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Changes in Sexual Behavior and Condom Use among Teenaged Males: 1988 to 1995

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ABSTRACT

Objectives. This study examines shifts in sexual experience and condom use among US teenaged males.

Methods. Results from the 1988 and 1995 National Surveys of Adolescent Males were compared.

Results: The proportion of never-married 15- to 19-year-old males who had had sex with a female declined from 60% to 55% ($P = .06$). The share of those sexually active using a condom at last intercourse rose from 57% to 67% ($P < .01$). Overall, the proportion of males who had sex without condoms last year declined from 37% to 27% ($P < .001$).

Conclusions. Although protective behaviors among teenagers have increased, significant proportions of teenagers—especially Black and Hispanic males—remain unprotected. (*Am J Public Health*. 1998;88:956-959)

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Introduction

This paper reports recent trends in sexual and contraceptive behaviors among American teenaged males, based on nationally representative surveys conducted in 1988 and 1995. These behaviors directly affect the risks of human immunodeficiency virus (HIV) infection or sexually transmitted disease (STD) transmission and unintended pregnancies.

The National Survey of Adolescent Males was originally designed as a counterpart to fertility-related data about females collected in the National Survey of Family Growth. Surveys of males have become more pertinent in the last decade because of the importance of condom use. Earlier comparisons of the 1988 National Survey of Adolescent Males and a 1979 survey showed that the proportion of teenaged males who were sexually experienced rose slightly between 1979 and 1988, while the use of condoms more than doubled.¹ Analyses of the National Survey of Family Growth showed similar trends for teenaged females between 1982 and 1988.² The national health objectives for the year 2000 include reducing teenagers' sexual activity as well as increasing the use of condoms.³

Methods

In both 1988 and 1995, the National Survey of Adolescent Males was designed by the senior authors. The 1988 survey was conducted by the Institute for Survey Research, Temple University. The methodology has been described elsewhere.¹ Briefly, this was a nationally representative household sample of 1880 never-married males 15 through 19 years old, stratified to oversample Black and Hispanic youths. The overall sample response rate was 74%.

In 1995 the survey was conducted by Research Triangle Institute. This was also a national probability household sample of 15-through 19-year-old males in the conterminous United States, oversampling Black and Hispanic youths. To identify teenaged males for interviews, field staff screened 54 265 housing units across the country. Among eligible males, the response rate was 75%. Response rates were slightly higher among Black youths. A total of 1729 males were

interviewed, but the analyses herein are of the 1710 who were never married.

In 1988 and 1995, face-to-face interviews were conducted by trained interviewers in the respondents' homes or other confidential locations. Written parental permission was required for teenagers under the age of 18. There was an interview lasting about 1 hour, which included partner-by-partner sexual and contraceptive histories, as well as demographic and family background and HIV-related and pregnancy-related attitudes and knowledge. A self-administered questionnaire lasting 10 to 15 minutes covered many of the most sensitive questions. The data presented here come from interviewer-administered items. Because these are self-reported data about sensitive behaviors, there is some risk of intentional or unintentional reporting errors; however, earlier research has shown that the interview responses are relatively reliable and valid compared with self-administered questions and external data.^{1,4}

Data presented in this paper are weighted. The weights compensate for probability of selection and nonresponse and are poststratified to align with census data.⁵ Because of the complex sampling designs of the 2 surveys, SUDAAN was used to compute the standard errors used in statistical tests of differences in proportions and means.⁶

Results

Sexual Activity

There was a marginally significant reduction in the percentage of teenaged

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males who reported ever having sexual intercourse with a female (Table 1). In 1995, 55% had ever had sex, compared with 60% in 1988 ($P = .06$; 95% confidence interval [CI] = 51%, 59% for 1995, 56%, 64% for 1988). Closer examination shows that the proportions of Black and Hispanic males who were sexually experienced did not change significantly. Only White males showed a decrease in sexual experience rates, from 57% in 1988 to 50% in 1995 ($P = .052$).

Black males reported the highest rates of sexual experience, White males reported the lowest rates, and Hispanic males fell between these 2 groups. In 1995, 80% of the Black respondents reported being sexually experienced, compared with 50% of White and 61% of Hispanic respondents. The probability of being sexually experienced rose sharply with age, increasing from 27% for 15-year-olds to 84% for 19-year-olds.

