

## Gender Differences in HIV-Related Sexual Risk Behaviors among Korean College Students

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### I. Introduction

#### 1. Background

In the world, about 37.8 million people are living with HIV(Human Immunodeficiency Virus), which killed 2.9 million in 2003, and over 20 million had died since the first case of AIDS(Acquired Immune Deficiency Syndrome) was identified in 1981(UNAIDS, 2004). In 2001, an estimated 11.8 million young people aged 15-24 are living with HIV/AIDS: males account for 38.1%(4.5 million males) and females account for 61.9%(7.3 million females)(UNAIDS, 2002; UNAIDS, 2003; UNAIDS, 2004). About half of all new adult

infections(around 6000 daily) are occurring among young people(UNAIDS, 2002; UNAIDS, 2003; UNAIDS, 2004). The HIV/AIDS is not only a human crisis, but it is also a threat to public health, the society, and to the economy including issues such as unemployment, poverty, social and gender inequality, discrimination, etc. The loss of life and the effects of illness lead to a reduced capacity to sustain production and employment that affect poverty.

Korea is one of the lowest prevalence of HIV infection in the world, which is less than 0.01% of AIDS/HIV prevalence, compared with the other countries(KCDC, 2004; KCDC, 2005). However, the fact that the

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number of new case of HIV infection, especially among Korean adult men aged 21-40 in productive life continues to rise has become of particular concern. The main HIV transmissions in Korea in the latter part of the eighties and the early part of the nineties were sex with HIV infected foreign persons or blood transfusion(Goh, 2001; KCDC, 2004). Today, most HIV infections are acquired sexually including homosexual and heterosexual transmission among Koreans. Recently, several infections of housewives who have sex with their husband and mother-to child transmissions have occurred in Korea. It is increasingly clear that the incidence of HIV/AIDS is not confined to the apparently high-risk groups transfusion(Goh, 2001; KCDC, 2004; Sohn, 2004a). Anyone engaging in normal sexual behavior such as a housewife could become infected. If this trend continues, the general population as well as high-risk groups such as homosexuals, intravenous(IV) drug users, or sex industry workers will increase unless comprehensive measures to prevent HIV/AIDS are taken(Sohn, 2004a).

In the U.S., the majority of people infected by HIV/AIDS were homosexuals in the early days of the AIDS epidemic. Now more adolescents, minorities, and females who come a lower social status have become infected(CDC, 2002) Sexually transmitted infections(STIs) including HIV/AIDS are

common among young people aged 15-24 in the world. For example, UNAIDS estimates that 11.8 million people aged 15-24 years are living with HIV/AIDS(UNAIDS, 2002; UNAIDS, 2003). Half of all new HIV infections worldwide have occurred among people under 25 and in some populations up to a third of those entering adolescence are expected to die of AIDS in the near future(UNAIDS, 2003; UNAIDS, 2004).

Even though the total number of young people with HIV/AIDS in Korea is very low compared with other countries, the number of new infected HIV/AIDS cases in this age group has increased slightly(Sohn, 2004a). Young sexually active people are a population that is potentially at risk for contracting HIV due to their increased sexual behavior, unplanned pregnancies, induced abortions and sexual transmitted diseases including HIV infection in Korea(Yoo, 1998; Sohn and Han, 2002; KAAF, 2003; Sohn and Cho, 2003; Sohn et al., 2003; Cho et al., 2004; Choi et al., 2004; Martinez-Donate et al., 2004). Although the HIV epidemic for young people is still at an early stage in Korea, it poses a very serious health and developmental problem. Young people should be a critical focus for behavior change programs. It is important to develop risk-reduction interventions against HIV for young people. To develop these, we need to find the trends of the prevalence and incidence of HIV

among young people and their sexual risk-taking behaviors according to gender. The research on HIV/AIDS began in the early 1990s in Korea, but few studies have been conducted on young people's future prospects about gender differences in HIV/AIDS and their sexual risk-taking behaviors. Gender differences in those behaviors may stem from cultural norms. The information about gender differences in HIV-related behaviors would be helpful to develop the gender-specific prevention strategies to reduce unsafe sexual behaviors for males and females.

