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AIDS knowledge and beliefs, and sexual behavior of sexually delinquent and non-delinquent (runaway) adolescents

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This study assessed general knowledge of AIDS, beliefs about preventing AIDS, and sexual behavior among two groups of male adolescents at high risk of HIV/AIDS: 60 sexually delinquent males and 57 non-delinquent runaway males.

Significantly fewer sexually delinquent than non-delinquent (runaway) males had experienced sexual intercourse with a consenting female partner (45 vs. 89 per cent). Sexually delinquent youths scored significantly lower than non-delinquent youths in general knowledge of AIDS (65 vs. 73 per cent) and were not able to discriminate safer behaviors from those which were less safe (42 vs. 71 per cent). Both groups reported moderate support for beliefs about preventing AIDS. These results suggest HIV/AIDS prevention programs that attempt to increase knowledge are needed by these youths, particularly for sexually delinquent youths.

INTRODUCTION

HIV/AIDS prevention for adolescents is a national health priority (U. S. Department of Health and Human Services, 1986). While developmental characteristics of adolescents make HIV/AIDS a concern for all youths (Hein, 1989), there are subgroups whose behaviors place them at higher risk. Based on their sexual behavior, sexually delinquent adolescents and non-delinquent runaway males are two such groups (Rotheram-Borus, Koopman and Bradley, 1989), and were the focus of this research.

Sexually delinquent youths are those who have committed sexual offenses against other persons. There is substantial evidence that the acts of sexual delinquents place themselves, as well as their victims, at risk. For example, Abel, Mittleman and Becker (1985) found that adult sex

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sources: a study (Magura *et al.*, 1989) finding perceptions of peers' behavior significantly influenced needle-sharing behavior; pregnancy prevention research showing a relationship between girls' sexual activity and peer behavior (Billy and Udry, 1985); and the finding that the best predictor of adolescents' substance abuse is the use by their peers (Kandel and Davies, 1982).

Self control: the ability to control oneself in a high-risk situation. Other researchers have identified self-control as a potential mediator of AIDS high-risk behavior, although this relationship has not been adequately investigated (Coates *et al.*, 1987; Kelly, St. Lawrence, Hood and Brasfield, 1989).

Expect to act to prevent pregnancy: for a boy, this domain refers to the desire to prevent female sexual partners from becoming pregnant. For a girl, this domain refers to the desire to avoid becoming pregnant. Being motivated to prevent pregnancy may better enable the adolescent to avoid unsafe sexual acts because some methods of preventing pregnancy (abstinence, substitution of petting for sexual intercourse, and condom use during sexual intercourse) also minimize the risk of contracting HIV infection.

In order to specify target areas for prevention programs, the present study assessed sexual behavior, general knowledge of AIDS, and AIDS prevention beliefs among sexually delinquent adolescent males and among non-delinquent males who have run away from home. Due to the sexually delinquents' greater cognitive distortions regarding sexuality (Becker *et al.*, 1986), it was hypothesized that they would also be more deficient in sexual knowledge regarding AIDS. Because the eventual goal of programs is to affect behavior change through enhancing knowledge and beliefs, a second goal of this study was to examine relationships among general knowledge of AIDS, beliefs about AIDS preventions, and sexual behaviors.

METHODS

Sample

Sexually delinquent youths

Sixty English-speaking, male adolescent sexual delinquents were consecutively recruited at a clinic specializing in treating adolescent sexual delinquents. Fifty-two per cent were Black, 35 per cent Hispanic, and 13 per cent Caucasian. No one had been married. Sixty-five per cent lived with a mother and/or father; another 23 per cent lived with other relatives. The average age was 14.8 years ($SD=1.6$). The majority were enrolled in junior high or high school, with the median grade between eighth and

ninth. All had been referred either from criminal justice or social service agencies for sexual crimes, and their victims tended to be female (81 per cent) and young: 50 per cent were children under age 8, 18 per cent were aged 9-12, 17 per cent were 13-18, and 6 per cent were 19 or older. Only 4 per cent of their victims were strangers: 44 per cent were relatives, and 52 per cent were known by other relationships (e.g. neighbor). The majority (68 per cent) reported sexual crimes involving completed or attempted penetration: vaginal intercourse (29 per cent), attempted vaginal intercourse (16 per cent), anal penetration (10 per cent), attempted anal penetration (6 per cent), and oral sex (6 per cent). Half (51 per cent) reported in their lifetime having used alcohol, 13 per cent marijuana, 4 per cent cocaine, and 2 per cent heroin.

