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Steven P. Kurtz Nova Southeastern University, steven.kurtz@nova.edu

Ken G. Douglas National Drug Commission, Bermuda

Yamilka Lugo University of Delaware

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Sexual risks and concerns about AIDS among adolescents in Anguilla

S. P. KURTZ¹, K. G. DOUGLAS², & Y. LUGO¹

¹University of Delaware, USA, and ²National Drug Commission, Bermuda

Abstract

Concerns regarding HIV/AIDS infection and the health risk behaviours among youth in the Caribbean are growing. Considering that approximately 30% of the Caribbean's population falls between the ages of 10 to 24, there is considerable need for research on youth in this region. This paper reports findings regarding the sexual risks and concerns about AIDS among 1,225 enrolled school students in Anguilla, drawn from self-administered health surveys conducted in 2002. Although over 40% of youth reported lifetime alcohol use, experience with other drugs was moderate. Males initiated sexual activity at a much younger median age than females (11 years for males vs. 14 years for females), and were twice as likely to have had sexual intercourse. In a multivariate logistic regression model, being sexually active was predicted by male gender (p = .000), recent substance use (p = .000), recent depression (p = .018), and a history of physical (p = .025) and sexual (p = .000) abuse. Only 22% of sexually active youth under 12 years of age reported using condoms at last intercourse, compared to 71% of those 13 and over. Older sexually active youth were also much more likely than younger ones to express ongoing concern about becoming infected with HIV. Implications for needed HIV/AIDS-prevention interventions are discussed.

Introduction

Concerns about the health risk behaviours among Caribbean youth have recently received growing attention (Blum et al., 2003; Halcón et al., 2000). With approximately 30 percent of the Caribbean's population falling between the ages of 10 and 24, there is a considerable need for research on HIV/AIDS risk behaviours among the region's youth so that education and prevention programmes may be developed to target them. This is of critical importance when one considers that as of December 2002, approximately 20,000 adolescents less than 15 years of age were living with HIV/AIDS within the Caribbean region (Rojas, 2004).

Certain health risk behaviours among youth in the Caribbean, as well as in the US, account for the majority of morbidity and mortality among adolescents. Specifically, there is mounting concern with the rapid increase of not only HIV/AIDS among the adolescent Caribbean population (Lerand et al., 2004; Smikle et al., 2001; Smith, 2003), but also the observed trends toward earlier initiation of sexual intercourse and the inconsistent use of condoms (Allen et al., 2002; Blum et al., 2003; DiClemente, 1992; Smikle et al., 2001). Research has also suggested that males are more likely to engage in sexual intercourse at an

Correspondence: S. P. Kurtz, University of Delaware, Center for Drug and Alcohol Studies, 2100 Ponce de Leon Blvd., Suite 1180, Coral Gables, FL 33134. Tel: 305-529-1911. Fax: 305-529-2501. E-mail: skurtz@udel.edu

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earlier age than females (Allen et al., 2002; Blum et al., 2003; Halcón et al., 2003; Smikle et al., 2001; Walrond et al., 1992).

Despite the recent increase in research activity in this area, a full understanding the problems is made more difficult by the cultural and economic differences that exist across the broad range of countries and territories that make up the Caribbean Basin. Also, the few studies on the topic reported in the literature have relied on different methods and sampled different types of youth populations. For example, a recent study of the individual and social factors affecting the sexual health of adolescents in Tobago used data from twelve single-sex focus groups composed of 10 to 24 year olds, as well as a survey of 676 young people between the ages of 10 to 29 (Allen et al., 2002). Their findings indicated that the average age of sexual initiation among those who were sexually active was 14 years (13.1 years for males and 15.2 years for females), and that only 25% of those engaging in sexual intercourse reported always using condoms over the past six months. Another study examined the risk behaviours of 165 adolescents, 14 to 19 years of age, recruited at sexually transmitted disease (STD) clinics in Jamaica (Smikle et al., 2001). Results indicated that 26% of respondents commenced sexual activity before the age of 12 and only 4% used condoms consistently. Fifty percent of males but only 5% of females initiated sexual activity before age 12. In a study of 150 youths in Belize City aimed at analysing the relationship of psychosocial factors to abstinence and the use of condoms, findings indicated that 48% of the sexually experienced respondents were between the ages of 13 and 14 at the time of their first sexual encounter and that 54% reported not always using condoms during sexual intercourse (Kinsler et al., 2003). Additionally, males were 4.5 times more likely than females to have engaged in sexual intercourse.