College students, especially for men, represent a population of young adults who are the most part sexually active and postponing marriage to their late-twenties or later in Korea. Thus, college students represent a population that could become infected with HIV and serve as a vehicle for its spread into the heterosexual population. However, there is little existing survey research on sexual behavior by gender among this population. The information about gender differences in sexual behavior would be helpful to develop the gender-specific prevention strategies to reduce unsafe sexual behaviors for males and females.

Given this background, the purpose of this research is to find out what this population is doing now relevant to HIV rather than to wait until a future time and discover that heterosexual youths are infected and

spreading the virus. The aim of this study is to understand gender differences in sexual behaviors to inform and develop the design of effective HIV prevention interventions for Korean young people.

## 2. HIV/AIDS Status in Korea

### 1) HIV/AIDS among the general population in Korea

In Korea, the first case of HIV infection was diagnosed in 1985 and the first AIDS case in 1987. The KCDC under the Ministry of Health and Social Welfare collects the data on HIV/AIDS. Since the first case in 1987, the KCDC reported 3,294 cumulative cases of HIV/AIDS among the general population (KCDC, 2005). Six hundred fifty one infected people have already died and 2,643 are living currently with HIV as of March 2005 (KCDC, 2005). The total number of people newly infected with HIV in Korea was 614 cases in 2004. This shows a drastic increase of 15% over 2003 year's figure (KCDC, 2004; KCDC, 2005). The reported number of newly infected HIV/AIDS in Korea was 90 in 1994, 124 in 1997, 186 in 1998, 219 in 2000, 327 in 2001, 398 in 2002, 534 in 2003 and 614 in 2004. As shown in the data, it is increasing rapidly since 2000 (KCDC, 2005).

According to Goh's study, the estimated rates of HIV/AIDS infection from seroprevalence data at the end of 2000 were: sex industry workers 0.0375%, STIs patients

Table 1. Yearly number of new HIV/AIDS infected people in Korea

Year	Total Cumulative number	'85-'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05.3
Total	3,294	410	107	105	124	129	186	219	327	398	535	614	141
Males	2,643	365	88	93	107	111	160	194	292	363	503	560	133
Females	288	45	19	12	17	18	26	25	35	35	32	54	8
Number of Deaths	651	55	21	33	36	46	43	52	58	76	96	33	7

Source: KCDC, March 2005, Sohn, 2004a

0.0830%(male: 0.0975%; female: 0.0%), homosexuals 5.5%, and general population aged 15-49 0.0017%(Goh, 2001). In 2001, it was estimated that by 2005 there would have been 4,007~8,352 cumulative cases of HIV infection and 670~1,435 cumulative cases of AIDS(Goh, 2001). As shown in the Table 2, the highest rate of HIV infection was homosexuals and second was sex workers.

## 2) HIV/AIDS among young people in Korea

The reported number of newly infected HIV/AIDS(ages 15-24) in Korea has been increasing constantly with 21 in 2000, 32 in 2001, 31 in 2002, 54 in 2003, and 28 as of June 2004. Young people account for 9.3% of the reported cases with 4 cases(1.3%) aged 15-19 and 24 cases(8.0%) aged 20-24 in Korea as of June 2004(KCDC, 2004). The number living with HIV infection for young people aged 15-24 years may be much higher. Because the average duration from HIV

infection to the development of AIDS is 10 years, most adults with AIDS were likely infected as adolescents or young adults.

Although the incidence of HIV for young people is still very low compared to that of other countries, because large numbers of young people are sexually active before marriage, and begin sexual activity at an earlier age compared to the early 1990s, and do not use condoms regularly enough to ensure protection, there is a concern about future growth potential of HIV/AIDS among them(Um, 2000; Kang, 2001; Sohn and Han, 2002).

With the exception of HIV transmission from mother to child via infected blood/blood products, tissues or organs, all other HIV transmission occurs only as a result of risk-taking behaviors such as sharing drug injecting equipment, having unprotected sexual intercourse with multiple sex partners. In Korea, most HIV-infected young people(aged 15-24) were exposed to the virus

through sexual intercourse. The fact that the predominant mode of HIV transmission among young people in Korea is sexual contacts may serve as a good marker for future growth potential of HIV/AIDS.

