

The Factors Related to Substance Use among Korean Adolescents: Focusing on Sexual Experiences and Risky Sexual Behaviors

Min Hee Park¹, Hae Ok Jeon^{2*}

¹Department of Nursing, Wonkwang University

²Department of Nursing, Cheongju University

한국 청소년의 약물사용 관련요인: 성경험과 위험 성행동을 중심으로

박민희¹ 전해옥^{2*}

¹원광대학교 간호학과, ²청주대학교 간호학과

Abstract The purpose of this study is to investigate factors related to substance use focusing on the sexual experiences and risky sexual behaviors among Korean adolescents. This study conducted with a secondary data analysis using the Seventh Korea Youth Risk Behavior Web-based Survey 2011 in South Korea. The study participants selected 75,643 Korean adolescents who were recruited anonymously through national web-based survey. Data were analyzed using descriptive statistics, Rao-Scott χ^2 , and logistic regressions considering complex samples. Results indicated that substance use was significantly associated with sexual experiences such as sexual intercourse with the opposite sex (adjusted OR=5.691; 95% CI=4.223-7.670), sexual intercourse with the same sex (adjusted OR=21.180; 95% CI=14.704-30.507) and risky sexual behaviors such as sexual assaults (adjusted OR=9.936; 95% CI=7.217-13.680), date rape (adjusted OR=16.979; 95% CI=11.648-24.751), sexual intercourse after drinking (adjusted OR=6.564; 95% CI=3.986-10.810), unexpected pregnancies (adjusted OR=18.628; 95% CI=8.476-40.936), and sexually transmitted diseases (adjusted OR=21.872; 95% CI=13.920-34.367) in Korean adolescents. Findings of this study show that adolescents who use substances are more likely to engage in risky sexual behaviors. Therefore, intervention program should be designed to consider both substance use and sexual problems and to include the effective approaches at the family and school level.

요약 본 연구의 목적은 한국 청소년의 성경험과 위험 성행동을 중심으로 약물사용 관련요인을 파악하기 위함이다. 본 연구는 2011년 제7차 청소년건강행태온라인조사의 자료를 활용한 2차 분석연구로, 익명성 자기기입식 온라인 조사를 통해 자발적으로 참여한 청소년의 총 75,643명의 자료가 분석에 이용되었으며, 복합표본분석 방법으로 서술통계, Rao-Scott χ^2 , 로지스틱회귀분석을 이용하였다. 연구결과, 약물사용은 동성과의 성경험(adjusted OR=5.691; 95% CI=4.223-7.670)과 이성과의 성경험(adjusted OR=21.180; 95% CI=14.704-30.507) 및 성폭행(adjusted OR=9.936; 95% CI=7.217-13.680), 테이트 성폭행(adjusted OR=16.979; 95% CI=11.648-24.751), 음주 후의 성관계(adjusted OR=6.564; 95% CI=3.986-10.810), 예상치 못한 임신(adjusted OR=18.628; 95% CI=8.476-40.936), 성병(adjusted OR=21.872; 95% CI=13.920-34.367)과 같은 위험 성행동과 유의한 관련성이 있는 것으로 나타났다. 이러한 연구결과는 약물사용 청소년은 위험 성행동을 경험할 개연성이 높은 것으로 보여 준다. 그러므로 한국 청소년의 약물사용은 성문제와 함께 그 해결방안이 모색되어야 하고, 가족과 학교 모두의 참여에 근거한 신체적, 심리적, 사회적 측면의 문제해결을 위한 중재가 개발되어 적용되어야 할 것이다.

Key Words : Adolescent, Sexual-behavior, Substance abuse detection

*Corresponding Author : Hae Ok Jeon(Cheongju Univ.)