Condom and Contraceptive Use at Last Intercourse

Table 2 shows that in 1995, two thirds (67%) of the sexually experienced respondents reported using a condom at last intercourse (alone or combined with a partner's effective female contraceptive method), in contrast to 57% in 1988 ($P < .01$; 95% CI = 62%, 72% for 1995, 52%, 62% for 1988). Condom use increased significantly for Black and White males, and there was a marginally significant increase for Hispanic males.

The proportion of respondents reporting the use of both a condom and a female method of contraception at last intercourse was unchanged (17%) between 1988 and 1995. The higher levels of condom use in 1995 appear to have occurred while partners' use of female methods declined. There was a marginally significant decline in the

reporting of partners' use of female methods (with or without condoms), from 37% in 1988 to 30% in 1995 ($P < .10$). Black males reported a significant decline in use of female methods ($P < .05$). Earlier studies have indicated that condoms may displace female methods and vice versa.⁷

A sizeable fraction of youths are protected against neither pregnancy nor STD and HIV transmission. In both 1988 and 1995, about one fifth of respondents had used neither condoms nor female contraception at last intercourse (23% in 1988, 20% in 1995).

Consistency of Condom Use

To assess whether respondents had used condoms consistently, we estimated the percentage of times that a respondent had used condoms in the last 12 months (estimated from partner-by-partner data, using algorithms described previously⁸). As seen in Table 3, the average percentage of times that condoms were used in the last year was higher in 1995 (69%) than in 1988 (56%; $P < .001$; 95% CI = 65%, 73% for 1995, 51%, 60% for 1988). This pattern holds true across the age spectrum; at each age, respondents in 1995 reported higher levels of consistent condom use than did respondents in 1988. The increase in consistency of condom use was significant for Whites and Blacks, but not Hispanics. Hispanics remained the least likely to use condoms.

Another way to view consistency is to classify those who had always, never, or intermittently used condoms in the previous year. Overall, the proportion always using condoms rose from 33% in 1988 to 45% in 1995, while the proportion never using condoms fell from 18% in 1988 to 10% in 1995 ($P < .01$). While Black and White males followed this pattern, Hispanic males tended to shift more toward intermittent

condom use. All 3 groups showed some improvement, but the results translate into greater protection for Blacks and Whites than for Hispanics.

Levels of Sexual Risk

To understand the overall spectrum of risk for HIV or STD transmission, we classified all the respondents as follows: (1) never had sex, (2) sexually experienced but had no sex in the last 12 months, (3) sexually active but reported using condoms 100% of the time in the last year, or (4) had at least one act of intercourse without a condom in the last year (Table 4). These categories describe a gradient from zero risk (never had sex at all) to some risk (at least 1 act of unprotected sex) of STD and HIV transmission.

Overall, the proportion of teenaged males who had had at least 1 act of unprotected sex in the last year fell from 37% in 1988 to 27% in 1995 ($P < .001$; 95% CI = 33%, 41% for 1988, 23%, 31% for 1995). The proportion who had never had sex increased from 40% in 1988 to 45% in 1995 ($P = .06$), while the proportion who were sexually experienced but had been abstinent in the last year remained stable at 6%. The proportion who had used condoms all the time in the last year rose from 18% to 22% ($P < .05$).

These patterns vary across racial/ethnic groups. Among Black teenagers, the major shift was the increase in 100% condom use. Among White teenagers, the shift was the decline in the percentage ever having sexual intercourse ($P = .052$). The patterns for Hispanic teenagers did not change substantially.

Despite these improvements, more than a quarter (27%) of teenaged males were still having unprotected sex in 1995. While only 23% of White teenaged males

TABLE 1—Percentages of Never-Married US Males Aged 15 through 19 Years Who Ever Had Sexual Intercourse with a Female, by Race/Ethnicity and Age: National Survey of Adolescent Males, 1988 and 1995

Year	Total Sample ^a	Racial/Ethnic Group			Age, y				
		Black	White	Hispanic	15	16	17	18	19
1995									
(n ^b)	(1708)	(489)	(609)	(552)	(400)	(389)	(359)	(326)	(234)
%	55.2*	80.4	49.5*	60.9	27.1	44.6	58.4	67.0	84.0
1988									
(n ^c)	(1874)	(676)	(752)	(385)	(389)	(394)	(427)	(389)	(275)
%	60.4	80.6	56.8	59.7	32.6	49.9	65.6	71.6	85.7

*1995 different from 1988 at $P < .10$.

