

Risk factors for HIV infection among Sexually Active Adolescents and Youth seeking Voluntary Counseling and Testing in Haiti

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ABSTRACT

Background: Socio-demographic factors influence sexual behaviors of youth. Adolescents and young adults with HIV are more likely to have had earlier sexual experiences, more sexual partners, and sex with individuals older than themselves compared with young people without HIV infection. Young women with HIV have fewer known risk factors than young men with HIV. We assessed whether these characteristics reported elsewhere also applied in clinic-attendees seeking voluntary HIV counseling and testing (VCT) in Port-Au-Prince, Haiti.

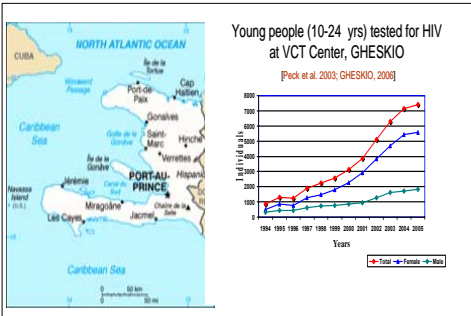
Methods: We included 3,481 sexually active adolescents and youth, aged 13 to 25 years, who underwent HIV testing from Oct. 2005-Aug. 2006 at the Groupe Haitien d'Étude du Sarcome de Kaposi et des Infections Opportunistes (GHESKIO) Center for VCT. Associations between demographic, behavioral, and other factors and HIV seropositivity were evaluated by multivariable logistic regression.

Results: The prevalence of HIV seropositivity was 6.7% in females, 5.6% in males, and increased with age: 3.3% at ages 13-15, 5.1% at ages 16-19, and 7.1% at ages 20-25 years ($P = 0.02$). Of HIV-seropositive VCT recipients, 78% were female, reflecting their higher numbers in this VCT program. HIV seropositivity among females was associated with poor knowledge about HIV, early sexual activity, perceived promiscuity of the sexual partner, prior sexually transmitted disease symptoms, low socioeconomic status, not residing with parents, poor education, married or divorced/widowed status, having a child, and current pregnancy. Among males, HIV infection correlated with illicit drug use and risky sexual behaviors.

Conclusions: HIV infection is highly prevalent among adolescents and young adults ages 13-25 seeking VCT in urban Haiti. HIV infection was associated with many risk factors that may be modifiable by HIV education, risk reduction counseling, gender empowerment training, job and education programs, and STD control. Such programs are now limited in number in Haiti.

BACKGROUND

- Haiti has the highest HIV prevalence rates in the Americas: 2.2% (sentinel surveillance) to 3.8% (UNAIDS estimate) in adults 15-49 years old
- Heterosexual transmission of HIV is the principal route of transmission; the age of first intercourse is declining [Halkon et al. 2003]
- Multiple sexual partners and unsafe intercourse are common [Holschneider et al. 2003]
- Raising of children by single mothers is increasing, despite their socio-economic, demographic, and biological vulnerabilities [Blum et al. 2004]
- Effectiveness of the interventions for HIV are inconsistent [Websters, 2006]
- Very limited information on risk factors, e.g., sexual risk behaviors among adolescents/youth in Haiti [IHE/ORC Marco, 2006; Websters et al. 2006]



METHODS

Study Population

•Adolescents and youth (13-25 years old) who came for HIV testing at GHESKIO clinics in Port-au-Prince, Haiti from October 2005-August 2006 (n=4,034)

•Youth reporting sexual intercourse and who received HIV tests were included in sexual risk analyses (n=3,481)

•Not known to be infected with HIV at the time of HIV testing and counselling

•Only exclusion criterion: persons with missing data in >30% of all questions

•Study approved by three IRBs: GHESKIO, Cornell U., & Vanderbilt U.

Data resources

•Database from the pre-test questionnaire to assess sexual/demographic risk factors

•Questionnaire administered to young people during interviews

•Patient records (electronic and chart)

•HIV test results from this VCT visit

• Two rapid latex agglutination tests used: Capilus® HIV-1/2; Determine® HIV-1/2; ELISA, Murex HIV-1.2.O.

• Indeterminate rapid test or ELISA results were resolved with the use of a Western blot [Peck et al. 2003].

