

Factors Affecting Sexual Attitudes among Male High School Students in Korea

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Abstract

This study examined the sexual knowledge, contraceptive knowledge and sexual attitudes among male high school students. In addition, the factors that affect sexual attitudes of male high school students were investigated. As a cross-sectional study, a questionnaire survey was conducted in G high school and an investigation carried out by a structured survey of 79 male high school students. The results are as follows: The subjects' sexual attitude was positive as shown by its average was 2.25 (SD=0.32). The multiple regression analysis showed that sexual attitude was significantly predicted by sexual knowledge and contraceptive knowledge. These variables explained 35.2% of the variance of sexual attitudes of male high school students. Therefore, the provision of education on basic sexual knowledge and contraceptive knowledge can be an important factor in establishing appropriate sexual attitudes and values.

Keywords: *Sexual Attitudes, Sexual Knowledge, Contraceptive Knowledge, Male high School Students*

1. Introduction

Sexual attitudes among adolescents can depend on the period when they obtain sexual knowledge and range, and sexual attitudes of the person influencing the adolescent, and this in turn is based on the adolescents' childhood experiences [1]. Sexual attitude is usually formed based on sexual knowledge obtained in or before the adolescent period, and this formed sexual attitude can affect personality maturity and sexual ideas before marriage as well as sexual life after marriage and it is very important to build positive sexual attitudes within the adolescent period [2].

According to a 2014 study on Korean adolescents' health, 7.3% of male students and 3.2 of female students between aged 13 and 18 had sexual experiences and the average age for those who had sexual experience was 12.8 years old, which is lower than the average age of 13.6 years old listed among respondents questioned in a similar study in 2005. Among those who had sexual experiences, 44.1% of male students and 42.2% of female students practiced contraception and 8.4% of male students and 11.1% of female students had a sexually transmitted disease and accordingly, the importance of managing sexual health among adolescents is increasing [3].

Premarital sex and high-risk sexual behaviors not only increases the possibility of negative consequences that may endanger health (e.g., HIV/AIDS or other sexually transmitted infections), but also result in higher rates of unplanned pregnancy [4-6]. 5.2% of the 74,698 Korean adolescents between 13 and 18 years of age interviewed for previous study [7] have had sexual experiences and their average age was 14.2 years old. In addition, 0.3% of adolescents among this same group actually experienced pregnancy.

It is very important for adolescents to establish appropriate sexual attitudes in order to manage sexual health and the factors affecting sexual attitude vary. It is considered that the most important thing in establishing appropriate sexual attitudes is understanding sex

appropriately. In Korea, 10 hours of sexual education yearly were ordered by Korean Education Ministry since 2006, but teenage pregnancy and sexual crimes have been increasing every year because many Korean adolescents receive their sexual knowledge from the internet and they have an increased risk of building distorted values in sex [8].

It is very important to establish appropriate sexual knowledge and attitudes and to understand the characteristics and roles of each because this society is composed of both men and women. Appropriate sexual attitudes can allow people to maintain a healthy sexual identity, however, since the fact that the more closed-minded the sexual attitudes, the more negative the sexual behaviors [9], so it is essential to guide youth in building appropriate sexual knowledge and healthy attitudes during adolescence. It is very important that schools should provide systematic sexual education.

Therefore, this study examined the sexual knowledge, contraceptive knowledge and sexual attitudes among male high school students. In addition, the factors that affect sexual attitudes of male high school students were investigated.

2. Methods

2.1. Setting and Sample

One male high school which is located in G city was selected and a survey was conducted by 100 sophomore students. Data was collected between August 20 to 30 2014. Before conducting the study, the researcher visited school health teacher to explain about study purpose and with school permission and cooperation, study schedule for collecting data was set up. As agreed with school, the researcher visited study subjects as scheduled and explained to them about study purpose, confidentiality, contents of questionnaire, and answering methods. This study was conducted after receiving study agreements from the study subjects. After collecting the data, 1 hour of sex education was provided in return for subjects' efforts in participation for this study. The total of 100 questionnaires was distributed, but only 79 of the subjects agreed and completed the questionnaire [10].

2.2. Survey Instruments

2.2.1. Measuring Instrument for Sexual Knowledge: In order to measure the subjects' sexual knowledge, this study used Sexual Knowledge Instrument developed by Jeong, Kim and Yang [11]. This instrument is composed of the total of 30 questions by SIECUS's conceptual framework of sex [12] asking about reproduction anatomy, secondary sexual characteristics, human sexual reaction, masturbation, sexual activities, sexual violence, sexual transmitted disease, AIDS and so on. Correct answer to each question was given 1 point, wrong answer and "I don't know the answer" were given 0 point. The higher the number of points indicates that study subjects have more sexual knowledge. Cronbach's alpha for the present study was 0.88.