^aTotal sample includes Asians and Pacific Islanders.

^bIn 1995, 2 respondents out of a total n of 1710 did not answer the question about whether they had ever had intercourse.

^cIn 1988, 5 individuals out of a total n of 1880 did not answer the question about whether they had ever had intercourse. An additional single respondent did not indicate an exact age.

TABLE 2—Contraceptive Use at Last Intercourse (%) by Never-Married, Sexually Experienced US Males Aged 15 through 19 Years, by Race/Ethnicity and Age: National Survey of Adolescent Males, 1988 and 1995

Contraceptive Method at Last Intercourse ^a	Total Sample ^b	Racial/Ethnic Group			Age, y				
		Black	White	Hispanic	15	16	17	18	19
1995 (n = 94)									
Any condom use	67.0***	73.9**	66.8**	58.2	68.9	78.1**	73.1**	57.4	63.1
Any female method use	30.0*	30.7**	32.3	23.8	30.8**	17.4*	26.8	35.7	34.7
Condom only	49.6***	52.1***	49.0*	47.0*	45.9	66.9***	56.0	40.3	43.9*
Condom + female method	17.4	21.8	17.8	11.1	23.0**	11.3*	17.1	17.1	19.2
Female method only	12.6***	8.9**	14.5**	12.7	7.9	6.1	9.7**	18.6*	15.4
Ineffective or no method	20.4	17.2	18.7	29.1	23.3	15.7**	17.1	24.0	21.5
1988 (n = 1229)									
Any condom use	56.9	65.5	54.4	53.0	59.5	62.3	57.8	53.5	55.2
Any female method use	36.5	40.9	36.7	32.6	16.7	27.7	32.0	45.0	46.6
Condom only	40.2	39.2	39.9	36.1	47.7	42.8	46.5	37.1	31.5
Condom + female method	16.7	26.4	14.5	17.0	11.8	19.5	11.4	16.4	23.7
Female method only	19.7	14.5	22.2	15.6	4.9	8.2	20.6	28.6	23.0
Ineffective or no method	23.4	20.0	23.4	31.3	35.6	29.5	21.5	17.9	21.8

^aFemale methods include oral contraceptives, Norplant, Depo-Provera, intrauterine device (IUD), diaphragm, female condom, spermicides, and sterilization. Ineffective methods (i.e., withdrawal, rhythm, douching) are ineffective against pregnancy or STD and HIV transmission.

^bTotal sample includes Asians and Pacific Islanders.

*1995 different from 1988 at $P < .10$.

**1995 different from 1988 at $P < .05$.

***1995 different from 1988 at $P < .01$.

TABLE 3—Consistency of Condom Use During Last 12 Months by Never-Married, Sexually Experienced US Males Aged 15 through 19 Years, by Race/Ethnicity and Age: National Survey of Adolescent Males, 1988 and 1995

Measure of Condom Use During Last Year	Total Sample ^a	Racial/Ethnic Group			Age, y				
		Black	White	Hispanic	15	16	17	18	19
1995 (n = 892)									
Percentage of times condom used, mean	68.7***	72.8***	70.1***	58.7	75.7*	78.9**	72.0**	64.1**	62.0**
100% Condom use, %	45.0***	47.2**	47.9***	30.1	58.8**	69.5***	41.0	33.3	38.9***
Intermittent condom use, %	45.5	44.3	44.0	57.2*	28.2	25.9	55.1	55.5	47.5***
No condom use, %	9.5***	8.5**	8.2***	12.6*	12.9	4.5***	4.0***	11.2***	13.6
1988 (n = 1131)									
Percentage of times condom used, mean	55.5	62.5	53.6	52.5	61.5	63.1	60.8	51.8	46.3
100% Condom use, %	33.1	36.9	32.3	34.1	39.1	46.6	35.6	30.4	21.4
Intermittent condom use, %	48.5	48.3	48.3	44.4	39.0	32.2	50.5	45.5	66.2
No condom use, %	18.4	14.9	19.4	21.5	22.0	21.2	14.0	24.1	12.3

^aTotal sample includes Asians and Pacific Islanders.