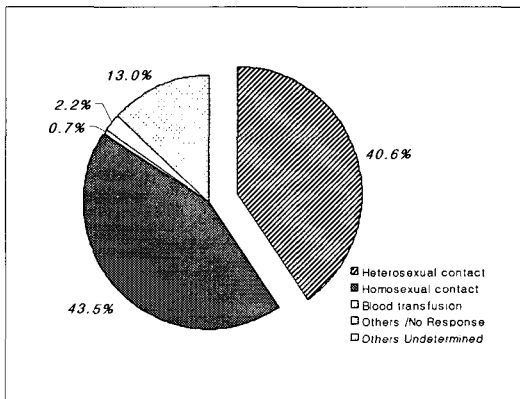


Figure 1. Transmission of newly infected HIV/AIDS among males(ages 15-24) (2000-June 2004)

Source: KCDC, 2000- 2004.6

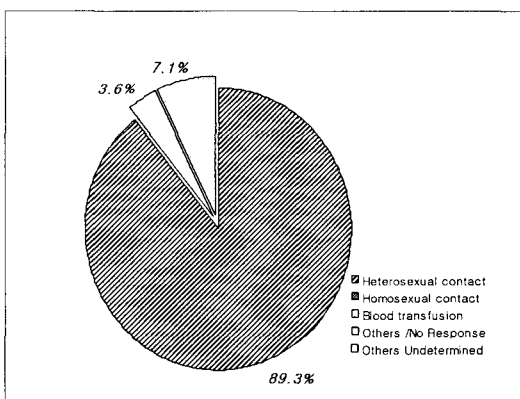


Figure 2. Transmission of newly infected HIV/AIDS among females(ages 15-24) (2000-June 2004)

Source: KCDC, 2000- 2004.6

## II. Data and Method

### 1. Procedures and Sample

This study is a cross sectional study of 4-year college students in Korea.

More than one million students (1,071,724) are currently enrolled in the nation's 208 4-year colleges and universities. This survey used a three-stage stratified sampling design. A sample size of 3,000 college students was targeted. The first-stage sampling frame contained 208 primary sampling units, consisting 4-year colleges and universities. From the 208 colleges and universities, 62 colleges and universities were selected with probability to undergraduate enrollment size and type in 7 cities and 9 provisions. In the second stage, one department was randomly selected in each college or university. The third stage sampling stage consisted of a simple random sample drawn from a list of the full-time undergraduate students by each selected department. After allowing for assumed student non-response and ineligibility rate, the size of sample for each selected department was targeted proportionally to population size. A questionnaire was administered to 2,931 students in 62 colleges and universities. Overall, 60 of 62 colleges and universities participated in this survey. A total of 2,385 of the 2,931 students

Table 2. Samples and sampling rates

	Total numbers (a)	Numbers of distribution (b)	Numbers of collection (c)	Rate of distribution (b/a÷100)	Ratio (c/b)	Sampling Rate (c/a÷100)
Numbers of 4-year college	208	62	60	29.81	0.98	28.85
Student numbers by the University type						
General Univ.	975,460	2,641	2,160	0.27	0.82	0.22
Special Univ. (Church, Education)	61,036	200	156	0.33	0.78	0.26
Women's Univ.	35,228	90	74	0.26	0.82	0.21
Students numbers by the District						
Kangwon	53,576	166	140	0.31	0.84	0.26
Kyunggee	132,648	370	300	0.28	0.81	0.23
Kyungnam	165,152	450	365	0.27	0.81	0.22
Kyungbuk	123,812	440	420	0.36	0.95	0.34
Seoul	233,276	550	384	0.24	0.70	0.16
Chunnam	70,856	175	160	0.25	0.91	0.23
Chunbuk	65,720	180	136	0.27	0.76	0.21
Cheju	15,720	40	40	0.26	1.00	0.26
Choongnam	160,348	415	333	0.26	0.80	0.21
Choongbuk	51,184	145	121	0.28	0.83	0.24
Total numbers	1,071,724	2,931	2,399	0.27	0.82	0.22

completed to a self-reported anonymous questionnaire from May 15th to June 14th in 2003. The overall response rate was 82.0%(Table 2).