Study design: Cross-sectional survey

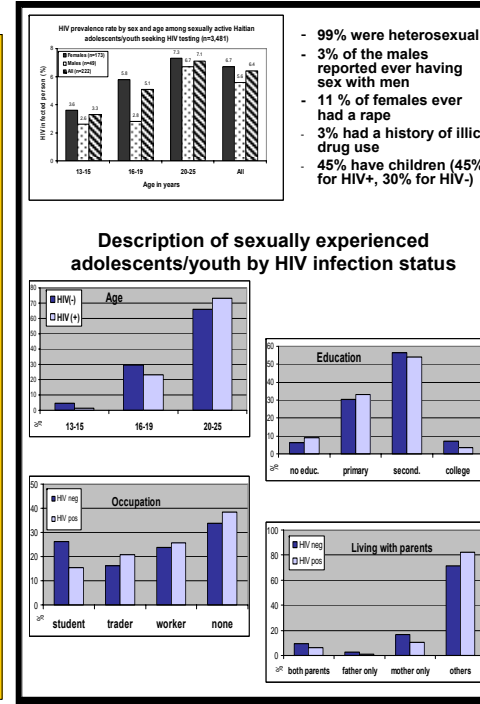
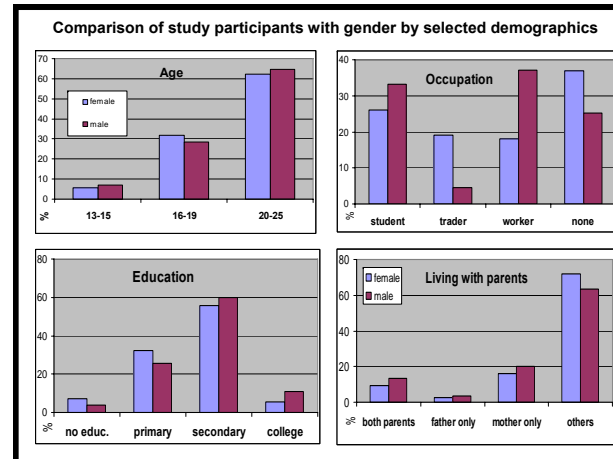
Outcome variable: HIV infection status

Exposures of interest: Sexual risk factors related to HIV such as:

age, sex, # of yrs of sexual activity, # of sexual partners in past 6 mo, age of sexual partners, onset age of sexual activity, condom use, family planning method, anal or oral sexual intercourse, STI (syphilis), knowledge of HIV, reasons for seeking test, personal perception about the HIV risk

Covariate components: age, sex, education, income, and marital or cohabiting status

RESULTS



- 99% were heterosexual
- 3% of the males reported ever having sex with men
- 11% of females ever had a rape
- 3% had a history of illicit drug use
- 45% have children (45% for HIV+, 30% for HIV-)

Description of sexually experienced adolescents/youth by HIV infection status

CONCLUSIONS

- Adolescent-friendly services helped to maximize VCT uptake and adherence to needed care. Youth services are needed throughout Haiti.
- Recruitment of adolescents and young adults with HIV infection into ongoing care and treatment is now possible with support from the PEPFAR (President's Emergency Plan for AIDS Relief) and the Global Fund to Fight AIDS, Tuberculosis and Malaria.
- Seronegative youth need risk reduction counseling and may be willing to engage prevention research trials, e.g., microbicides, vaccine, behavior.
- Although this study was specifically targeted to Haiti there is no question of the broader applicability of these findings through the areas of high HIV-risk globally

PUBLIC HEALTH

IMPLICATIONS

- We do not know whether the prevalence rate in this VCT population reflects the overall rate among adolescents/youth in the general population, but is a large sample of youth seeking HIV testing.
- Data can help guide projections for the needs in HIV prevention and service delivery.
- HIV risk factors gleaned here may improve the understanding of the HIV epidemic in Haitian youth.
 - Useful for community health care providers, educators, and policy makers.
- Many of the adolescent HIV predictors are generalizable to the overall population.
- Adolescents and youth should be targeted for risk-reduction interventions with sex/age-specific messages.