2.2.2. Measuring Instrument for Contraceptive Knowledge: Contraceptive knowledge instrument developed by Kim [13] was used to measure subjects' contraceptive knowledge. This instrument is composed of the total of 15 questions and 1 point was given to each correct answer and 0 point was given to each wrong answer and "I don't know the answer". The higher points indicated that subjects have more contraceptive knowledge. Cronbach's alpha for the present study was 0.89.

2.2.3. Measuring Instrument for Sexual Attitudes: This study used Sexual Attitudes Instrument developed by Jeong, Kim and Yang [11] to measure the subjects' sexual attitudes. The instrument is composed of the total of 20 questions by SIECUS's conceptual framework of sex [12] asking about attitudes on relations with opposite sex,

physical changes in adolescent period, body image, sexual identity, marriage, role of gender and so on. The instrument is a 3 point scale and when answered “yes”, “neutral”, “no”, 3 points, 2 points, and 1 point were given respectively. Negative questions were calculated by converting reversely and the higher points indicate that the subjects have more liberal sexual attitudes. Cronbach's alpha for the present study was 0.78.

2.3. Statistical Analysis

The data were analyzed with SPSS version 19.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics such as frequency, mean and standard deviation were used to describe the general characteristics and main study variables of this study. The difference of sexual attitudes by general characteristics were analyzed using the Student's t-test and one-way ANOVA. Pearson correlation coefficients were calculated to identify the relationships among sexual knowledge, contraceptive knowledge and sexual attitudes. Multiple regression analysis was done to identify the influencing factors of sexual attitudes of male high school students. A value of $p < 0.05$ was considered statistically significant.

3. Results

3.1. General Characteristics of Subjects

As shown in Table 1, the mean of subjects' age is 17 year old (range : 16 through 18 year old). 16.5% of the subjects were in upper household economy, 69.6% were in middle household economy, and 13.9% were in lower household economy. 67.1% of the subjects indicated that both of their parents work. 50.6% of the subjects answered that their sexual knowledge was from their friends, 17.7% from movies or video, 15.2% from school, and only 1.3% of the subjects indicated that their knowledge was from their parents. 26.6% of the subjects were having a girlfriend and 91.1% of the subjects reported that they watched pornography. 63.3% of the subjects answered that they watched the pornography out of curiosity and 20.3% indicated that they watched it while hanging out with their friends. 49.4% of the subjects indicated that they experienced hand holding, 41.8% reported that they experienced light hugging, and 30.4% reported they had kissed. 16.5% of the subjects answered that they have had sex. 91.1% of the subjects indicated that they have received sex education.

Table 1. General Characteristics of Study Participants (N=79)

Variables	n (%)
Age (years)	
16	25 (31.6)
17	41 (51.9)
18	13 (16.5)
Household's economic status	
Upper class	13 (16.5)
Middle class	55 (69.6)
Lower class	11 (13.9)
Both parents work	
Yes	53 (67.1)
No	26 (32.9)
Information source for sexual knowledge	
School	12 (15.2)
Parents	1 (1.3)
Friends	40 (50.6)
Media (Newspapers, magazines, TV, internet)	9 (11.4)

Videos and movies	14 (17.7)
No response	3 (3.8)
Whether dating or not	
Yes	21 (26.6)
No	58 (73.4)
Whether or not exposed to pornographic material	
Yes	72 (91.1)
No	7 (8.9)
Reason of watching pornographic material*	
To get along with friends	16 (20.3)
Out of curiosity	50 (63.3)
For interest on body of opposite sex	9 (11.4)
For interest on method of sexual act	3 (3.8)
For fun and sexual excitement	9 (11.4)
Other	7 (8.9)
Experiences with physical contacts*	
Holding hands	39 (49.4)
Hug	33 (41.8)
Kiss	24 (30.4)
other	8 (10.1)
Experience of sexual intercourse	
Yes	13 (16.5)
No	50 (63.3)
No response	16 (20.3)
Experience of sexual education	
Yes	72 (91.1)
No	6 (7.6)

* multiple responses

3.2. Sexual Knowledge, Contraceptive Knowledge and Sexual Attitudes of Subjects

Subjects' sexual knowledge was displayed in table 2. This study results indicated that the average of the subjects' sexual knowledge was 12.18 points out of the total 30 points and the minimum was 0 point and the maximum was 26 points. 50% or more of the subjects were aware of the answers for 11 questions out of 30 questions. Overall, the subjects' sexual knowledge was poor and the items below 10% that the subjects answered were 'The men cannot cum after vasectomy' (8.9%) and 'Taking antibiotics before or after having intercourse can prevent sexual disease' (8.9%).