A major step in using standardized instrumentation and sampling procedures for studying the health behaviours of Caribbean youth was taken by the World Health Organization (WHO) in 2000. A comprehensive health survey was conducted among 16,000 youth, ages 10 to 18, residing in the nine sovereign state members of the Caribbean Community and Common Market (CARICOM). The study found that, among sexually active youth, more than 50% of the males and approximately 25% of the females reported their first sexual experience at the age of 10 or younger. Just 53.3% had used a condom during their most recent sexual encounter. However, because the Caribbean island of Anguilla is a British territory and not a part of CARICOM, it was not included in the WHO effort. The research study described here reports the findings – drawn from a survey similar to that developed by WHO for CARICOM - regarding sexual risks and AIDS concern among Anguillan youth. As such, it represents the first comprehensive report on adolescent sexual risk behaviours among Anguillan youth.

Methods

Site

Anguilla, a British colony since 1650 with but one brief interruption in the 1960s, is a 35 square mile island at the northern edge of the Leeward Island chain best known as a quiet, upscale tourist destination with outstanding beaches. Offshore banking, lobster fishing, and remittances from emigrants also provide major supports to the economy. The island's residential population in 2001 totalled 11,430 (Government of Anguilla, 2004), including 4,168 children and youths under the age of 20. At that census, 90.1% of the population reported their ethnicity as African/Black, 3.7% Caucasian, and 4.6% mixed. Over 99% of Anguillans reported being able to speak English. As in most of the non-sovereign Caribbean islands, only limited HIV/AIDS surveillance data are available.

Sample selection and data collection

During the months of March and April 2002 approximately 1,225 of the 1,499 enrolled school students ages 10 to 20 took part in a national Adolescent Health Survey. The self-administered survey was conducted in the seven primary schools and the Albena Lake-Hodge Comprehensive School. The study was originally designed by the Pan American Health Organization's (PAHO) Caribbean Programme Coordination office in conjunction with the WHO Collaborating Centre on Adolescent Health, University of Minnesota. A panel of experts in Anguilla reviewed the original PAHO instrument and minor revisions were made in keeping with the Anguillan context. Although the survey examined a wide range of health issues affecting Anguillan youth, this report focuses specifically on sexual risks, concern about AIDS, and the identification of associated demographic and behavioural predictors.

Analyses and interpretation

Data from the self-administered questionnaires were assigned identification numbers, entered into a database, and analysed with the assistance of a standard statistical software package (SPSS 11.5). Descriptive statistics were calculated using demographic, health, sexual behaviour and drug history data. Chi-square and t-tests were performed to examine bivariate relationships. Logistic regression models were created to predict sexual activity, condom use at last intercourse, and concern about getting AIDS. Due to the self-administered nature of the questionnaire, some students failed to answer a number of questions; missing data were treated as such rather than estimated. In the presentation of the logistic regression models that follow, the number of cases with missing independent variable values is specified where the number was considered sufficient to affect the analysis. No cases were eliminated from any analyses for other reasons.

In these analyses, questions with the highest number of missing responses included those about depressed mood (n = 95), sexual behaviour (n = 63), sexual abuse (n = 109) and physical abuse (n = 143). No demographic or behavioural biases in nonrespondents were found, except that those not answering the question about depressed mood were more likely to be male, younger and less likely to have had sex than the sample as a whole. Males were also somewhat overrepresented among those not answering questions about sexual experience.

The phrasing of questions used in the survey questionnaire has been largely retained in the tables herein with only minor changes made for the sake of brevity. Except where noted in the tables, information regarding continuous variables, such as age, were collected and reported at the ratio level of analysis. Nominal variables including race/ethnicity, depression ('During the past month, have you felt so down or discouraged that you wondered if anything was worthwhile?'), attempted suicide, sexual attraction, and sexual initiation ('Have you had sexual intercourse') were derived from simple 'yes/no' or categorical responses on the self-administered questionnaire forms. Physical and sexual abuse were similarly assessed, except that these questions were accompanied by a brief parenthetical explanation, e.g. 'Physical abuse is when someone causes you to have a scar, black and blue marks, welts, bleeding or a broken bone.'

Drug and alcohol use were measured by asking the respondents whether, in the past 12 months, they had used each substance daily, weekly, monthly, once/a few times, or never. Because of generally low levels of self-reported drug use, these were collapsed into 'never' and 'any use' categories in the analyses presented here. Condom use at last intercourse was indicated - along with other contraceptive methods - by a check box next to a list of options that included birth control pills and 'withdrawal'. Concerns about AIDS and other items listed in Table 2 were assessed using the format, 'For each thing, tell how much you worry about it.' Response choices were 'Not at all', 'Somewhat', and 'A lot'. The two forms of affirmative response were combined for analysis.