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Table 1. Association between HIV related beliefs, perception or risk and HIV status among sexually active Adolescents/Young adults, Haiti

	Females (n=2,603)			Males (n=878)		
	HIV- n=2,430	HIV+ n=173	Adjusted OR (95% CI)	HIV- n=829	HIV+ n=49	Adjusted OR (95% CI)
Willingness to share HIV information with others (%)						
No	13.1	15.3	1.0 Referent	8.5	12.2	1.0 Referent
Yes	86.9	80.7	0.6 (0.4-1.0)	90.5	87.8	0.8 (0.3-1.9)
Believe that HIV can be acquired by kissing someone (%)						
No	94.9	91.3	1.0 Referent	93.8	93.9	1.0 Referent
Yes	1.1	2.3	2.1 (0.7-6.3)	2.8	4.1	1.7 (0.4-7.9)
Do not know	4.0	6.4	1.5 (0.8-2.5)	3.4	2.0	0.6 (0.2-1.7)
			$P_{trend}=0.07$			$P_{trend}=0.81$
Believe that HIV can be infected by supernatural events (%)						
No	70.2	60.7	1.0 Referent	76.1	79.6	1.0 Referent
Yes	16.7	22.0	1.4 (0.9-2.0)	12.7	14.3	0.6 (0.4-2.2)
Do not know	13.1	17.3	1.5 (1.0-2.2)	11.2	6.1	0.5 (0.2-1.8)
			$P_{trend}=0.01$			$P_{trend}=0.38$
Perceived risk level for HIV infection (%)						
Not at all	14.3	9.2	1.0 Referent	16.9	10.2	1.0 Referent
Low	39.0	30.1	1.4 (0.8-2.5)	42.8	34.7	1.4 (0.5-3.9)
Moderate	33.7	39.9	2.0 (1.1-3.5)	23.8	22.5	1.6 (0.5-4.9)
High	13.0	20.8	3.0 (1.6-5.6)	16.5	32.6	3.6 (1.2-10.4)
			$P_{trend}<0.01$			$P_{trend}<0.01$

OR Adjusted for age (categories), education, income, and marital/cohabiting status

Table 2. Association between risky behaviors and HIV status among sexually active Adolescents/ Young adults, Haiti

	Females (n=2,603)			Males (n=878)		
	HIV- n=2,430	HIV+ n=173	Adjusted OR (95% CI)	HIV- n=829	HIV+ n=49	Adjusted OR (95% CI)
Age of onset of sex						
≤16 (median years)	49.6	55.5	1.0 Referent	71.1	53.1	1.0 Referent
>16	50.4	44.5	0.7 (0.5-1.0)	28.9	46.9	2.1 (1.1-3.8)
Years of sexual activity						
≤5 (median years)	53.8	48.0	1.0 Referent	32.5	32.6	1.0 Referent
>5	46.2	52.0	1.1 (0.7-1.5)	67.5	67.4	0.7 (0.3-1.3)
Current partner has other partner						
No	45.7	33.9	1.0 Referent	36.4	31.2	1.0 Referent
Yes	23.1	31.3	1.8 (1.1-2.8)	23.1	15.6	1.7 (0.5-5.4)
Do not know	31.2	34.8	1.6 (0.9-2.6)	31.2	53.2	1.9 (0.8-4.6)
			$P_{trend}=0.07$			$P_{trend}=0.62$
History of latent syphilis by serology						
Negative	95.4	87.6	1.0 Referent	97.6	95.9	1.0 Referent
Positive	4.6	12.4	2.6 (1.6-4.4)	2.4	4.1	1.5 (0.4-7.4)
Ever used condom						
No	65.0	65.3	1.0 Referent	52.3	49.0	1.0 Referent
Yes	34.0	34.7	1.1 (0.8-1.6)	46.7	51.0	1.2 (0.7-2.2)
Ever used family planning methods						
No	83.9	83.5	1.0 Referent	75.4	63.4	1.0 Referent
Yes	16.1	16.5	1.0 (0.7-1.6)	24.6	32.6	1.5 (0.8-2.8)
Ever used illegal drugs						
No	99.6	98.8	1.0 Referent	97.6	87.8	1.0 Referent
Yes	0.4	1.2	3.4 (0.7-6.4)	2.4	12.2	5.5 (1.9-5.7)

OR adjusted for age (categories), level of education, level of income, and marital/cohabiting status