Subjects' contraceptive knowledge was displayed in Table 3. This study found out that the average of contraceptive knowledge among the subjects was 1.56 out of 15 and the minimum was 0 and the maximum was 9. The subjects were very poorly informed about contraception and only below 30% of the subjects answered correctly in all the 15 questions related to contraceptive knowledge.

Subjects' sexual attitudes were displayed in table 4. This study found that the subjects' sexual attitudes were positive as shown by its average was 2.25. Among the questions regarding sexual attitudes, the items that showed below the average of 2 points were as follows; 36.7% of the subjects indicated that 'having sex with a person I don't love is possible', 45.6% reported that 'sex can be learned without education', and 39.2% reported that 'men have stronger sex desire than women'. Therefore, it is necessary to provide proper knowledge to teenagers that can change their misunderstood sexual attitudes.

Table 2. Sexual Knowledge of Participants (N=79)

Items	Percentage of correct answer n (%)
Man has 2 testicles.	68 (86.1)
Having sex while ignoring your partner's preferences is a sexual assault in spite of the fact that he/she is your partner.	60 (75.9)
The secondary sexual characteristic appears because of a sexual hormone.	59 (74.7)
Using a condom during sex prevents AIDS.	53 (67.1)
Breast growth varies by individual.	50 (63.3)
Women do not masturbate.	50 (63.3)
Proper sex starts with the equality of man and woman.	48 (60.8)
All contents of pornography are true.	46 (58.2)
All men have to do circumcision.	44 (55.7)
A wet dream happens to a weak man.	41 (51.9)
Sexual violence is perpetrated by strangers.	40 (50.6)
Sexual identity is having a pride of one's gender.	35 (44.3)
Sexual drive is instinct and cannot be controlled.	33 (41.8)
The Hymen is only ruptured through sexual intercourse.	31 (39.2)
Sexual energy can be vented by exercises or hobbies.	31 (39.2)
One ovum is released from the ovary monthly.	30 (38.0)
Once woman is pregnant, she does not have periods.	28 (35.4)
Artificial abortion can damage health.	28 (35.4)
Man can be healthier with sexual intercourse.	25 (31.6)
AIDS can be transferred by working or living together with AIDS patients.	25 (31.6)
Frequent masturbation discourages normal sexual activities.	21 (26.6)
The period releases bad blood from the body.	21 (26.6)
If you had a sexual disease once, you will not be transmitted another sexual disease again.	20 (25.3)
Victims of sexual violence are mainly young women.	18 (22.8)
Sexual violence occurs incidentally by a man's sexual drive.	14 (17.7)
You won't get pregnant if you take a douche after sexual intercourse.	13 (16.5)
It is fine to bathe during the period.	9 (11.4)
More sexual contacts will make the penis or breasts bigger.	8 (10.1)
Man cannot cum anymore after a vasectomy.	7 (8.9)
Sexual disease cannot be prevented by taking antibiotics before/after having sex.	7 (8.9)
Total sexual knowledge	Min~Max=0~26 Mean±SD= 12.18±6.49

Table 3. Contraceptive Knowledge of Participants (N=79)

Items	Percentage of correct answer n (%)
1. Based on the date I get my period, I can determine my ovulation.	14 (17.7)
2. Having intercourse during one's period never causes pregnancy.	15 (19.0)
3. It is not a good idea to use a condom because it reduces pleasure while having intercourse.	23 (29.1)
4. Having coitus interruptus never causes pregnancy.	15 (19.0)
5. I am informed about the mucus observation method.	4 (5.1)