Results

Demographic, drug use and sexual behavioural characteristics of the total sample are shown in Table I. With a mean age of 12 years, almost three-quarters of the students reported being black, with the balance either Caribbean Indian or white. Males were heavier lifetime users of cigarettes and marijuana than were females, but females used more inhalants. Alcohol use was equally distributed across genders. Alcohol was by far the most common psychoactive substance used by youths, with 43% having imbibed in their lifetime.

Gender differences were much stronger for sexual behaviours. Though age distributions of males and females were similar in the total sample, males were more likely to have engaged in some type of sexual touching (59.6% vs. 48.2% for females) and twice as likely to have had sexual intercourse (28.3% vs. 14.8%). Concomitantly, males were more likely to have had at least two sexual partners. Males (62.2%) and females (63.8%) reported

Toble I	Demographic	es and behaviou	re of Anguillar	Vouth by	Gender (N - 1	225)
Table I.	Demograbino	es and benaviou	irs of Anguillai	i rouin by	Cremaer ($N = 1$	ZZ'11.

	Male (%) (N = 546)	, ,
Age:		
12 or younger	49.3	45.7
13 or older	50.7	54.3
Race/ethnicity:		
Black	70.1	73.3
Caribbean Indian	10.3	6.5
White	5.0	4.3
Recent substance use (last 12 months):		
Cigarettes	9.0	6.0
Alcohol	43.3	43.3
Inhalants	13.5	18.3
Marijuana	10.4	6.0
Any substance	51.8	53.2
Sexual behaviour:		
Any kind of touching with male or female	59.6	48.2
Attracted to same or both sexes ¹	12.2	11.3
Had sexual intercourse	28.3	14.8
Two or more lifetime sex partners ²	78.0	44.8
Always use a birth control method ²	34.1	42.2
Used condoms during intercourse most recent time ²	62.2	63.8

Notes:

¹496 cases missing, 'not sure' or 'don't understand'.

 $^{^{2}}$ N and percentages are for those who had sexual intercourse (N = 240).

equal use of condoms during their most recent sexual intercourse. Exclusive or non-exclusive sexual attraction to members of the same sex was similar for males (12.2%) and females (11.3%), but over 40% of study respondents either left these questions unanswered or said they were 'not sure' or 'didn't understand the questions'.

The survey questionnaire also provided data on the magnitude of youth's concerns about drug use and sexual risks relative to their other worries. Table II displays frequencies of positive responses (either 'somewhat' or 'a lot') to the question: 'For each thing, tell how much you worry about it'. With few exceptions, males and females worried about specific issues with the same relative frequency, but females were more likely than males to worry about most of the items listed. Passing compulsory examinations and finding adult employment ranked highest on the list of concerns. Given that the lack of occupational opportunities provided by Anguilla's small tourist-based economy has historically led many residents to seek employment 'off-island', these findings are not surprising.

Alcohol and drug use on the island and school violence were ranked next in frequency of concern. 'Getting AIDS' also rated fairly high, with 45.5% of males and 53.4% of females expressing ongoing worry about it. Interestingly, getting or making someone pregnant ranked much lower, with similar proportions of males (30.6%) and females (29.9%) expressing this concern. This lower level of concern about pregnancy compared to getting AIDS was not due to the use of non-barrier contraception methods, as these were reported to have been used by only six respondents at last intercourse (data not shown). Fears of sexual and physical abuse were reported by over 15% of youth, and worries over a parent's alcohol or drug use by almost 20%. Over 15% of males and 12% of females were concerned about their own drinking or drug use.

Bivariate and multivariate logistic regression models that predict having had intercourse are shown in Table III. Males were twice as likely as females to have engaged in sexual intercourse, and those males who had already done so initiated sex at a median age of 11 years, compared to age 14 for females. Users of alcohol and drugs were more likely to have been sexually active. A history of physical abuse, sexual abuse, or attempting suicide, as well as recently experiencing depression, were also associated with sexual experience. In the multivariate model, being sexually active was predicted by male gender (p = .000), recent

Table II.	Concerns	of Anguillan	youth	(N = 1225).
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		Female % (N = 667)
I worry about:		
Passing CXC's, O'Levels or A'Levels ¹	68.0	74.8
Getting a job when I am older	58.0	69.7
The drinking and drug use in Anguilla	47.5	61.0
The violence in my school community	44.5	53.4
Getting AIDS	45.5	49.1
Family having enough money	39.0	40.1
The violence in my community	33.9	43.8
Getting or making someone pregnant	30.6	29.9
Being sexually abused	16.0	22.0
All the fighting and violence I see at home	19.5	19.3
Mother's or father's drinking or drug use	19.5	18.7
Being physically abused	17.0	19.7
My own drinking or drug use	15.7	12.0

Note:

¹Compulsory examinations for educational advancement.