Sexually non-delinquent (runaway) youths

Fifty-seven male runaways were recruited from consecutive interviews at two runaway shelters in New York City. Only those runaways who remained in the shelter for at least 48 hours were interviewed, as many of these runaways came to the shelter in a life crisis and this period allowed some stabilization to occur in their lives prior to their participation in the study. None of the runaways were identified to be sexually delinquent, and are referred to here as the non-delinquent comparison group, although in some respects runaways are atypical of adolescents in general, e. g. have greater life stressors than is normative among adolescents (Rotheram-Borus, Rosario and Koopman, 1991). Seventy-five per cent had not lived at home for at least two weeks. All participants spoke English and preferred to be interviewed in English. Sixty-three per cent were Black, 28 per cent Hispanic, 5 per cent White, and 4 per cent of undetermined ethnicity. None of them had married. Their average age was 15.7 years (SD=1.4). Their median grade level completed was between eighth and ninth. Alcohol use was reported by 89 per cent, marijuana 54 per cent, cocaine 30 per cent, and heroin 5 per cent.

Interviewers

The interviews of non-delinquent runaway youths were conducted by highly trained research assistants whose audiotapes of interviews were monitored by a supervisor on a weekly basis (Gruen, Calderwood, Meyer-Bahlburg and Ehrhardt, 1989). The interviews of sexually delinquent youths were conducted by a PhD-level clinician with eight years of experience working with sexually delinquent youths. Interviewers obtained informed consent with each youth before beginning data collection.

Table 1. *Percentage of sexually delinquent and non-delinquent (runaway) male adolescents engaging in sexual behavior with various numbers of consenting partners*

Consenting partners	Sexually delinquent (%) (n=60)	Non-delinquent (%) (n=57)
<i>Female</i>		
No partners	55*	11*
1 partner	8	7
2-3 partners	13	4
4-9 partners	15	25
10-19 partners	7	24
20-49 partners	0	16
50 or more partners	2	13
<i>Male</i>		
No partners	85	93
1 partner	0	2
2-3 partners	13	0
4-19 partners	0	2
20-49 partners	2	2
50 or more partners	0	2

* $p < 0.001$, two-tailed.

Table 2. *Percentage of sexually delinquent and non-delinquent (runaway) male adolescents engaging in sexual intercourse with consenting females at given ages*

Age of onset of sexual intercourse	Sexually delinquent (%) (n=60)	Non-delinquent (%) (n=57)
6-10	10	21
11	3	11
12	5	13
13	12	16
14	5	14
15	7	11
16	3	4
17	2	0
Has not happened	52	11

General knowledge and beliefs

Table 3 shows the mean score and mean percentage of correct responses overall and for each domain of general knowledge. Fourteen *t*-tests were conducted to test the significance of differences between the groups on total scores and domains of AIDS knowledge and beliefs. Sexually delin-

Table 3. Mean percentage of correct responses, standard deviation, t-test scores, and significance level on general knowledge about AIDS, overall and for each domain, comparing sexually delinquent and non-delinquent (runaway) males

General knowledge of AIDS	Sexually delinquent (n=60)			Non-delinquent (n=57)			t-test score
	Mean score	Mean (%)	SD	Mean score	Mean (%)	SD	
Total T/F score	39.4	64	(9.1)	45.5	73	(8.0)	3.8††
Definitions	5.7	71	(1.7)	6.2	77	(1.5)	1.7
Outcomes	4.2	61	(1.3)	4.9	71	(1.3)	2.8†
High risk	5.7	64	(1.7)	7.0	78	(1.6)	4.1
Transmission	8.1	68	(2.3)	9.1	76	(2.1)	2.4
Prevention	8.2	63	(2.5)	9.7	75	(2.4)	3.5††
HIV testing	7.4	58	(2.4)	8.5	65	(2.3)	2.3*
Safer alternatives	3.4	42	(2.4)	5.7	71	(2.1)	5.5††

*p < 0.05, two-tailed.

†p < 0.01, two-tailed.

††p < 0.001, two-tailed.

