

Adolescent health brief

Relationship of Condom Use with Other Sexual Risk Behaviors among Selected Japanese Adolescents

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Abstract

This study examines relationships between condom use and age at initiation of sex, the number of sexual partners, and alcohol or drug use before sex among a convenience sample of 2852 Japanese adolescents. We found that nonuse of condoms is related to early initiation of sex, having multiple sexual partners and alcohol or drug use before sex. © 2007 Society for Adolescent Medicine. All rights reserved.

Keywords:

Adolescent; Sexual behavior; Condoms; Safe sex; Risk factor; Japan

In many developed countries, evidence increasingly shows a growing prevalence of sexually transmitted diseases (STDs) among youth [1]; Japan is no exception [2]. For example, in 2002, the incidence of Chlamydia infection in Japanese females aged 15–24 years was found to be 968–1183 per 100,000 person-years, a much higher rate than that of older age groups [2]. Human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) cases in Japan have also been increasing since the 1990s [3]. Moreover, a greater percentage of Japanese youth have sexual intercourse today than in the past, and age at initiation of sex is decreasing [4].

Condom use has consistently been shown to reduce the risk of STD infections [5]. Similarly, other sexual risk behaviors such as early sexual initiation, having multiple sexual partners, and alcohol or drug use before sex, are significantly associated with STD infection [6]. In addition, previous studies in the United States have shown that nonuse of condoms and other sexual risk behaviors commonly co-occur [7,8]. However, little is known about relationship between unprotected sex and other sexual risk behaviors among Japanese adolescents. One study of high school

students in a provincial prefecture in Japan found that those who had multiple sex partners were less likely to use condoms [9].

Our study elaborates on relationships between nonuse of condoms and other sexual risk behaviors, including age at first intercourse, number of sex partners, and alcohol or drug use before sex among Japanese adolescents.

Methods

Using written instructions provided by researchers, classroom teachers conducted a self-administered, anonymous questionnaire in a classroom setting in November and December 2002. After being informed about the nature and intent of the study, students were asked to complete and return the questionnaire sealed in an envelope. Students were free to decline to participate. No follow-up was conducted on students who were absent from school when the survey was conducted. Study protocol was approved by school administrators as well as the Institutional Review Board of the University of the Ryukyus.

This study was performed with a nonprobability sample of 2852 students from grades 10 through 12 (ages 15–18 years) enrolled in 25 public high schools in Okinawa, Japan. Schools were conveniently chosen depending on the size of the school districts' student population. The total number of students in grades 10 through 12 enrolled in public high

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Table 1
Number and percentage of students who engaged in sexual risk behaviors by demographic characteristics

	Total		Gender				<i>p</i>	Grade						<i>p</i>	School type				<i>p</i>
	n	(%)	Male		Female			1st		2nd		3rd			General		Vocational		
			n	(%)	n	(%)		n	(%)	n	(%)	n	(%)		n	(%)	n	(%)	
Experience of sexual intercourse																			
Yes	582	(23.5)	226	(18.9)	356	(27.8)	<.001	104	(11.8)	215	(24.9)	263	(35.9)	<.001	360	(21.4)	222	(28.0)	<.001
No	1897	(76.5)	972	(81.1)	925	(72.2)		780	(88.2)	648	(75.1)	469	(64.1)		1326	(78.6)	571	(72.0)	
Condom use during last sex*																			
Yes	340	(60.2)	138	(63.0)	202	(58.4)	.273	52	(52.0)	127	(60.2)	161	(63.4)	.144	221	(62.8)	119	(55.9)	.104
No	225	(39.8)	81	(37.0)	144	(41.6)		48	(48.0)	84	(39.8)	93	(36.6)		131	(37.2)	94	(44.1)	
Age at initiation of sex*																			
≤12	8	(1.4)	3	(1.3)	5	(1.4)	.646	5	(4.9)	2	(1.0)	1	(.4)	— [†]	3	(.9)	5	(2.3)	.140
13–14	86	(15.0)	37	(16.7)	49	(14.0)		26	(25.5)	34	(15.8)	26	(10.2)		47	(13.3)	39	(17.8)	
15–16	381	(66.6)	141	(63.5)	240	(68.6)		70	(68.6)	157	(73.0)	154	(60.4)		246	(69.7)	135	(61.6)	
≥17	97	(17.0)	41	(18.5)	56	(16.0)		1	(1.0)	22	(10.2)	74	(29.0)		57	(16.1)	40	(18.3)	
Number of sexual partners*																			
1	279	(50.5)	122	(56.2)	157	(46.9)	.188	59	(60.8)	96	(46.4)	124	(50.0)	.406	176	(52.1)	103	(48.1)	.142
2	111	(20.1)	37	(17.1)	74	(22.1)		16	(16.6)	46	(22.2)	49	(19.8)		67	(19.8)	44	(20.6)	
3	69	(12.5)	25	(11.5)	44	(13.1)		11	(11.3)	27	(13.0)	31	(12.5)		47	(13.9)	22	(10.3)	
4 or more	93	(16.9)	33	(15.2)	60	(17.9)		11	(11.3)	38	(18.4)	44	(17.7)		48	(14.2)	45	(21.0)	
Use of alcohol or drugs before last sex*																			
No	474	(82.4)	189	(84.8)	285	(81.0)	.245	85	(84.2)	171	(79.9)	218	(83.8)	.470	291	(81.7)	183	(83.6)	.578
Yes	101	(17.6)	34	(15.2)	67	(19.0)		16	(15.8)	43	(20.1)	42	(16.2)		65	(18.3)	36	(16.4)	

Total number varies due to missing data.