Tel: +82-43-229-8993 email: beaulip@cju.ac.kr

Received February 19, 2015

Revised (1st March 30, 2015, 2nd April 1, 2015)

Accepted May 7, 2015

Published May 31, 2015

1. Introduction

The indiscreet sexual behaviors and habitual substance use are emerging as important issues that threaten the health and lives of youth in South Korea. Korean adolescents at risk for problems including delinquency, running away from home, and maladjustment to school showed a high rate (7.6% [male: 6.6%, female: 10.5%]) of using inhalants or hallucinogenic agents. Forty-four percent of adolescents (male: 45.9%, female: 41.1%) had engaged in sexual intercourse, and the average age of their first sexual intercourse was 14.9 years[1]. Substance use and sex issues have also emerged as important health concerns for adolescents in the United States. According to the Youth Risk Behavior Surveillance at United States[2], 20.8% of high school students are marijuana users, 2.1% are using illegal substances, and 34.2% are engaged in a sexual relationship but not paying enough attention to contraception. As shown in these results, we can find out that problems related to risky sexual behaviors and substance use in adolescence was global, major issues which threaten physical, psycho-social health and national health in the future.

Substance use with intent for hallucination among the juvenile population triggers not only physical, but also developmental problems. People who use substances at early ages are more likely to be addicted to drugs when they reach adulthood[3]. Early sexual engagement of adolescents hampers normal physical development and is linked to smoking, drinking, running away from home[4]. It also increases the probabilities of contracting sexual transmitted diseases(STDs) and unwanted pregnancy[5,6].

Adolescents start dating earlier and bodies now change faster, for example, the experience of menarche and nocturnal emission occurs earlier, leading to first sexual intercourse at lower ages[7]. The rate of being a prostitute among juvenile delinquents was 4.8%, while that of the other juveniles was 0.4%. It was found that juvenile delinquents have a greater chance

of being the victim of sex-related crimes[1].

Adolescent' substance use is associated with the following types of factors: contextual factors related to people and societies; family-related factors from relationships between children and parents; school-related factors such as failures in study or low levels of attachment to school; friend-related factors arising from the influence of peer groups; and personal factors such as depression, pessimism, and feelings of being alienated[8,9]. Male sex, white race, and sexually risky behavior were found to be other risk factors for adolescents' substance use. The major correlates of their substance use were family history, peers abusing substances, and lack of attention to school [10].

According to previous studies, the factors that influence adolescent' sexual behaviors were: personal factors, such as liberal attitudes towards sex, sexual desire, drinking, and smoking; family-related factors, such as structural family problems, parents' methods of nurturing, and lack of sex education in the home; peer-related factors, such as negative peer pressure to assimilate, relationships with friends who have had sex, the number of delinquent friends, and the openness to sex of one's friend group; and social factors, such as harmful facilities, the commercialization of sex, and the hedonism of culture with regard to sex[11]. Communication with parents, parental control, and surveillance were all found to be protective factors that keep adolescents away from substance use and sex[11,12].

Previous research performed with these concept in other countries has shown that substance abuse among adolescents is related to early sexual experience[13], and early sexual experiences lead to troublesome behaviors such as substance abuse in the future[14,15]. Adolescent' abuse of substances particularly increases their probability of being engaged in sexual relationships, thus raising the risks of exposure to STDs and pregnancy[16,17,18]. These results lead to the conclusion that substance use and sexual problems are risk factors for adolescent' health and that they

need to be addressed along with other problems. However, in Korea, not many studies have addressed the issues of sex and substance use among adolescents because of moral issues in a society that regards them as taboo.

In other countries, there are several previous studies on relationship between sex and substance use in adolescents[13-18]. On the other hands, in Korea, there is no research that deal with association sex and substance use in adolescents. Most studies have investigated sex and substance use individually as inappropriate behaviors of juvenile delinquents[4, 7]. In fact, adolescents who habitually use substances and commit risky sexual behaviors in Korea, have been recognized as very immoral and illegal, loser of the life who are difficult to modify. Because of these reasons, there is lack of research on substance use and sexual problems this population.