## 2. Measure

The survey questionnaire included questions about socio-demographics and health risk taking behavior including sexual behavior. The subjects reporting sexual intercourse were asked the following variables: age at first sexual intercourse, sexual partners, frequency of condom use, etc. Sexual intercourse was defined as insert or receptive penile penetration of the vagina or the rectum. A multiple sexual partnership is

measured by the percent of sexually active single respondents who had sex with two or more partners including a present formal partner at the same time in the past 12 months. A formal partner(husband or wife, boyfriend or girl friend) was defined as somebody with whom you have sexual intercourse regularly and feel an emotional bond. A casual partner was defined as a sex partner excluding formal partner. The frequency of condom use in the last 12 months was assessed. This variables was later recoded to a dichotomous variable(1 = always using condoms; 0 = never using condoms or using them) for logistic regression.

### 3. Statistical Analyse

Descriptive statistics and frequencies were computed for each variable. All ordinal variables, including individual items on condom use and attitudes were recoded into dichotomous variables. We analyzed gender differentials in these variables using chi-square analyses. At the multivariate level, we used logistic regression analyses to determine whether these gender differences remain significant after controlling age as covariate. Odds ratio of men as compared to women based on logistic regression models with controlling age as covariate. SPSS for Window, Version 10.0 was used for these analyses.

## III. Result

### 1. Respondents' demographic characteristics

The characteristics for the sample are summarized in Table 3. The sample included 1,244 males(52.2%) and 1141(47.8%) females. For demographic indicators(gender, age, marital status, type of residence), the distribution was comparable to that of the general college students of Korea(KNSO, 2004). In our overall sample, 60.0% of respondents lived off campus with their parents.

Table 3. Demographic characteristics of respondents (N=2,385)

Characteristics	n (%)
Gender	
Male	1244 (52.2)
Female	1141 (47.8)
Age	
Under 19	178 ( 7.5)
19-20	887 (37.4)
21-23	787 (33.2)
Over 23	519 (21.9)
Current year	
Freshmen	673 (28.3)
Sophomore	583 (24.5)
Junior	623 (26.2)
Senior	499 (21.0)
Marital status	
Never Married	2244 (96.7)
Living with spouse	46 ( 2.0)
Divorced, separated, or widowed	29 ( 1.3)
Residence	
Campus residence	352 (15.0)
Off-campus without parents	588 (25.0)
Off-campus with parents	1410 (60.0)

### 2. Experience of sexual intercourse

Of the 2,200 subjects, 549(25.0%) reported having had sexual intercourse. Of the 1,163 males, 465(40.0%) reported having had heterosexual intercourse. Of the 1,037 females, 84(8.1%) reported having had heterosexual intercourse. After controlling age effects, men were more likely to be sexually experienced than women(40.0% vs. 8.1%), OR=5.5,  $p<.000$ (Table 4). Of the men, 18.6% reported having had intercourse at age 19 or less, as 3.2% did of the women. After controlling age effects, men were more likely to be sexually experienced at age 19 or less than women(18.6% vs. 3.2%), OR=2.3,  $p<.000$ (Table 5).

### 3. Multiple sexual partnership

Among the respondents reporting at least one sexual partner during the last 12 months, 36.2% reported more than one partner during the same period. After controlling age effects,

men reported a higher proportion of sexually experienced respondents with one or more casual partners excluding formal partner during the last 12 months than women(38.8% vs. 22.2%) OR=2.2, p<. 01(Table 6).

Table 4. Proportion of sexual intercourse by sex

	Total		Male		Female		Dependent Variable	O.R.	95% C.I.
	n	(%)	n	(%)	n	(%)			
Yes	549	( 25.0)	465	( 40.0)	84	( 8.1)	Yes/No	5.5	(4.3-7.2)***
No	1651	( 75.0)	698	( 60.0)	953	( 91.9)			
Total	2200	(100.0)	1163	(100.0)	1037	(100.0)			

Note. Odds ratio of men as compared to women based on logistic regression models with controlling age as covariate; \*\*\* p< .001.