* Among students who are sexually experienced.

[†] As the number of 1st grade students who initiated sex at age 16 years or older was extremely few, we did not perform the chi-square test.

schools in Okinawa was approximately 50,000. There were 111 students who declined to participate and 189 students who were absent from school when the survey was conducted. A total of 2479 students gave complete responses to the questions regarding sexual intercourse (1198 males, 1281 females).

The questions were adapted from the Youth Risk Behavior Surveillance (YRBS) conducted by the U.S. Centers for Disease Control and Prevention [10]. The questions were translated into Japanese by our research team, which included a bilingual speaker. Sexual risk behaviors were evaluated from the students' responses to questions about: having had sexual intercourse (yes/no); their age at initial sexual intercourse (response categories of 11 years old or younger to 17 years or older); the number of sex partners they have had (response categories of one to more than six); alcohol or drug use prior to last sexual intercourse (yes/no); and condom use during last sexual intercourse (yes/no). Test-retest reliability of these questions for Japanese adolescents demonstrated good stability, ranging from kappa statistics of .66 to 1.0 [11].

After testing for associations of demographic characteristics such as gender, grade, and school type (type of educational institution attended) with sexual behaviors using the chi-square statistic, multivariate logistic regression analysis was employed to determine relationships between condom use and other sexual risk behaviors with demographic characteristics as covariates. In the latter analysis, response categories of age at sexual initiation and the number of partners were dichotomized as "14 years or younger" or "15 years or older" and "1 to 3 partners" or "4 partners or more," respectively, depending on distributions of the categories and the standard classification in YRBS reports [10].

Results

Nearly one-quarter of the total sample had experienced sexual intercourse. Among sexually experienced students, only 1.4% initiated sex before 13 years of age; 60.2% had used a condom during last sex, 16.9% had had four or more sexual partners, and 17.6% had used alcohol or drugs prior to sex. The prevalence of sexual intercourse was significantly higher among females, older students, and vocational high school students. The prevalence of other sexual risk behaviors did not vary by gender, grade, or school type (Table 1).

The odds of condom use during last sex was 1.9 times higher among those who initiated sex at age 15 years or older than those did so by age 15 years. Use of condoms was 1.8 times higher among those who had three or less partners than those who had four or more partners, and also twice as high among those who did not use alcohol or drugs before sex than among those who did (Table 2).

Table 2
Relationship between condom use and other sexual risk behaviors*

	OR [†]	(95% CI) [‡]
Age at initiation of sex		
≤14	1.00	
≥15	1.90	(1.18–3.06)
Number of sexual partners		
1–3 partners	1.00	
4 or more partners	.56	(.35–.90)
Use of alcohol or drugs before last sex		
No	1.00	
Yes	.50	(.32–.80)

* Among students who have ever had sexual intercourse.

[†] Odds ratio adjusted for gender, grade, school type, and all other sexual risk behaviors.

[‡] 95% confidence interval.

Discussion

The prevalence of sexual intercourse was similar to findings from previous studies of Japanese students [4,9] and is significantly lower than YRBS results in the United States (46.7%) [10]. Only 1.4% initiated sex before age 13, as compared to the 7.4% of U.S. students who reported first intercourse by age 13 [10]. Interestingly, although Japanese students were less likely to engage in sexual intercourse, the prevalence of sexual risk behaviors—such as nonuse of condoms, having multiple sexual partners, and the use of alcohol or drugs before sex—were consistent with YRBS results [10]. These findings are consistent with those of previous studies in that Asian-American students were less likely to be sexually experienced than students of other races, but have similar sexual risk behaviors once they are sexually experienced [8]. Asian adolescents were found to be more conservative regarding sex; this sexual conservatism may contribute to delayed sexual initiation among sexually inexperienced students, but may not influence sexual risk behaviors among sexually experienced students [8].

In this study, Japanese students who initiated sex at an early age, had multiple sex partners, and used alcohol or drugs before sex were found to be less likely to use condoms during last sex. This finding was consistent with the findings of other studies in the United States, in that nonuse of condoms and other sexual risk behaviors commonly occur simultaneously [7,8]. Because these sexual risk behaviors increase the likelihood of STD infections, Japanese students who engaged in sexual risk behaviors may be at a higher risk of acquiring STDs [6].

Some limitations of this study should be noted. First, the data rely on students' reports of their own behavior. Students may have underreported sexual risk behaviors. Second, this study was conducted exclusively on students in public high schools in Okinawa. Therefore, the findings must be interpreted cautiously and limited from generalizing about adolescents in Japan as a whole. Finally, further research is needed to elaborate relationships of condom use

with other factors, such as personal and partnership characteristics, in addition to the behavioral factors examined in this study.

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