Table 4. Mean scores on AIDS prevention beliefs, overall and for each domain, grouped by sexually delinquent and non-delinquent (runaway) males

	Range	Sexually delinquent (n=52)		Non-delinquent (n=55)	
		Mean	SD	Mean	SD
Overall	(39-156)	117.8	(14.1)	120.2	(13.6)
Perceived threat	(3-12)	10.1	(1.9)	10.4	(2.0)
Self-efficacy	(20-80)	60.1	(8.3)	63.2	(8.4)
Self-control	(5-20)	15.8	(3.2)	16.2	(2.8)
Peer support for safe acts	(6-24)	16.7	(3.2)	16.0	(3.2)
Expect to act to prevent pregnancy	(5-20)	15.3	(3.1)	14.7	(3.0)

quent youths were significantly less knowledgeable than non-delinquent runaway youths on HIV testing, outcomes and prevention. Sexually delinquent youths were also found to have significantly less general knowledge of AIDS (64 vs. 73 per cent) and knowledge of safer alternatives (42 vs. 71 per cent).

There were no statistically significant differences in overall beliefs between sexually delinquent and non-delinquent runaway youths. The

in knowledge suggest that sexually delinquent youths may need more intensive intervention than non-delinquent youths to develop their general knowledge about AIDS. Education cannot account for this difference in knowledge, as both samples were identical in median grade level.

Youths who began engaging in sexual intercourse at an older age had greater AIDS knowledge than youths who began engaging in sexual intercourse earlier. Non-delinquent runaway youths with more positive beliefs about preventing pregnancy were also likely to have fewer female partners. These findings suggest that AIDS knowledge and beliefs about AIDS prevention may mediate sexual behavior among sexually delinquent youths and non-delinquent runaway youths, but further research must determine whether enhancing these youths' knowledge and beliefs reduces their high risk sexual behavior.

It may be useful in targeting future interventions to examine the items where sexually delinquent youths demonstrate the least knowledge. For example, approximately a third of the sexually delinquent youths indicate that they thought it is safe to have intercourse without using a condom with someone who does not look sick. Few non-delinquent runaway youths share this misconception. Also, 43 per cent of the sexually delinquent youths do not realize that contact with blood, vaginal fluids or semen can lead to HIV infection and eventually AIDS. The results suggest the usefulness of assessing AIDS knowledge to identify areas of misinformation. General knowledge is weak in the areas of HIV testing, health outcomes associated with contracting AIDS, and distinguishing safer from riskier sexual and intravenous acts. For example, this study found that a sizable proportion of the adolescents (40 per cent), indicated that they believed that donating blood increases the risk of contracting AIDS more than does receiving a blood transfusion.

Both sexually delinquent and non-delinquent runaway youths revealed moderately positive health-enhancing beliefs. However, the need for intervention remains. For example, only a small number of youths strongly agreed that they are acting safely, that they would use a condom in the future, and that their peers support practising safer sex to lower the threat of AIDS.

The significant correlation among the non-delinquent runaway youths between general knowledge and AIDS prevention beliefs suggests that these areas of understanding may be linked. It is unclear why significant relationships between overall knowledge and beliefs were not found for the sexually delinquent youths. Perhaps their overall knowledge was insufficient for developing the associations with beliefs that would be expected. Alternatively, their sexual beliefs and behaviors may be determined by irrational assumptions and conflicts to a greater degree than

other groups of adolescents, with knowledge less associated with beliefs than among non-delinquent youths. However, the associations between their general knowledge and self-efficacy and perceived threat of AIDS suggest that their knowledge may be linked to these two belief domains. The associations found between knowledge and beliefs among the non-delinquent runaway youths were somewhat different, with general AIDS knowledge significantly related to the item domains on self-efficacy, self-control, and the expectation to act to prevent pregnancy.

Logically, we might expect increased knowledge to be an important resource related to beliefs. For example, general knowledge about AIDS may enable youths to develop coping skills to handle sexual risk situations, which may be accompanied by shifts in perceiving themselves realistically as more self-efficacious and in control of themselves. However, general knowledge about AIDS may not play a significant role in developing other kinds of beliefs or attitudes, such as tolerance toward persons with AIDS, as suggested by research with seventh and tenth grade students (Brown and Fritz, 1988). Future research is needed to clarify the relationship of general knowledge to beliefs. Also needed is a better understanding of how knowledge and beliefs are related to reducing unsafe sex and drug behavior among youths at high risk. Changing behavior is far more complicated than merely changing knowledge and beliefs; however, it is logical to expect that health-enhancing knowledge and beliefs help to support safer behavior, and this should be further examined by more research targeting sexually delinquent and non-delinquent youths. For example, research is needed to examine irrational assumptions and conflicts that may be greater influences on sexual risk behaviors among sexually delinquent youths than among non-delinquent youths.

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