Table III. Predictors of ever having had sexual intercourse $(N = 1162)^{1}$.

Bivariate predictors	Regression coefficient	Odds ratio	95% CI	Sign. level
Male	0.820	2.271	(1.70, 3.03)	.000
Ethnic black	0.295	1.344	(.97, 1.87)	.080
Recent substance use (last 12 mg	onths):			
Alcohol	1.586	4.882	(3.57, 6.68)	.000
Drugs	0.994	2.703	(2.00, 3.66)	.000
Any substance	1.576	4.834	(3.44, 6.79)	.000
Abuse:				
Ever been physically abused ²	1.188	3.280	(2.12, 5.08)	.000
Ever been sexually abused ³	1.730	5.642	(3.36, 9.48)	.000
Mental health:				
Felt depressed in past month ⁴	0.622	1.863	(1.39, 2.50)	.000
Ever attempted suicide	0.521	1.684	(1.01, 2.81)	.046
Multivariate predictors ⁵				
Male	1.053	2.866	(2.01, 4.09)	.000
Recent substance use	1.795	6.019	(3.95, 9.17)	.000
Ever been physically abused	0.624	1.867	(1.08, 3.22)	.025
Ever been sexually abused	1.536	4.647	(2.38, 9.08)	.000
Felt depressed in past month	0.426	1.531	(1.08, 2.18)	.018

Notes:

substance use (p = .000), recent depression (p = .018), and a history of physical (p = .025)and sexual (p = .000) abuse.

Table IV shows frequencies of responses to a list of possible reasons why sexually inexperienced youth remain abstinent. More than half (56.1%) of females, but only 38.2% of males, indicated a conscious desire to wait until they were older to initiate sex. The next most common response, cited by just 11.7% of males and 18.5% of females, was the lack of opportunity to have sex with someone they like. Fears of disease or pregnancy were cited by very few youth as reasons for abstaining from intercourse.

Table IV. Reasons for sexual abstinence among Anguillan youth (N = 920).

	Male % (N = 369)	Female % (N = 551)
Reasons:		
I want to wait until I am older	38.2	56.1
No opportunity with someone I like	11.7	18.5
I am not emotionally ready for it	12.5	13.8
I want to wait until I am married	8.4	14.0
My religious values are against it	5.7	12.9
I want to, but no one has asked me	7.3	8.3
Fear of disease	4.3	6.4
I don't want to risk pregnancy	4.3	3.4
I haven't met anyone I want to have sex with	4.3	1.1
My parents' values are against it	1.6	0.4

¹Excludes 63 cases with missing sexual behaviour data.

²Excludes 120 cases with missing physical abuse data.

³Excludes 85 cases with missing sexual abuse data.

⁴Excludes 75 cases with missing depression data.

⁵Excludes 259 cases with missing data on any variable in the equation.

Table V. Predictors of condom use at last intercourse $(N = 240)^{1}$.

Bivariate predictors	Regression Coefficient	Odds Ratio	95% CI	Sign. Level
Male	-0.068	0.934	(.544, 1.60)	.804
Age 13 or older	2.157	8.644	(3.88, 19.24)	.000
Two or more lifetime sex partners	-0.213	0.808	(.464, 1.41)	.453
Recent substance use (last 12 months):				
Alcohol	0.661	1.937	(1.08, 3.48)	.027
Drugs	-0.123	0.884	(.519, 1.51)	.650
Any substance	0.647	1.909	(.996, 3.66)	.051
Mental health:				
Felt depressed in past month	0.247	1.280	(.748, 2.19)	.368
Ever attempted suicide	-0.404	0.668	(.275, 1.62)	.372
I worry about:				
Getting AIDS	0.683	1.980	(1.14, 3.45)	.016
Getting or making someone pregnant	0.563	1.756	(1.02, 3.02)	.042
My own drinking or drug use	0.020	1.020	(.543, 1.92)	.951
Multivariate Predictors				
Age 13 or older	2.157	8.644	(3.88, 19.24)	.000

Note:

Whereas Table IV includes statistics for only sexually abstinent youth, Tables V and VI include only those respondents who had already initiated sexual intercourse. Predictors of condom use during the most recent sexual intercourse are shown in Table V. Neither gender nor the number of lifetime sex partners was associated with condom use. Age was a highly

Table VI. Predictors of AIDS concern among sexually active youth $(N = 231)^{1}$.