Therefore, this study is aimed to examine the factors related to habitually use substances with intent for intent for mood change, hallucination, weight loss, focusing on the sexual experiences and risky sexual behaviors in Korean adolescents. Then, based on such understanding, we intend to prepare the foundation of a nursing strategy that can develop therapeutic psycho-social nursing interventions and locate social-support resources to reduce habitually substance use and to solve sexual problems in Korean adolescents. Therefore, the following research questions were investigated:

- (1) What are demographic characteristics of Korean adolescents are involved in substance use?
- (2) What's the reason of using substances and types of substances used in Korean adolescents?
- (3) What are differences of sexual experience and risky sexual behaviors by substance use among Korean adolescents?
- (4) Dose the impact of sexual experience and risky sexual behaviors on substance use?

2. Methods

2.1 Design

This is a descriptive research for examining factors related to substance use focusing on the sexual experiences and risky sexual behaviors among Korean adolescents. This study was through the secondary analysis of raw data from the seventh Korea Youth Risk Behavior Web-Based Survey (7th KYRBS), which were directly collected by the Ministry of Education, Science, and Technology, the Ministry of Health and Welfare, and the Korea Centers for Disease Control and Prevention in 2011.

2.2 Participants

In this study, participants included 75,643 student aged 13-18, in the 7th to the 12th grade. Student participation was completely voluntary.

2.3 Procedure

Data was collected by a complex sample design that includes stratification, clustering, and multistage sampling. In the population of junior high and high school students around the nation as of April 2011, two-stage cluster sampling was used; the 800 sample schools were selected from primary sampling units based on geographic area, level of school (junior highschool, high school, special high school), and type of school (for boys, for girls, co-education schools). Secondary sampling randomly selected one class from each grade in the 800 sample schools and all students of sample classes, excluding students with dyslexia, dysgraphia, or being absent for extended periods from participating in the survey. The students were assigned unique identification numbers by classroom teachers. They accessed the survey page on the web using those numbers and were asked if they were willing to participate. A total of 75,643 adolescents who chose to join the study completed via an anonymous, self-administered online questionnaire.

2.4 Ethical considerations

This study was in compliance with ethical standards. The feasibility of use of the contents of KYRBWS-VII was verified by comments from an advisory committee consisting of specialists from various disciplines and research institutes. The final questionnaire received statistics approval (approval no. 11758) from the National Statistical Office. The survey was completed via an anonymous, self-administered online questionnaire. As the KYRBWS-VII did not collect private information, institutional review board's approval was not required.

2.5 Measurements

The variables used for this study were demographic variables, related to substance use, and variables related to sexual experience and risky sexual behavior.

2.5.1 Demographic Characteristics

Demographic characteristics included sex, grade, level of school achievement, economic status of family, and living arrangements. School achievement and economic status of family was classified into 3 categories (high, medium, low). Living arrangements were categorized by groups of adolescents who have lived (1) with family, (2) with relatives, (3) alone, and (4) in child care centers.

2.5.2 Substance use

Substance use was put into groups of adolescents who have had experience and who have had no experience, according following questions: Have you ever used habitually substances with intent for mood changes, hallucinations, and weight loss effects, such as cannabis, hallucinogenic agents, psychotomimetics, stimulants, sedative medication? Also, researchers asked about the reasons for substance use and types of substances used. The available responses of the reason why adolescents used substances were: 1) to feel better, 2) because of depression, anger, or anxiety when use was discontinued, 3) to play with friends using

substance, 4) because it's a addiction, or 5) to reduce one's weight. The types of substances used totaled 35 substances and the 5 substances that adolescents use most commonly were ranked: 1) cannabis, 2) stimulants medication, 3) psychotomimetics agents, 4) sedative medication, 5) hallucinogenic agents.

2.5.3 Sexual Experience and Risky Sexual Behavior

Sexual experiences are classified into 'yes' or 'no' by 2 questions: 1) Have you ever had sexual intercourse with someone of the opposite gender? 2) Have you ever had sexual intercourse with someone of the same gender?

