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Prevalence of Self-reported HIV Testing among a Population-Based Sample of Urban African American Adolescents

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Abstract

We explored the prevalence of gender differences in HIV testing among a household sample of sexually active African American adolescents. Females disproportionately self-report being tested for HIV more than males. This difference was not explained by age or receipt of STI services, but partially attributable to history of pregnancy.

Keywords

HIV testing; STD; adolescents; gender; self report

BACKGROUND

Nearly half of all new human immunodeficiency virus (HIV) infections in the United States (US) occur among adolescents, but only 19% of adolescents report having ever been tested for HIV, ¹⁻² thus, understanding the reasons associated with HIV testing is crucial to prevention efforts. Many studies have focused on predictors of testing among adolescents and have consistently found gender to be a correlate of who is tested, ³⁻⁵ with more females reporting HIV testing in the past year than males. ² It is not fully clear why such gender differences exist. It may be that providers do HIV testing as part of STI testing, uncovering the same gender disparities seen in STI testing. ⁶⁻⁸ Additionally, adolescent males are less likely to seek preventive services and are more likely to use STI-related care only when it is accessible (eg, located in school based health centers or community-based organizations). ⁷ Furthermore, gender disparities in HIV testing may exist in part due to pregnancy-related services that also recommend universal HIV testing. ⁹ For the reasons cited above, it may be incorrect to infer that girls in general are seeking HIV testing more widely than boys.

The objectives of this study were to: 1) examine the prevalence of HIV testing reported by a household sample of youth residing in an urban African American community where rates of HIV are highest and 2) to determine whether STI testing and pregnancy explain gender disparities in HIV testing.

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METHODS

The Bayview Networks Study is a household sample of 14 to 19 year old African American youth recruited by random digit dial telephone who reside in the Bayview Hunter's Point District of San Francisco, California, a predominantly African American area characterized by high rates of STIs. The purpose of the Bayview Networks Study was to evaluate whether having partners outside the local network increased one's risk for exposure to an STI. Telephone interviews of the 470 eligible households conducted from July 2000 to August 2001 and consent procedures are described elsewhere.¹⁰ Of the 580 household youth offered the interview, 350 (60%) were interviewed; 305 social friends were referred and 177(58%) were interviewed. This analysis focuses on the household youth and social friends who completed the interviews and reported having sex in the 6 months before recruitment. The University of California at San Francisco and the Johns Hopkins School of Medicine Institutional Review Boards approved all study procedures and secondary data analysis, respectively.

Of the 527 adolescents in the cohort, 158 (30%) were excluded because they reported having never been sexually active. Of the remaining 369 sexually active adolescents, 279 (76%) adolescents had completed surveys and of these, 193 (70%) adolescents reported being sexually active (vaginal or anal intercourse) in the 6 months before recruitment.

The main outcome variable was self-reported HIV testing. Based on an a priori hypothesis that HIV testing is associated with older age, history of STI and female gender, two models were evaluated in multivariate logistic regression in order to adjust the odds of self-reported HIV testing comparing female and male adolescents for: (1) age; and (2) age and history of STI testing. To further determine if history of pregnancy explained gender disparities in HIV testing seen in the other two models, another logistic regression model was evaluated that examined differences among three groups - pregnant females, non-pregnant females and males after adjusting for age and history of STI testing. All analyses were performed with SPSS (version 14.0) software package.

RESULTS

All participants were African American, 89% were 16 to 19 years old. More than half (57%) were female and 78% reported having an STI test and 58% reported an HIV test in the past. Fifty one percent of females reported a history of pregnancy.

In bivariate analysis (Table 1), HIV testing was associated with female gender, older age, history of STI testing and pregnancy (girls only). In the first multivariate logistic regression first model comparing HIV testing among females versus males, controlling for older age, the adjusted odds of HIV testing was 2.7 times higher for female adolescents than males (95% CI 1.5, 5.0). In the second model, controlling for age and history of STI testing, the adjusted odds of HIV testing was 2.4 times higher for female adolescents than males (95% CI 1.2–4.6).

When we compared HIV testing among pregnant females, non-pregnant females and males, after controlling for STI testing and age, we found that pregnant females had increased odds of self reported HIV testing when compared to non-pregnant females (AOR= 4.2, 95% CI 1.6 –10.6) and males (AOR=6.2, 95% CI 2.7–14.5).

Further analysis was performed to determine if HIV testing patterns were different in non-pregnant females when compared to males. There was no statistically significant difference between adolescent females who did not report a pregnancy history and adolescent males for HIV testing (AOR=1.2, 95% CI 0.53–2.6).

DISCUSSION

This study showed that history of pregnancy accounts in part for gender differences in self-reported HIV testing rates. This finding supports, although does not prove, our hypothesis that higher rates of HIV testing among adolescent females relative to adolescent males may be related to pregnancy-related services received by adolescent females.

Gender differences are thought to impact whether individuals test for HIV. Adolescent females may report having been tested more often than males because HIV testing during pregnancy is a key component of efforts to eliminate mother-to-child HIV transmission. Stein et al⁴ found that women who had been pregnant since 1989 were five times as likely to have taken an HIV test than women who did not give birth during that time.

These results show the value in accounting for pregnancy history when evaluating predictors of HIV testing in adolescent women. Additionally, interventions designed to increase HIV testing among adolescents need to take into account preventive measures targeting pregnant adolescents that may not be applicable to non-pregnant adolescents. Testing initiatives viewed as targeting women may, in reality, only be targeting pregnant women. Testing initiatives directed at urban adolescents must also focus on both women not covered by policy interventions that increase testing rates in the prenatal or antenatal setting and adolescents who may not receive family planning preventive care.

In conclusion, our findings suggest that African American adolescent females report HIV testing more often than males, but this gender disparity in HIV testing exist in part due to pregnancy-related services and not due to gender differences seen in STI-related services. Gender disparities in HIV testing may in part be the result of the current structure of the health care system. In order for prevention efforts to reach adolescents, programs must also focus on missed opportunities by targeting adolescents who may not seek testing as part of pregnancy services.

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Table 1

Predictors of HIV testing among sexually active adolescents

Variable	(#) % tested	OR	95% CI	P value
Gender				
Male	37 (33%)	1.0		
Female	74 (67%)	2.6	(1.4–4.6)	<0.01
Age				
14–15 yr-old	5 (5%)	1.0		
16–19 yr-old	106 (95%)	3.5	(1.26–9.6)	<0.05
STI testing				
No testing	8 (7%)	1.0		
Testing	103 (93%)	9.7	(4.1–22.7)	<0.001
Females with h/o pregnancy				
No	28 (38%)	1.0		
Yes	46 (62%)	4.8	(2.0–11.6)	<0.001