Bivariate predictors	Regression Coefficient	Odds Ratio	95% CI	Sign. Level
Male	-0.538	.584	(.335, 1.02)	.057
Age 13 or older	2.315	10.125	(4.40, 23.30)	.000
Two or more lifetime sex partners				
Recent substance use (last 12 months):				
Alcohol	1.091	2.977	(1.63, 5.45)	.000
Drugs	.302	1.353	(.779, 2.35)	.283
Any substance	1.302	3.676	(1.87, 7.22)	.000
Mental health:				
Felt depressed in past month	.265	1.304	(.755, 2.25)	.342
Ever attempted suicide	.345	1.412	(.556, 3.59)	.468
I worry about:				
Getting or making someone pregnant	2.470	11.824	(6.09, 22.97)	.000
My own drinking or drug use	1.721	5.593	(2.39, 13.08)	.000
Multivariate Predictors				
Age 13 or older	2.325	10.228	(3.65, 28.66)	.000
I worry about:				
Getting or making someone pregnant	2.159	8.662	(4.19, 17.90)	.000
My own drinking or drug use	1.430	4.179	(1.54, 11.32)	.005

¹Valid cases, sexually active respondents only.

¹Valid cases, sexually active respondents only.

significant factor, however, as only 22% of sexually active youth ages 12 and under reported using a condom, compared to over 70% of those 13 and older. Worrying about AIDS or pregnancy was modestly associated with condom use. Recent users of alcohol were somewhat more likely to have used condoms. In a multivariate logistic regression model, only older age remained a significant predictor, with respondents 13 years of age or older being almost nine times more likely to have used a condom.

Finally, predictors of worrying about getting AIDS are shown in Table VI. As with reports of condom use at last intercourse, older sexually active youth were much more likely (71.1% vs. 19.5%) than younger ones to express ongoing concern about becoming infected. Those concerned about pregnancy, alcohol users, and those reporting concerns about their own drug and alcohol use were also more likely to be worried about AIDS. In the multivariate model, older age and concerns about both pregnancy and one's own substance use were strongly associated with worrying about getting AIDS.

Discussion

Limitations

For the purposes of informing researchers about the HIV/AIDS risks of Anguillan youth, the main limitations are related to the framing of relevant questions. Condom use data, for instance, were collected from questions about the use of birth control measures. Sexual activity data were limited to age of debut and number of lifetime partners. In any case, the data recorded here represent self-reports of over 80% of Anguillan adolescents. Although there is no way to know whether youth who did not complete the survey differed in some systematic way from respondents, the data may be expected to broadly represent the attitudes and behaviours of this population.

Interpretation

Since this is the first survey of Anguillan adolescents, the best source of similar data with which to contextualize the findings is the WHO (2000) study of the nine sovereign CARICOM nations. Relative to that sample, the average age of the Anguillan youth surveyed here is younger, with half aged 12 or younger compared to just over one-third (34%) in the larger study. With the proviso that detailed data are not available to control for these age differences, drug and alcohol use among Anguillan youth appear to be similar to other Caribbean countries. Lifetime alcohol use was reported by just over 43% of Anguillans compared to 45.5% of adolescents in the larger study. Marijuana use was reported by somewhat higher proportions of Anguillan males (10.4% vs. 8.6%) and females (6.0% vs. 4.1%) than those of the other Caribbean countries. The WHO study did not inquire about inhalants, the second most common drug category reported by Anguillans (18.3% of females and 13.5% of males).

Fewer Anguillan males (28.3% vs. 51.9%) and females (14.8% vs. 22.2%) reported having had sexual intercourse than CARICOM respondents, but much of this difference is likely due to the younger average age of the Anguillan sample; median ages of sexual debut were similar in both studies. As well, histories of physical and/or childhood abuse were risk factors for prior sexual initiation in the two samples. Comparative CARICOM data on predictors of condom use and AIDS concerns were not available.

Conclusions

Taken as a whole, the data from Anguillan youth raise several key concerns for HIV/AIDS prevention interventions. First, age of sexual debut is very low, as it is throughout the Caribbean. Further, this study points to physical and sexual abuse, depression and suicidal ideation, and substance use as risk factors for early sexual debut within the adolescent population. At the same time, concern about AIDS and condom use are extremely low among the 12-and-under age cohort, with just 22% of sexually active youth in that group having used a condom during the last intercourse, and only 19.5% expressing worry about getting AIDS. It appears that education programmes about HIV/AIDS should be provided at much earlier ages. Finally, HIV/AIDS education and intervention programmes would benefit from a both a strong surveillance programme and the collection of survey data that focuses on HIV/AIDS risk knowledge, attitudes and behaviours.

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