Items	Percentage of correct answer n (%)
6. Body temperature increases a bit during an ovulatory phase.	6 (7.6)
7. A sperm lives for only one day in the uterine cavity.	6 (7.6)
8. An ovum has the ability to become fertilized for 24 hours after ovulation.	4 (5.1)
9. Taking contraceptive drugs causes weight gain.	9 (11.4)
10. Having intrauterine devices (IUD) never causes pregnancy.	5 (6.3)
11. Vaginal tablets(Suppositories) are an oral medications.	4 (5.1)
12. Observing one's natural cycle has the best contraceptive effect among non-permanent contraceptive methods.	6 (7.6)
13. The contraceptive effect will continue with not taking one day of the oral pill.	2 (2.5)
14. After you have a vasectomy, your sexual capacity decreases.	3 (3.8)
15. You should take an emergency contraceptive pill within 72 hours after sexual intercourse.	8 (10.1)
Total contraceptive knowledge	Min~Max=0~9 Mean±SD= 1.56±2.48

Table 4. Sexual Attitudes of Participants (N=79)

Items	Yes n (%)	Netural n (%)	No n (%)	Mean±SD
1. I want to avoid listening to sex related issues because I do not feel comfortable.	22 (27.8)	31 (39.2)	26 (32.9)	2.05±0.78
2. I feel discomfort to see man and woman express love.	22 (27.8)	26 (32.9)	31 (39.2)	2.11±0.81
3. Sexual activities can happen with people I don't love.	29 (36.7)	27 (34.2)	23 (29.1)	1.92±0.81
4. Man and woman's social roles cannot be changed because of physical differences.	10 (12.7)	43 (54.4)	26 (32.9)	2.20±0.64
5. Sex can be instinctual without learning.	36 (45.6)	22 (27.8)	21 (26.6)	1.81±0.83
6. It is better not to know about sex.	13 (16.5)	21 (26.6)	45 (57.0)	2.40±0.75
7. Masturbation is not appropriate.	17 (21.5)	23 (29.1)	39 (49.4)	2.27±0.79
8. Having curiosity about sex is a natural thing.	56 (70.9)	18 (22.8)	5 (6.3)	2.64±0.59
9. A sexually strong man is manly in all aspects.	9 (11.4)	28 (35.4)	42 (53.2)	2.41±0.69
10. Women are more submissive than men.	11 (13.9)	42 (53.2)	26 (32.9)	2.18±0.66
11. It is more important that women keep their purity than men.	17 (21.5)	37 (46.8)	25 (31.6)	2.10±0.72
12. Women have more responsibility if they are pregnant before marriage.	3 (3.8)	44 (55.7)	32 (40.5)	2.36±0.55
13. Men have a stronger sexual desire than women.	31 (39.2)	37 (46.8)	11 (13.9)	1.74±0.68

Items				Percentage of correct answer n (%)
14. Sexual violence will not happen around me.	11 (13.9)	38 (48.1)	30 (38.0)	2.24±0.68
15. It is not appropriate to express my interest in opposite sex.	6 (7.6)	30 (38.0)	43 (54.4)	2.46±0.63
16. Menstruation is a shameful thing.	3 (3.8)	29 (36.7)	47 (59.5)	2.55±0.57
17. A wet dream is a shameful thing.	2 (2.5)	28 (35.4)	49 (62.0)	2.59±0.54
18. Men and women can be treated differently.	7 (8.9)	27 (34.2)	45 (57.0)	2.48±0.65
Total				2.25±0.32

3.3. Sexual Attitudes According to General Characteristics of the Subjects

Subjects' sexual attitudes according to their general characteristics were displayed in Table 5. There were not any significant statistical differences in sexual attitudes noted among subjects' general characteristics, including their age, household's economic status, whether dating or not, and sexual intercourse experiences.

Table 5. Sexual Attitudes According to General Characteristics of the Subjects (N=79)

Variables	n (%)	Mean±SD	t/F/r	p
Age (years)			2.16	0.122
16	25	2.16±0.33		
17	41	2.27±0.32		
18	13	2.37±0.25		
Household's economic status			1.01	0.367
Upper class	13	2.20±0.28		
Middle class	55	2.24±0.32		
Lower class	11	2.37±0.33		
Both parents work			1.26	0.209
Yes	53	2.28±0.30		
No	26	2.19±0.35		
Whether dating or not			-0.50	0.616
Yes	21	2.22±0.29		
No	58	2.26±0.33		
Experience of sexual intercourse			1.74	0.086
Yes	13	2.42±0.26		
No	50	2.24±0.33		

3.4. Associations among Sexual Knowledge, Contraceptive Knowledge and Sexual Attitudes

According to analysis of the correlations among the subjects' sexual knowledge, contraceptive knowledge, and sexual attitudes (Table 6), positive correlation was found between sexual knowledge and contraceptive knowledge ($r=0.47$, $p<0.001$). Sexual knowledge and sexual attitudes were very significantly correlated ($r=0.60$, $p<0.001$), and

contraceptive knowledge and sexual attitudes were significantly correlated ($r=0.28$, $p=0.012$).

