk, such as STD patients, has cost and efficacy implications because it signals continued behavioral risk, limited HIV knowledge despite exposure to individualized counseling, or

overuse of services. Moreover, the implications of HIV counseling and testing and its correlates within this type of prevention climate have not been established for populations such as STD clinic patients at elevated HIV risk.[12,13] This study examined previous HIV counseling and testing among African Americans newly seeking STD diagnosis.

METHODS

We conducted a cross-sectional survey of African-American adults seeking care at a public STD clinic between March and June 2003 in a southern U.S. city where HIV and STD prevalences are high. African Americans represent 70% of state-level HIV diagnoses and >60% of the clinic's patient population.[14-16] The clinic provides the majority of the county's HIV tests.[17] Patients are seen on a walk-in basis, and clinicians automatically offer each patient seeking STD diagnosis an ELISA immunoassay-based HIV antibody test. Inclusion criteria were age ≥18 years, and self-reported African-American or black race. Persons seeking follow-up care were not eligible to participate. The study received approval from the University of North Carolina's School of Public Health Institutional Review Board.

Of 474 clinic attendees expressing an interest in and eligible for participation, 413 (87%) completed study questionnaires. Five questionnaires were excluded due to missing details on whether the respondent had ever had a previous HIV test. The final sample size was 408 adults.

Participants self-administered the questionnaire during their clinic visit. The questionnaire assessed demographic information; frequency of clinic visits; whether and where respondents previously obtained HIV tests; and HIV-related psychosocial factors, including perceived risk of infection and HIV knowledge. The one-item measure of perceived risk was borrowed from Longshore and colleagues.[18] A four item-scale (Cronbach's alpha=0.90) drawn from the CDC's Behavioral Risk Factor Surveillance System assessed HIV knowledge.

This paper summarizes sample characteristics using descriptive statistics and reports bivariate

Table 1. Sample characteristics by previous HIV counseling and testing status

Characteristic	Testers	Nontesters	Total
	Mean (95% Confidence Interval)*		
Demographics			
Gender	n=347	n=61	n=408
Male (%)	42.9 (37.7–48.1)	50.8 (38.3–63.3)	44.1 (39.3–48.9)
Female (%)	57.1 (51.9–62.3)	49.2 (36.7–61.7)	55.9 (51.1–60.7)
Age (Years)	n=345	n=61	n=408
Mean	28.7 (27.8–29.7)	27.9 (25.4– 30.4)	28.6 (27.7–29.5)
Insurance	n=335	n=60	n=395
Public or private (%)	51.3 (46.0–56.7)	55.0 (42.3–67.2)	51.9 (47.0–56.8)
Uninsured (%)	48.7 (43.3–54.0)	45.0 (38.2–57.7)	48.1 (43.2–53.0)
Education	n=339	n=60	n=399
< High school	10.6 (7.7–14.2)	6.7 (2.2–15.3)	10.0 (7.4–13.3)
High school	42.8 (37.6–48.1)	41.7 (29.7–54.4)	42.6 (37.8–47.5)
Some college	33.3 (28.5–38.5)	36.7 (25.2–49.4)	33.8 (29.3–38.6)
> College degree	13.3 (10.0–17.2)	15.0 (7.6–25.7)	13.5 (10.4–17.2)
Annual Income	n=331	n=57	n=388
<$10,000	48.0 (42.7–53.4)	47.4 (34.7–60.3)	47.9 (43.0–52.9)
$10,000–$19,999	23.3 (18.9–28.0)	21.1 (11.9–33.0)	22.9 (19.0–27.3)
$20,000–$34,999	21.5 (17.3–26.1)	22.8 (13.3–35.0)	21.6 (17.8–26.0)
$35,000+	7.3 (4.8–10.4)	8.8 (3.3–18.4)	7.5 (5.2–10.4)
Correlates of Testing			
Perceived Risk	n=336	n=61	n=397
None (%)	14.3 (10.8–18.3)	21.3 (12.4–32.9)	15.4 (12.1–19.2)
Low (%)	51.2 (45.8–56.5)	57.4 (44.8–69.3)	52.1 (47.2–57.0)
Medium (%)	21.7 (17.6–26.4)	9.8 (4.1–19.3)	19.9 (16.2–24.0)
High (%)	12.8 (9.5–16.7)	11.5 (5.2–21.4)	12.6 (9.6–16.1)
HIV Knowledge†	n=325	n=58	n=383
4 of 4 items correct (%)	31.1 (26.2–36.3)	31.1 (20.2–43.8)	31.1 (26.6–35.8)
3 of 4 items correct (%)	41.2 (36.0–46.6)	36.2 (24.6–49.1)	40.5 (35.6–45.4)
1–2 of 4 items correct (%)	27.7 (23.0–32.7)	38.2 (21.6–45.6)	28.5 (24.1–33.1)

* Exact mid-p 95% confidence interval for proportions; † No respondent had <1 item correct

associations using Chi-squared and crude logistic regression analyses.