Table 5. Age at first sexual intercourse by sex (Values are numbers (percentage))

age	Total			Male			Female			Dependent Variable	O.R.	95% C.I.
	n	(%)	(cumulative %)	n	(%)	(cumulative %)	n	(%)	(cumulative %)			
11	1	( 0.05)	( 0.05)	1	( 0.09)	( 0.09)	0	( 0.00)	( 0.00)	19 yrs /20 and more yrs	2.3	(1.4-4.1)**
12-13	3	( 0.14)	( 0.19)	3	( 0.26)	( 0.35)	0	( 0.00)	( 0.00)			
14-15	23	( 1.05)	( 1.23)	23	( 1.98)	( 2.33)	0	( 0.00)	( 0.00)			
16-17	87	( 3.95)	( 5.19)	81	( 6.96)	( 9.29)	6	( 0.58)	( 0.58)			
18-19	135	( 6.14)	( 11.32)	108	( 9.29)	( 18.58)	27	( 2.60)	( 3.18)			
20-21	179	( 8.14)	( 19.46)	145	( 12.47)	( 31.04)	34	( 3.28)	( 6.46)			
22-23	49	( 2.23)	( 21.69)	43	( 3.70)	( 34.74)	6	( 0.58)	( 7.04)			
24+	38	( 1.73)	( 23.41)	32	( 2.75)	( 37.49)	6	( 0.58)	( 7.62)			
No sexual intercourse	1651	( 75.05)	( 98.46)	698	( 60.02)	( 97.51)	953	( 91.90)	( 99.52)			
No response	34	( 1.55)	(100.00)	29	( 2.49)	(100.00)	5	( 0.48)	(100.00)			
Total	2200	(100.00)	(100.00)	1163	(100.00)	(100.00)	1037	(100.00)	(100.00)			

Note: Odds ratio of men as compared to women based on logistic regression models with controlling age as covariate; \*\*\* p< .001

Table 6. Proportion (%) of respondents who reported more than one partner during the last 12 months, by sex (Values are numbers (percentage))

	Total		Male		Female		Dependent Variable	O.R.	95% C.I.
	n	(%)	n	(%)	n	(%)			
Yes	188	( 36.2)	170	( 38.8)	18	( 22.2)	yes/no	2.2	(1.2-3.8)**
No	331	( 63.8)	268	( 61.2)	63	( 77.8)			
Total	519	(100.0)	438	(100.0)	81	(100.0)			

Note. Odds ratio of men as compared to women based on logistic regression models with controlling age as covariate; \*\*\* p< .001; \*\* p< .01



Table 7. Frequency of condom use by sex and type of sexual partner(Values are numbers (percentage))

	Total	Male	Female	Dependent	O.R.	95% C.I.
Condom use with formal partner						
Always	77 ( 14.8)	63 ( 14.3)	14 ( 17.7)	always/ others	n.s	-
Sometimes	155 ( 29.9)	130 ( 29.5)	25 ( 31.6)			
Seldom	177 ( 34.1)	157 ( 35.7)	20 ( 25.3)			
Never life experience	110 ( 21.2)	90 ( 20.5)	20 ( 25.3)			
Total	519 (100.0)	440 (100.0)	79 (100.0)			
Condom use with casual partners						
Always	44 ( 21.7)	39 ( 21.7)	5 ( 21.7)	always/ others	n.s	-
Sometimes	66 ( 32.5)	58 ( 32.2)	8 ( 34.8)			
Seldom/Never	93 ( 45.8)	83 ( 46.1)	10 ( 43.5)			
Total	1,241 (100.0)	1,060 (100.0)	181 (100.0)			

Note. Odds ratio of men as compared to women based on logistic regression models with controlling age as covariate;  
\*\*\* p< .001; \*\* p< .01,

#### 4. Condom use

And more females(17.7%) than males (14.3%) reported having consistent condom use with a formal partner, but there was no statistical difference between genders. For casual partners, the proportion of consistent condom use(21.7%) was the same for both genders. For experience with condoms, more males than females report having used condoms(the proportion of no experience with condoms for males and females: 20.5% vs. 25.3 %)(Table 7).

