



Published in final edited form as:

*AIDS Behav.* 2016 September ; 20(9): 2010–2013. doi:10.1007/s10461-016-1310-4.

## Factors Associated with HIV Testing among African American Female Adolescents in Juvenile Detention Centers

Puja Seth<sup>1,4</sup>, Jerris Raiford<sup>1</sup>, Ralph J. DiClemente<sup>2,3</sup>

<sup>1</sup>Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention, Atlanta, GA, USA

<sup>2</sup>Department of Behavioral Sciences & Health Education, Rollins School of Public Health, Emory University, Atlanta, GA, USA

<sup>3</sup>Center for AIDS Research, Prevention Science Core, Atlanta, GA, USA

<sup>4</sup>Program Evaluation Branch, Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention, 1600 Clifton Road NE; MS E-59, Atlanta, GA 30329, USA

### Abstract

**Background**—Little is known about sexual and psychosocial factors associated with HIV testing among detained African American female adolescents—an understudied group at risk for HIV.

**Methods**—188 detained African American female adolescents completed assessments on HIV testing, sexual risk behaviors, and psychosocial factors.

**Results**—Unprotected vaginal sex, history of STI-positivity or pregnancy, higher STI knowledge, and lower partner availability were associated with a higher likelihood of ever being tested for HIV.

**Discussion**—HIV testing is the gateway to important services for high-risk HIV-positive and HIV-negative adolescents. More research is needed to address barriers and to inform programmatic changes to increase testing among youth.

### Keywords

Youth; Incarcerated; Testing; Risky sexual behavior; STIs

### Introduction

Young African Americans continue to be one of the groups most disproportionately affected by HIV in the United States. They represent 57 % of all new HIV infections among persons aged 13–24 years. The rate of new infections among young African American females aged 13–24 years was also 20 and 6 times as high as young white and Hispanic females, respectively [1]. Moreover, compared to the general population, male and female adolescents with a history of detention or incarceration are at even greater risk, given the association between detention and higher rates of anal intercourse, number of sex partners, and condomless sex [2–4].

<sup>✉</sup>Puja Seth, pseth@cdc.gov.

The Centers for Disease Control and Prevention recommends routine HIV testing for all adolescents aged 13 years and older [5]. According to the 2013 National Youth Risk Behavior Survey [6], 12.9 % of high school students had ever tested for HIV, and 21 % of African American high school females reported ever testing for HIV, which is a percentage higher than both white (12.7 %) and Hispanic (13.4 %) female high school students. To our knowledge, there are no national prevalence rates for HIV testing among incarcerated youth.

HIV testing is the first step in the HIV continuum of care and provides an opportunity to reduce the HIV health disparity among African Americans. Knowledge of HIV status provides an opportunity to link HIV-negative and HIV-positive youth to relevant HIV prevention, care, and treatment services, and thereby, reduce risk of contracting and transmitting HIV. Factors associated with HIV testing among sexually active African American adolescent females include testing for sexually transmitted infections (STIs), pregnancy, risk-reduction self-efficacy, and STI knowledge [6–8]. Other psychosocial factors, such as partner availability, may also have a direct or indirect association with HIV testing among adolescents. Previous research has indicated that among a sample of female adolescents, the majority of whom were African American (93.5 %), limited partner choices was associated with increased STI risk [9]. Since this group of female adolescents may be more likely to engage in riskier behavior, low partner availability also may be directly associated with HIV testing behavior.

However, further research is needed to understand factors associated with HIV testing among a vulnerable population who is at higher risk for HIV/STIs—detained African American female adolescents. Therefore, it was hypothesized that sexual risk behavior (unprotected sex, pregnancy history, STI history) and psychosocial factors (STI knowledge and low partner availability) would be associated with ever being tested for HIV among a sample of detained African American female adolescents.

## Methods

From March 2011 to February 2012, female adolescents from a short-term detention facility in Atlanta, Georgia were screened for enrollment in a culturally-sensitive HIV prevention program [10]. The current analyses are from baseline data only. African American females aged 13–17 years who reported lifetime vaginal intercourse were eligible. Adolescents who were married, currently pregnant, wards of the state, or scheduled to be placed in a restricted location upon release were excluded. Of the eligible 202 adolescents, 188 (93.1 %) completed baseline assessments. Participants provided written informed assent, and parents provided verbal consent. Participants were not compensated while detained but were given up to \$150 for completion of all intervention sessions and assessments over the 6-month follow-up period, subsequent to release from detention. Emory University’s Institutional Review Board approved all study protocols prior to implementation.

