

# Factors Associated with Acceptance of Genital Herpes Testing for Black Patients Presenting for Care at an STD Clinic

Elopre L, Van Der Pol B, Van Wagoner N, Whitfield M, Hook E  
University of Alabama at Birmingham, Birmingham AL USA

## Introduction

- 15.5% of the population in the United States (U.S.) is infected with herpes simplex virus-type 2 (HSV-2).<sup>1</sup>
- HSV-2 rates are disproportionately high in black Americans, with seroprevalence approaching 50% in some communities.<sup>2</sup>
- Previous studies have shown HSV serological test acceptance rates for patients presenting to STD clinics as high as 92%. Factors associated with acceptance included white race, female sex, older age, history of an STD, perceived risk for infection and having more than 1 sexual partner in the past 6 months.<sup>3</sup> Few data describe rates for blacks or for persons living in the Southeastern U.S.
- Knowledge of infection status is an important prevention tool for herpes related morbidity and risk of HIV infection.
- We evaluated barriers to acceptance of serological testing for HSV-2.

## Results

### Population Characteristics:

- 165 black patients were enrolled into the study who had not prior history of genital herpes or genital ulcerative disease
  - Median age was 25, 65% female, 64% had a high school diploma or less, and 78% accepted HSV2 testing
  - Of those who accepted testing, 32% were positive for HSV2

### Factors Associated with Acceptance (Bivariate Models):

- Female sex, moderate to severe depression, history of STDs, perceived risk of infection and previous testing for HIV

### Factors Associated with Acceptance (Multivariate Models):

- Moderate to severe depression and history of STDs

## Methods

### Study Design:

- Cross-sectional analysis of an ongoing study at an STD Clinic located in a health department in the Southern U.S.

### Population:

- Patients presenting for care at an STD Clinic
  - Entering care from 2014 – 2015
  - > 19 years old
  - No history of genital herpes or current genital ulcerative disease

### Outcomes:

- Acceptance of genital herpes serological testing

### Independent Variables:

- Age, sexual debut, sex, sexual orientation (defined by behavior), education, visit reason (dichotomized as screening/family planning or contact/symptomatic), depression (none to mild vs. moderate to severe based on PHQ-9), condom use during last sex, number of sexual partners (past 3 months), previous history of an STD, perceived risk of infection (dichotomized as no risk vs any perceived risk), previous testing for HIV

### Data Analysis:

- Pearson's  $\chi^2$  and Wilcoxon rank sum tests were performed. Bivariate and multivariate regression modeling, using stepwise regression with forward selection (enter 0.05, removal 0.1), to identify predictors of acceptance of genital herpes testing.

## Discussion

- Only 78% of black patients presenting for care accepted herpes testing at an STD clinic in the Southern U.S, compared to 92% in other studies.
- Factors associated with acceptance were previous STD testing and moderate to severe depression.
- Further studies need to be done to understand the decreased acceptance seen in this population.
- Limitations: This analysis was likely underpowered due to small sample size

**Table 1.** Population Characteristics (N = 165) by Acceptance of Genital Herpes Testing<sup>a</sup>

Characteristics		Accepted Herpes Testing (n = 128) n (%)	Declined Herpes Testing (n = 37) n (%)	p value
Median Age, years (Q <sub>1</sub> -Q <sub>3</sub> )		25 (19-51)	25 (19-43)	0.2
Sexual Debut		15 (5-29)	15 (12-22)	0.14
Gender	Male	40 (69.0)	18 (31.0)	<b>0.05</b>
	Female	88 (82.3)	19 (17.8)	
Sexual Behavior	MSM	3 (60.0)	4 (10.8)	0.2
	MSW	25 (69.4)	14 (37.8)	
	WSM	46 (79.3)	19 (52.4)	
Education	High School Diploma or Less	86 (81.9)	19 (18.1)	0.08
	Some College or More	42 (70.0)	18 (30.0)	
Visit Reason	Screening/Family Planning	93 (76.8)	24 (23.2)	0.3
	Symptoms/Contact to STD	35 (72.9)	12 (27.1)	
Depression	None to Mild	64 (70.3)	27 (29.7)	<b>0.01</b>
	Moderate to Severe	64 (86.5)	10 (13.5)	
Condoms Last Sex	No	57 (79.2)	15 (20.8)	0.3
	Yes	28 (70.0)	12 (30.0)	
Number Sex Partner (prior 3 months)		1 (0-6)	1 (1-3)	0.06
History of STD	No	20 (57.1)	15 (42.9)	<b>0.001</b>
	Yes	71 (80.7)	17 (19.3)	
Perception of Infection Risk	No Risk	92 (73.6)	33 (26.4)	<b>0.03</b>
	At Risk	36 (90.0)	4 (10.0)	
Previous HIV Testing	No	4 (40.0)	6 (60.0)	<b>0.01</b>
	Yes	81 (79.4)	21 (20.6)	

a. Pearson's  $\chi^2$  and Wilcoxon rank sum tests

**Table 2.** Characteristics Associated with Acceptance of Genital Herpes Testing (N = 165)<sup>a</sup>

Characteristics		Accepted Herpes Testing Unadjusted OR (OR; 95% CI)	Accepted Herpes Testing Adjusted OR (aOR; 95% CI)
Median Age, years (Q <sub>1</sub> -Q <sub>3</sub> )		1.1 (0.9, 1.2)	-
Sexual Debut		0.9 (0.8, 1.1)	-
Gender	Male	Ref	-
	Female	<b>2.1 (1.0, 4.4)**</b>	-
Sexual Behavior	MSM	Ref	-
	MSW	1.2 (0.1, 14.1)	-
	WSM	2.4 (0.2, 27.8)	-
Education	High School Diploma or Less	Ref	-
	Some College or More	0.5 (0.2, 1.1)	-
Visit Reason	Screening/Family Planning	Ref	-
	Symptoms/Contact to STD	1.4 (0.6, 3.1)	-
Depression	None to Mild	Ref	Ref
	Moderate to Severe	<b>2.7 (1.2, 6.0)**</b>	<b>2.3 (1.0, 5.2)<sup>d</sup></b>
Condoms Last Sex	No	Ref	-
	Yes	1.5 (0.7, 3.1)	-
Number Sex Partner (prior 3 months)		1 (0-6)	-
History of STD	No	Ref	Ref
	Yes	<b>3.7 (1.6, 8.3)**</b>	<b>3.2 (1.4, 7.2)*</b>
Perception of Infection Risk	No Risk	Ref	-
	At Risk	<b>3.2 (1.1, 9.8)**</b>	-
Previous HIV Testing	No	Ref	-
	Yes	<b>3.5 (1.2, 10.4)**</b>	-

a. Multivariate logistic regression modeling was done using stepwise regression with forward selection (enter 0.05 and exit 0.01). The pseudo-R squared of 0.12.

\* p-value < 0.01

\*\* p-value < 0.05

### References:

- CDC. Subpopulation estimates from the HIV Incidence Surveillance System—United States, 2006. MMWR 2008;57:985–9.
- Cowan F M, Johnson A M, Ashley R, Corey L, Mindel A. Relationship between antibodies to herpes simplex virus (HSV) and symptoms of HSV infection. J Infect Dis. 1996;174:470–475.
- Zimet G, Rosenthal S, Fortenberry D, Brady R, et al. Factors predicting the acceptance of herpes simplex virus type 2 antibody testing among adolescents and young adults. Sex Transm Dis 2004; 31(11):665–669.