## IV. Discussion

In our study, the rate of sexual intercourse among 4-year college students was higher for males(40.0%) than for females(8.1%). Only 18.6% of males and 3.2% of females reported

having had intercourse at age 19 or less. Males were 5.5 times more likely to be sexually experienced than females. After controlling age effects, males reported a higher proportion of sexually experienced respondents with one or more casual partners excluding formal partner during the last 12 months than women. These findings are similar to what is known about recent sexual behavior in Korea. In general, previous research suggests that men were more likely to be sexually experienced and have more sexual partners than women. According to a recent study, median age at first sexual intercourse for the Korean men(21.0 years) was 3 years lower than for Korean women(24.0 years) even though men marry, on average, later than do women: the mean age at first marriage for men(29.8 years) was about 3 year higher than for the women(27.0

years). This difference may be interpreted as an indication that young men have sex with sex workers or older experienced women. About 13% of young men age 20-29 reported that their sexual partners were sex workers(Cho, 2004; Sohn et al., 2004).

Contrary to Korea, in many other liberal developed societies, there are no significant gender difference in the rate of premarital sex and age at first intercourse(Lewin, 1982; Kraft, 1991; Johnson et al., 1994; Dickson et al., 1998; Paz-Bailey et al., 2003). In those societies, men and women had their first sexual encounters at roughly the same age. Median ages at first intercourse for British women and the New Zealand women were 17 years and 16 years, respectively, while the age for British men and the New Zealand men were the same(17 years). In Denmark, Norway, Sweden, and New Zealand, the age tended to be slightly earlier for women than for men in the young generation. More women than men have had first intercourse before age 18 in the past 20 years in those countries due to an effect of a advanced female emancipation(Lewin, 1982; Kraft, 1991; Dickson and Paul et al., 1998).

In Korea, these gender differences in sexual initiation and experience can be explained by a strong gender-based double standards and values in the traditional culture. Never-married women in Korea have still been expected to be passive and virgin.

Although Korean women's level of education and their participation in labor force have rapidly risen, their attitudes have not dramatically changed yet. Korea society has still placed emphasis on women's virginity and women were supposed to be initiated into sex by their husbands. In a recent national representative study(Cho, 2004; Sohn et al., 2004), 45.8% of the general population did not approve of premarital sex. Women respondents were much more conservative than men(disapproval of premarital sex: women 55.9% vs. men 35.2%).

Sexual risk taking behavior can be defined as having more than one partner and/or having sex with sex workers, but not consistently using condoms. In our study, less than the half of sexually experienced college students did not use condoms consistently with a formal partner and casual partners. The low prevalence of consistent condom use may be a serious concern to young people due to heightening risk of HIV infection. More college students(21.7%) reported having consistent condom use with causal partners than with a formal partner(14.3%). In both males and females, there was no statistical difference for condom use after controlling for age effects. According to previous studies, the percentage of consistent condom use among young people as well as general population in Korea was relatively lower than other countries(Park and Han, 2000; Park et

al., 2001; Sohn and Han, 2002; Sohn and Cho, 2003). In a recent study, it was found that only 18.6% of unmarried sexually active young people aged 18-29 did use condom consistently(Sohn and Cho, 2003). The reported condom use of first sexual intercourse among sexually active young people was less than 10%(Sohn and Han, 2002). In a Sweden study, the percentages of condom use at least once during the past month were 27% for single with a regular partner and 43% for single without regular partner(Herlitz and Steel, 2000; Sohn and Cho, 2003). In a Hong Kong study of the female general population, 30.0% of women with a steady boy friend and 41.1% of women without a steady boy friend reported that they always used condoms(Lau et al., 2002).

Premarital sex may be a more serious concern to women because of their vulnerability. In a recent study, young sexually experienced females reported that they had been forced to have sex by their boy friends or other men to have sex as a proof of their love and been forced at first intercourse without use of a condom(Sohn and Han, 2002; Sohn and Cho, 2003). Young females reported a first intercourse before 19 had a very low rate of contraceptive use at first intercourse and was associated with risks of reproductive health that are shared unequally between men and women(Sohn and Han, 2002; Sohn and Cho, 2003; Sohn,

2004a). Under conflicting pressures, females have little influence over decision-making or the use of condoms. Prevention programs for the general population have focused for many years on the world wide 'ABC' strategy: Abstain and delay sexual initiation; Be safer by being faithful or reducing the number of sexual partners; and use Condoms correctly and consistently. For many women, especially young women, this strategy is not easy if women live in a society where there is a double standard in values regarding sexuality. In Korean society, it is not easy to negotiate abstinence from sex when women are forced to have sex, nor can they insist their partners use condoms. Although women try to keep faithful and do not engage in risky behavior, they can become HIV-infected from their partner.