RESULTS

Table 1 presents key sample characteristics according to previous HIV counseling and testing status. Sample demographics reflected the clinic's African-American client population. Respondents were aged 18–59 years. Two-thirds (65%) perceived themselves as having no or low risk of HIV infection; this did not vary according to gender (χ^2=3.70, df=3, p=0.30) or age category (χ^2=10.92, df=9, p=0.30). Relative to testers, greater percentages of nontesters perceived themselves as having no or low HIV risk; however, perceived risk was not associated with testing (χ^2=5.78, df=3, p=0.12). Perceived risk was associated with HIV knowledge (χ^2=25.19, df=9, p=0.01); however, HIV knowledge was not associated with testing (χ^2=0.75, df=3, p=0.86).

Approximately two-thirds of participants (68%) had obtained care previously at this STD clinic; 10% had done so ≥6 times. Having had previous clinic visits was associated with higher crude odds of obtaining HIV tests (OR=2.88; 95% CI=1.89, 4.38).

Most (84%) reported previously obtaining HIV tests; 52% of such tests were obtained within the year preceding the clinic visit. Nearly 90% of symptomatic participants (n=181) had previously obtained HIV tests. Testers obtained 39.7% of previous tests at the public STD clinic; 15.4% at other public clinics (e.g., family planning clinic); 15.4% at doctors' offices; 8.4% at a hospital and 5.5% at some other location, typically a nontraditional testing site. Neither age (OR=0.99; 95% CI=0.96, 1.02) nor gender (OR=1.4; 95% CI=0.8, 2.4) were associated with previously testing.

DISCUSSION

This study, which was conducted within the current diagnosis-based HIV prevention climate, examined previous HIV counseling and testing behavior among African Americans newly seeking STD diagnosis. Previous testing was prevalent; more than half had obtained HIV tests within the previous year. Nearly 90% of symptomatic respondents had previously obtained tests, suggesting their continued engagement in risk behaviors following receipt of previous tests. Nearly one in five, however, had never previously obtained an HIV test. This signals missed opportunities for earlier primary or secondary prevention since undiagnosed HIV prevalence is higher among nontesters than testers.[7,19]

As the CDC seeks to identify settings in which to promote routine screening, our data suggest that public clinics remain important intervention sites for African Americans at risk for sexual transmission. Most sample members' previous tests (55%) were obtained at public clinics. Celum et al.[20] reported similar findings; however, other studies[21,22] found greater proportions obtaining tests in private settings.[12,13]

Most respondents perceived themselves as having low or no HIV risk; a perplexing finding that other investigators[23-26] also have reported. Fear and limited HIV knowledge may contribute to these perceptions.[27]

The study had three limitations: it did not assess levels of behavioral risk or quantity of previous tests. Therefore, we were unable to estimate associations between specific risk behaviors and previous HIV antibody testing behavior. In the broader study, however, additional measures such as perceived susceptibility to HIV infection were assessed. The ongoing research explores the contributions of such factors to the relationship between risk perceptions and testing behaviors. A third limitation in this preliminary study was that testing behavior was determined on the basis of respondents' self-reports. Self-reports of stigmatized behavior may result in under- or overestimates of actual behavior. Therefore, research is ongoing in the broader study to identify determinants of lab-confirmed HIV antibody testing behavior.

While diagnosis-based HIV prevention initiatives urge HIV counseling and testing for both primary and secondary HIV prevention, these findings suggest that many African-American STD patients remain at risk after obtaining tests. Previous clinic-based HIV testing among persons newly seeking diagnosis has both cost and efficacy implications for publicly funded care and for diagnosis-based HIV prevention. Previous tests may reflect either persistent behavioral risk[23] or hypervigilant behavior among persons at low risk. Future research should explore how HIV test counseling influences subsequent knowledge, attitudes, risk perceptions and behaviors.[12]

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