That is, as the subjects have the better sexual knowledge, they had positive sexual attitudes. It is necessary to develop concrete educational proposals to improve sexual knowledge and contraceptive knowledge for teenage students.

Table 6. Associations among Sexual Knowledge, Contraceptive Knowledge, and Sexual Attitudes (N=79)

Variables	Contraceptive knowledge r (p)	Sexual attitudes r (p)
Sexual knowledge	0.47 ($p<0.001$)	0.60 ($p<0.001$)
Sexual attitudes	0.28 ($p=0.012$)	1

3.5. Predictors on the Sexual Attitudes of Male High School Students

Because two independent variables (sexual knowledge and contraceptive knowledge) were correlated with the sexual attitudes, they were put into a multiple regression analysis (Table 7). Before performing the multiple regression analysis, multicollinearity test was done to check whether the degree of interrelatedness of the independent variables in this study is problematic or not [14]. As a result of multicollinearity test, tolerance of two independent variables was verified as 0.77 (evaluation criteria is >0.1), variation inflation factor was 1.28 (evaluation criteria is <10). This analysis satisfied the suggested values of multicollinearity evaluation for regression analysis [14, 15]. The multiple regression analysis showed that sexual attitude was significantly predicted by sexual knowledge and contraceptive knowledge. These variables explained 35.2% of the variance of sexual attitudes of male high school students ($F=22.19$, $p<0.001$). But, among these two independent variables, sexual knowledge was included in the regression model, and sexual knowledge was significantly predicted by sexual attitude ($\beta=0.61$, $t=5.89$, $p<0.001$).

Table 7. Predicting Factors of Sexual Attitudes of Male High School Students (N=79)

Factor	B	SE	β	t (p)	Tol	VIF
(Constant)	1.88	0.06		30.12 (<0.001)		
Sexual knowledge	0.03	0.01	0.61	5.89 (<0.001)	0.77	1.28
Contraceptive knowledge	-0.01	0.01	-0.01	-0.06 (0.948)	0.77	1.28

Adjusted $R^2 = 0.352$, $F=22.19$ ($p<0.001$)

SE= standard error; Tol=tolerance; VIF= variation inflation factor,

4. Discussion & Conclusions

Human sexuality is accepted as an immensely complex area involving somatic, emotional, intellectual and social aspects of an individual. Sexual health may be achieved through the positive integration of these personal characteristics, resulting in the successful expression of sexual nature [16, 17]. The period of adolescence is when the youth is preparing to build their individuality in order to grow into a healthy adult integrating psychological, social, and physical experiences and it is the period when they structure their gender roles, sexual attitudes, and sexual behaviors as well [18].

In this study, we investigated sexual knowledge, sexual attitudes, and contraceptive knowledge among male high school students in Korea. The results revealed that male

high school students' sexual knowledge and contraceptive knowledge was very poor and it was required to re-educate their sexual attitudes, which are similar to the findings of previous studies[4, 19]. This shows that current sex education provided in schools are not effective enough and it is necessary to provide systematic sex education programs that can contribute to build proper sexual knowledge and attitudes for male high school students.

In general, adolescents aged 15 to 17 years showed a low level of sex knowledge, especially with regard to birth control, STIs, and the probability of pregnancy [6, 20]. However, in the present study, the self-reported rate of sexual intercourse was 16.5%, which was very high. A study conducted in Korea reported that the rate of sexual intercourse between 13 year and 18year was 5.2% [7]. This result indicated that sexual experiences were increased during the high school period and it is very important to provide sexual education, especially to high school students. This study found out that sexual attitudes and contraceptive knowledge showed significant correlations.

Many researchers have found that attitudes to sex have an enormous influence on sexual activities [21-22]. Although several studies have found that higher levels of knowledge do not necessarily preclude young people from engaging in risky sexual behavior [23-24], nonetheless sound knowledge does provide the basis for young people to make informed decisions regarding their sexual lives (particularly before becoming sexually active) and general health [25].

It is necessary to provide sexual education about sexual knowledge and contraception to help male high school students establish appropriate sexual attitudes and values and especially important to provide, systematic education on sexual knowledge which can affect sexual attitudes.

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