This study can conclude that although men initiate sex earlier, both genders are equally likely to have engaged in inconsistent condom use even though when they have a sex with an unknown partner. These findings suggest that sex education focused on using condom use should have been included in the school curricular and should start early before students have sexual initiation to give them a chance to prepare gradually. According to several studies, the spread of sex education has had a slight delaying effect on age at first intercourse and increased rate of condom use at first intercourse(Kirby, 2002).

The current findings are based on the data of health risk behaviors of 4-year college students excluding 2-year or 3-year college students, their external validity might be called into question. However, this study had strength of having information on a randomly selected national representative sample of 4-year college students and high response rate. This study has another limitation that there were considerable difficulties in obtaining unambiguous definitions with regard to different types of sex partners.

## V. Conclusion

Although the HIV epidemic for young people is still at an early stage in Korea, it poses a very serious health problem and developmental problem. It is important to develop risk-reduction interventions against HIV for young people according to gender. To develop these, we need more systematic research on youth's gender specific sexual attitudes and high-risk sexual behaviors including condom use. Regardless of what the future growth potential of HIV/AIDS may be in Korea, the only responsible public health action to take involves focusing HIV/AIDS intervention. From all the HIV/AIDS epidemics that have occurred in Korea, it is clear that sustained heterosexual HIV transmission will occur in that population

with heterosexual risk behaviors. Prevention among young people can be effective in keeping HIV at low levels in the general population. Another important issue that needs to be addressed is raising the awareness and education level of the general public regarding HIV/AIDS. Although knowledge and information are not enough to change risk-taking behavior among young people, they are very important to prevent HIV/AIDS infections from them. In addition, males especially require more education at school, as they miss out sex related education at school(Sohn and Han, 2002) and they take more risk-taking behavior than females. When young people are given appropriate HIV/AIDS prevention education prevention education and support, they can change. It is vital that HIV/AIDS prevention education focused on using condom use is provided for, and made relevant to, the experiences of young males. Developing comprehensive HIV prevention strategies meeting young people's needs is required. The appropriate interventions and strategies should be developed for planning and tailor intervention to the specific needs of the general population like young people and different gender

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## References

- CDC. 2002. Fact sheet for public health personnel: male latex condoms and sexually transmitted diseases.
- Cho, B.H., Sohn, A. and Kwoen, D.S. 2004. Assessing sexual behaviors by socio-demographic variables of Korean citizens. *Health and Social Science* 15:165-193.
- Choi, S.Y., Kim, Y.H. and Oh, H.S. 2004. A study on sexual behavior, pregnancy and contraception knowledge in female adolescent. *Korean J Women Health Nurs* 10(1):42-50.
- Dickson, N., Paul, C., Herbison, P. et al. 1998. First sexual intercourse: age, coercion, and later regrets reported by a birth cohort. *BMJ*. 316(7124):29-33.
- Goh, U. 2001. Epidemiologic characteristics, estimation, and prediction of HIV/AIDS epidemic in Korea.
- Herlitz, C.A. and Steel, J.L. 2000. A decade of HIV/AIDS prevention in Sweden: changes in attitudes associated with HIV and sexual risk behaviour from 1987 to 1997. *AIDS* 14(7):881-890.
- Johnson, A., Wadsworth, J., Wellings, K. et al. 1994. Sexual attitudes and lifestyles.
- KAAF. 2003. Korea AIDS related sexual attitudes and behavior survey 2003.
- Kang, H.S. 2001. An explanatory model of condom use among Korean college students.
- KCDC. 2004. HIV/AIDS status in Korea.
- KCDC. 2005. HIV/AIDS status in Korea.
- Kirby, D. 2002. The impact of schools and school programs upon adolescent sexual behavior. *J Sex Res* 39(1):27-33.
- KNSO. 2004. Summary of 2003 Marriage and Divorce Statistics.
- Kraft, P. 1991. Age of first intercourse among Norwegian adolescents: a lifetime perspective. *Soc Sci Med* 2:207-13.
- Lau, T.F., Tang, S.Y., Siah, P.C. et al. 2002. Assessment of HIV-related sexual risk behaviors among the general female population in Hong Kong. *Archives of Sexual Behavior* 31(6):535-542.
- Lewin, B. 1982. The adolescent boy and girl: first and other early experiences with intercourse from a representative sample of Swedish school adolescents. *Arch Sex Behav* 11:417-29.
- Martinez-Donate, A., Hovell, M., Blumberg, E. et al. 2004. Gender differences in condom-related behaviors and attitudes among Mexican adolescents living on the U.S.-Mexico border. *AIDS Educ Prev* 16(2):172-86.
- Park, S.H. and Han, J.H. 2000. Study on the factors influencing the preference to use condoms in male college students. *J. of Korean Society of Health Statistics* 25(1):59-66.
- Park, S.H., Lim, D.H. and Han, J.H. 2001. Factors influencing the Intention of