Also, researchers asked 6 questions related to risky sexual behaviors : 1) Have you ever been sexually assaulted? 2) Have you ever been date raped? 3) Have you ever had sexual intercourse after drinking? 4) Did you use contraception to prevent pregnancy during sexual intercourse? 5) Have you ever had an unwanted pregnancy? 6) Have you ever had a sexually transmitted disease? Participants responded with 'yes' or 'no' to the questions. In the present study, risky sexual behaviors refers to sexual assaults, date rape, sexual intercourse after drinking, non-use contraception, unexpected pregnancies, and sexually transmitted diseases.

2.6 Data Analysis

Data were analyzed using the IBM SPSS Statistics version 20.0 software package considering complex samples analysis because KYRBWS-VII is designed to include multistage sampling, stratification, and clustering. First, researchers conducted Rao-Scott χ^2 -test to examine differences in rate of demographic characteristics, sexual experiences, and risky sexual behavior on the basis of substance use. The reasons and types of substance use in adolescents were analyzed by multiple response analysis. Logistic regression analysis was used to determine the association between substance use in Korean

adolescents and sexual experiences and risky behaviors. Crude odds ratios (ORs) and adjusted ORs with their corresponding 95% confidence intervals (CIs) were calculated.

3. Results

3.1 Comparison of demographic characteristics of subject

The weighted prevalence of Korean adolescents who habitually use substances with intent for mood change,

hallucination, and weight loss effects was 0.7%, which this figure means 499. The comparison of demographic characteristics between substance users and non-substance users is shown in Table 1. The proportion of boys with experience of substance use (65.8%) was higher than those without (52.6%). Third grade middle school students accounted for the highest percentage (21.2%) of substance users. 50.4% of adolescents with experience of substance use had "low" school achievement, whereas 37.7% of those without had "low" school achievement. Of adolescents with "low" economic status 39.1% were substance users,

Table 1. Demographic characteristics according to substance use in Korean adolescents (N=75,643)

Variables	Substance use			Rao-Scott χ^2	p
	Yes	No	Total		
	n(weighted %)				
Gender					
Boys	320(65.8)	37,553(52.6)	37,873(52.7)	21.40	<.001
Girls	179(34.2)	37,591(47.4)	37,770(47.3)		
Grade level				2.89	.016
Middle school 1th Grade	55(10.7)	12,673(16.0)	12,728(16.0)		
Middle school 2nd Grade	95(18.2)	12,808(16.7)	12,903(16.7)		
Middle school 3rd Grade	105(21.2)	12,738(16.9)	12,843(16.9)		
High school 1th Grade	86(17.2)	12,483(17.2)	12,569(17.2)		
High school 2nd Grade	67(12.8)	12,441(16.7)	12,508(16.7)		
High school 3rd Grade	91(20.0)	12,001(16.5)	12,092(16.6)		
School achievement				48.37	<.001
High	181(36.2)	22,250(30.7)	22,431(30.7)		
Medium	122(24.8)	35,640(47.0)	35,762(46.8)		
Low	196(39.1)	17,254(22.4)	17,450(22.5)		
Living arrangement				706.55	<.001
With family	290(58.4)	71,569(96.0)	71,859(95.7)		
With relatives	84(17.1)	889(1.1)	973(1.2)		
Alone(boarding house, dormitory)	56(9.8)	2,329(2.5)	2,385(2.6)		
Child care centers	69(14.8)	357(0.4)	426(0.5)		

Table 2. The reasons and types of substance use in Korean adolescents (Multiple Responses, N=499)

Variables	n (%)
Reasons of substance use	
For feeling better	131(26.3)
For feeling depression, anger, anxiety, when disuse	93(18.6)
For playing with friends using substance	117(23.4)
By addiction	117(23.4)
For reducing one's weight	139(27.9)
Types of substance used	
Cannabis	243(48.7)
Stimulants medication	230(46.1)
Psychotomimetics agents	220(44.1)
Sedative medication	211(42.3)
Hallucinogenic agents	206(41.3)

whereas 22.4% of adolescents in the 'low' economic status were not substance users. Also, the adolescents who have not lived with family and were substance users (41.6%) was higher than those who have not lived with family without experience of substance use (4.0%).