Participants completed study measures via an audiocomputer assisted self-interview (ACASI). The ACASI assessed demographics, unprotected vaginal sex during the past 30 and 90 days (yes vs. no), history of pregnancy (yes vs. no), history of STI positivity (yes vs. no), STI knowledge [11] (high vs. low), partner availability (i.e., agreement on whether there

are many good males with whom to have a relationship) (high vs. low), and ever being tested for HIV (yes vs. no). Logistic regression models examined baseline associations between sexual risk and psychosocial factors with ever being tested for HIV as the outcome. When considering potential covariates, adolescents' living situation was considered as a potential contextual factor that may be associated with ever being tested among this population. However, the association was not significant ( $p > 0.05$ ) and was therefore not included as a covariate. Number of days detained was also considered as a potential contextual factor but was not associated with ever being tested ( $p > 0.05$ ). However, participants' age was significantly associated with ever being tested, with older adolescents being more likely to report ever being tested for HIV (OR 1.40,  $p = 0.02$ ) and was included as a covariate in all analyses.

## Results

Participant characteristics on HIV testing, sexual risk behavior, and psychosocial factors are displayed in Table 1. At baseline, participants' mean age was 15.3 years (SD 1.1), and the average number of days detained was 3.8 (SD 4.9). Over half (56.4 %) of the participants reported ever being tested for HIV at baseline.

Logistic regression analyses indicated that adolescents who reported unprotected vaginal sex during the past 30 days (AOR 2.86,  $p = 0.001$ ) and 90 days (AOR 1.99,  $p = 0.03$ ), history of pregnancy (AOR 2.78,  $p = 0.007$ ), history of being STI-positive (AOR 2.89,  $p = 0.002$ ), higher STI knowledge (AOR 2.02,  $p = 0.03$ ), and lower partner availability (AOR 0.44,  $p = 0.008$ ) were more likely to report ever being tested for HIV (Table 1).

## Discussion

The current sample of detained female adolescents had a significantly higher percentage of ever being tested than high school students from the general population. Over half of African American female adolescents reported ever being tested, in comparison to 12.9 % of high school students and 21 % of African American female high school students [6]. Because detained youth are at higher risk for HIV than the general population [2–4], they may be more likely to get tested for HIV. Additionally, detained female adolescents who reported recent unprotected sex, a history of being STI-positive or pregnant, or higher STI knowledge were more likely to report ever being tested for HIV, which is consistent with previous literature [7, 8]. It is possible that because they were engaging in higher risk behavior, they were more likely to get tested. Although these data are not available, it also is possible that these female adolescents were tested for HIV when they sought out care for their previous STIs and/or pregnancy, which was significantly associated with testing behavior. Finally, female adolescents who believed they had limited partner options were more likely to report ever being tested. Previous research has indicated that females, particularly African American females, who report less partner options are more likely to engage in risky sexual behavior [9], which may have prompted receiving an HIV test.

There are limitations to this study. Data on barriers to HIV testing, such as access to testing, privacy concerns, fear of stigma or judgement were not available. It is possible that these

testing barriers may have significantly impacted whether this group of adolescent females was tested. Additionally, mental health, interpersonal and partner-related factors were not comprehensively examined and could potentially serve as moderating and mediating factors associated with HIV testing among this population group. Data are self-reported and are subject to social desirability bias. Also, the sample was homogenous; thus, findings may not be generalizable to other incarcerated youth. Finally, the sample size was relatively small ( $N = 188$ ), which may limit the precision of effect estimates. Further research with larger samples and diverse populations is important.

HIV testing and knowledge of status are the gateway to important services for both HIV-positive and HIV-negative adolescents who may be at high risk. The findings indicate that female adolescents who were engaging in risky behavior were more likely to get tested. However, overall, challenges exist with testing adolescents, including failure to get tested due to lower perceptions of risk, confidentiality or privacy concerns, fear of judgment, and failure to return for test results [7, 8, 12]. Given that adolescents, particularly those who have been incarcerated, are at risk for HIV/STIs, prevention interventions tailored to this population [10] to reduce HIV/STI risk behavior are necessary. Interventions could focus on increasing safe sexual behavior and skills (e.g., condom negotiation, self-efficacy) and addressing contextual factors that may prevent these young girls from engaging in safe sexual behavior (e.g., substance use, violence). Additionally, increased access to HIV testing is pertinent. Schools, community settings, and community outreach may assist in targeting adolescents for HIV testing. More research is needed to help inform programmatic and policy changes that may improve HIV testing rates among adolescents, particularly those who may be at highest risk for HIV infection.