- continuing condom use in married women. *Journal of Korean Society of Health Statistics* 26(1):58-64.
- Paz-Bailey, G., Kilmarx, P., Supawitkul, S. et al. 2003. Risk factors for sexually transmitted diseases in northern Thai adolescents: an audio-computer-assisted self-interview with non-invasive specimen collection. *Sex Transm Dis.* 30(4):320-6.
- Sohn, A. 2004a. HIV/AIDS among young people and women in Korea.
- Sohn, A. and Cho, B.H. 2003. An examination of socio-demographic variables, decisional balance and self-efficacy for condom use in the Korean adult population. *J. of the Korean Society of Health Statistics* 28(2):76-94.
- Sohn, A. and Han, H.J. 2002. Adolescents' sexuality and school-based sex education in South Korea. *Journal of Korean Society for Health Education and Promotion* 19(4):45-60.
- Sohn, A., Kwon, D.S. and Choi, C.H. 2003. Effects of peer education program for prevention of AIDS for middle school students. *Journal of Korean Society for Health Education and Promotion* 20(3):281-299.
- Um, J.W. 2000. A study on knowledge, beliefs about AIDS and the use of condoms among adolescents.
- UNAIDS. 2002. Report on the global HIV/AIDS epidemic, July 2002.
- UNAIDS. 2003. HIV/AIDS and young people: hope for tomorrow.
- UNAIDS. 2003. Progress Report on the Global Response to HIV/AIDS, 2003.
- UNAIDS. 2004 Report on the global AIDS epidemic.
- Yoo, J.S. 1998. Adolescent health promotion and development of school health education. *J. of Korean Society of Health Statistics* 11(1):27-50.

## ABSTRACT

**Objectives:** The study was designed to assess the trends of the incidence of HIV among young people and their sexual risk-taking behaviors by gender in Korean college students.

**Methods:** The cross-sectional study was used from college students from selected 60 among 208 4-year colleges and universities in 9 provinces and Seoul. A self-reported anonymous questionnaire administered and completed to a national representative sample of 4-year college students from May 15th to June 14th in 2003. We analyzed 2,385 cases. The overall response rate was 82.0%.

**Results:** After controlling age effects, male students were more likely to be sexually experienced than female students(40.0% vs. 8.1%), OR=5.5,  $p<.000$ . The proportions of 19 years and before reported for initiation of sexual intercourse were 18.6% for males and 3.2% for females. Males reported significantly younger ages than females at initiation of sexual intercourse( $p<.01$ ). Only 14.8% of current sexually active subjects reported consistent use of contraceptive methods. After controlling age effects, male students reported a higher proportion of sexually experienced respondents with one or more casual partners(excluding a formal partner) during the last 12 months than women(38.8% vs. 22.2%), OR=2.2,  $p<.05$ .

**Conclusion:** This study can conclude that although males students initiate sex earlier and have higher percentage of sexual experience, the percentage of sexually experience female students has risen rapidly compared to the past. This data revealed a number of young people were at risk for HIV infection. Both genders are equally likely to have engaged in inconsistent condom use even though when they have a sex with an unknown partner. These findings suggest that practical sex education focused on using condom use should have been included in the school curricular. Educational and community interventions need to prevent sex-related problems.

**Key Words:** Young People, HIV/AIDS, Adolescents, Sexual Risk Behavior