*1995 different from 1988 at $P < .10$.

**1995 different from 1988 at $P < .05$.

***1995 different from 1988 at $P < .01$.

had had unprotected sex during the last year, the rates were much higher among Black (39%) and Hispanic (37%) males.

Discussion

Earlier survey research indicates that the percentage of American teenagers, male and female alike, who had ever had sex generally grew steadily between the 1950s and the early 1990s.^{9,10} These new findings are important because they signal that, for the first time in decades, sexual activity is leveling off and may be decreasing among White teenaged males. At the same time, condom

use has increased and the level of unprotected intercourse (without condoms) has fallen.

These findings are particularly meaningful in light of the criticism by some that efforts to promote condom or contraceptive use might lead to more sexual activity. The trends suggest that youths can both reduce sexual activity and increase the use of condoms; these goals are compatible. Earlier research has indicated the complementary roles of education about acquired immunodeficiency syndrome (AIDS) prevention, safe sex, and abstinence.^{11,12}

Similar findings from the 1995 National Survey of Family Growth have just been

released. They indicate marginally significant reductions in the sexual activity of 15-through 19-year-old females between 1990 and 1995 and significant increases in condom use at first intercourse.¹³ Surveys of high school students in the Youth Risk Behavior Survey series tend to show declining levels of sexual experience between 1991 and 1995 (although the trends are not statistically significant) and increasing condom use.^{14,15} Although the National Survey of Family Growth and National Survey of Adolescent Males findings about changes in the proportion of youths who are sexually experienced do not attain a level of significance at the .05 level, the patterns across sur-

TABLE 4—Percentages of Never-Married US Males Aged 15 through 19 Years at Various Levels of Sexual Risk, by Race/Ethnicity: National Survey of Adolescent Males, 1988 and 1995

	Total Sample ^a	Racial/Ethnic Group		
		Black	White	Hispanic
1995 (n = 1708^c)				
No sex ever	44.8*	19.6	50.5*	39.1
No sex in last year	5.8	6.8	5.4	8.6
100% condom use	22.2**	34.8**	21.1*	15.8
Unprotected sex in last year ^c	27.1***	38.9*	23.0***	36.6
1988 (n = 1875^d)				
No sex ever	39.6	19.4	43.2	40.3
No sex in last year	5.6	7.9	4.6	8.7
100% condom use	18.1	26.7	16.8	17.4
Unprotected sex in last year ^b	36.7	46.0	35.4	33.6

^aTotal sample includes Asians and Pacific Islanders.

^bAt least one act of intercourse without a condom in last year.

^cIn 1995, 2 respondents out of a total n of 1710 did not answer the question about whether they had ever had intercourse.

^dIn 1988, 5 individuals out of a total n of 1880 did not answer the question about whether they had ever had intercourse.

*1995 different from 1988 at $P < .10$.

**1995 different from 1988 at $P < .05$.

***1995 different from 1988 at $P < .01$.

veys are very similar and suggest that the findings are not due to chance. Further, the results are consistent with national natality data showing that the rate of adolescent childbearing fell between 1991 and 1994¹⁶ and with disease surveillance data showing that gonorrhea rates declined from 1992 to 1995.¹⁷

Despite this good news, this study also shows that a significant fraction of teenagers continue to have unprotected sexual intercourse, putting them at risk of HIV infection, STDs, and unintended pregnancies. Further, the risks are not spread evenly. White males are much less likely to have had unprotected intercourse in the last 12 months (23% in 1995) than Black or Hispanic youths (39% and 37%, respectively). The behavioral differences seen by race/ethnicity are consistent with epidemiological data that indicate substantially higher rates of STDs,¹⁷ heterosexually acquired AIDS,¹⁸ and teenage pregnancy¹⁶ among minority groups.

The proportion of teenaged males who reported use of both a condom and a female method of contraception was the same (17%) in 1988 and 1995. Since dual-method use is the safest method of preventing both pregnancy and STDs, short of

abstinence, it is disheartening that there has been no change in this statistic.

The overall findings are encouraging and suggest that public health and educational initiatives to improve sexual and contraceptive behaviors of American teenagers have been moving in the right direction. However, they also warn us that more improvements are needed, particularly to protect the health of Black and Hispanic youths. □

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