## Acknowledgments

This study was supported by the Centers for Disease Control and Prevention, cooperative agreement 5 UR6 PS000679.

## Disclaimer

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

## References

1. Centers for Disease Control and Prevention. CDC Fact Sheet: HIV among African American youth. 2014 March 6, 2015. <http://www.cdc.gov/nchstp/newsroom/docs/CDC-Youth-AAs-508.pdf>.
2. Barthlow DJ, Horan PF, DiClemente RJ, Lanier MM. Correlates of condom use among incarcerated adolescents in a rural state. *Crim Justice Behav.* 1995;22:295–306.
3. DiClemente RJ. Predictors of HIV-preventive sexual behavior in a high-risk adolescent population: the influence of perceived peer norms and sexual communication on incarcerated adolescents' consistent use of condoms. *J Adolesc Health.* 1991;12:385–90. [PubMed: 1751507]
4. Lux KM, Petosa R. Using the health belief model to predict safer sex intentions of incarcerated youth. *Health Educ Q.* 1994;21:487–97. [PubMed: 7843979]
5. Centers for Disease Control and Prevention. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR* [Internet]. 2006 March 6, 2015; 55(RR-14). [www.cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm).

6. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance—United States, 2013. *MMWR*. 2014;63(4).
7. Tolou-Shams M, Payne N, Houck C, Pugatch D, Beausoleil N, Brown LK, et al. HIV testing among at-risk adolescents and young adults: a prospective analysis of a community sample. *J Adolesc Health*. 2007;41:586–93. [PubMed: 18023788]
8. Straub DM, Arrington-Sanders R, Harris DR, Willard N, Kapogiannis B, Emmanuel P, et al. Correlates of HIV testing history among urban youth recruited through venue-based testing in 15 US cities. *Sex Transm Dis*. 2011;38:691–6. [PubMed: 21758020]
9. Matson PA, Chung SE, Ellen JM. Perceived neighborhood partner availability, partner selection, and risk for sexually transmitted infections within a cohort of adolescent females. *J Adolesc Health*. 2014;55:122–7. [PubMed: 24393545]
10. DiClemente RJ, Davis TL, Swartzendruber A, Fasula AM, Boyce L, Gelaude D, et al. Efficacy of an HIV/STI sexual risk-reduction intervention for African American adolescent girls in juvenile detention centers: a randomized controlled trial. *Women Health*. 2014;54:726–49. [PubMed: 25190056]
11. Sikkema KJ, Kelly JA, Winett RA, Solomon LJ, Cargill VA, Roffman RA, et al. Outcomes of a randomized community-level HIV prevention intervention for women living in 18 low-income housing developments. *Am J Public Health*. 2000;90:57–63. [PubMed: 10630138]
12. Peralta L, Deeds BG, Hipszer S, Ghalib K. Barriers and facilitators to adolescent HIV testing. *AIDS Patient Care STDS*. 2007;21:400–8. [PubMed: 17594249]

Participant characteristics and sexual risk behavior and psychosocial factors associated with ever being tested among African American female adolescents in juvenile detention

**Table 1**

Predictors	N (%)	Ever being tested for HIV		
		AOR <sup>a</sup>	95 % CI	P
Ever been tested for HIV		N/A	N/A	N/A
Yes	106 (56.4)			
No	82 (43.6)			
Unprotected vaginal sex, past 30 days		2.86	1.55–5.27	0.001
Yes	101 (53.7)			
No	87 (46.3)			
Unprotected vaginal sex, past 90 days		1.99	1.09–3.64	0.03
Yes	110 (58.5)			
No	78 (41.5)			
History of pregnancy		2.78	1.32–5.83	0.007
Yes	48 (25.5)			
No	140 (74.5)			
History of a positive STI result		2.89	1.47–5.69	0.002
Yes	61 (32.4)			
No	127 (67.6)			
STI knowledge		2.02	1.09–3.74	0.03
High	77 (41)			
Low	111 (59)			
Partner availability		0.44	0.24–0.80	0.008
High	108 (57.4)			
Low	80 (42.6)			

<sup>a</sup> Adjusted for age