3.2 The reasons and types of substance use

According to the question about the reasons and types of substance use, where participants were permitted to choose multiple responses, the adolescents who have used at least one substance answered that they repetitiously used the substance in order to reduce their weight (27.9%), to feel better (26.3%), to play with friends using substance (23.4%), by addiction (23.4%), or to reduce depression, anger, anxiety,

caused from withdrawal (18.6%). When multiple choices were surveyed, the types of substances were cannabis (48.7%), stimulants medication (46.1%), psychotomimetics agents (44.1%), sedative medication (42.3%), and hallucinogen agents (41.3%) in order (Table 2).

3.3 Comparison of sexual experiences and risky sexual behavior

Table 3 shows that the prevalence of sexual intercourse with someone of the opposite sex was 4.4% and the prevalence of sexual intercourse with the same sex was 1.0%. The prevalence of risky sexual behavior among Korean adolescents who have had experience of sexual intercourse are as follows; the rate of sexual assault was 1.6%, and the rate of date rape was 1.0%, the rate of sexual intercourse after drinking was 43.1%, the rate of doing not contraception was 55.1%, the rate

Table 3. Comparison of sexual behaviors experiences and risky sexual behaviors according to substance use in Korean adolescents (N=75,643)

Variables	Substance use			Rao-Scott χ^2	p
	Yes	No	Total		
	n(weighted %)				
Sexual experiences					
Ever had sexual intercourse with opposite gender					
Yes	141(28.2)	3,046(4.3)	3,187(4.4)	428.01	<.001
No	358(71.8)	72,098(95.7)	72,456(95.6)		
Ever had sexual intercourse with same gender					
Yes	133(29.2)	581(0.8)	714(1.0)	2641.37	<.001
No	366(70.8)	74,563(99.2)	74,929(99.0)		
Risky sexual behaviors					
Ever been sexually assaulted					
Yes	103(20.7)	1,112(1.4)	1,215(1.6)	901.87	<.001
No	396(79.3)	74,032(98.6)	74,428(98.4)		
Ever had date rape					
Yes	119(25.0)	577(0.8)	696(1.0)	2094.36	<.001
No	380(75.0)	74,567(99.2)	74,947(99.0)		
Ever had sexual intercourse after drinking (n=3,537)					
Yes	159(81.1)	1,368(40.8)	1,527(43.1)	77.57	<.001
No	33(18.9)	1,977(59.2)	2,010(56.9)		
Contraception practice (n=3,537)					
No	101(53.9)	1,875(55.2)	1,976(55.1)	0.09	.762
Yes	91(46.1)	1,470(44.8)	1,561(44.9)		
Ever had pregnancy* (n=1,103)					
Yes	30(65.3)	81(8.2)	111(10.9)	142.54	<.001
No	18(34.7)	974(91.8)	992(89.1)		
Ever had sexually transmitted Disease (n=3,537)					
Yes	133(72.6)	205(6.4)	338(10.1)	726.50	<.001
No	59(27.4)	3,140(88.3)	3,199(89.9)		

*Female students only

of pregnancy was 10.9%, and the rate of STDs was 10.1%.

Substance users had a higher rate of sexual intercourse with partners of the opposite gender (28.2%, Rao-Scott $\chi^2=428.01$, $p<.001$), sexual intercourse with the same gender (29.2%, Rao-Scott $\chi^2=2641.37$, $p<.001$), sexual assault (20.7%, Rao-Scott $\chi^2=901.87$, $p<.001$) and date rape (25.0%, Rao-Scott $\chi^2=2094.71$, $p<.001$) compared to non-substance users.

Substance users were found to have a significantly higher rate of: sexual intercourse after drinking (81.1%, Rao-Scott $\chi^2=77.57$, $p<.001$), unwanted pregnancy (65.3%, Rao-Scott $\chi^2=142.54$, $p<.001$), and STDs (72.6%, Rao-Scott $\chi^2=726.50$, $p<.001$) than non-substance user.

3.4 The factors related to substance use focused on sexual experiences and risky sexual behavior

As a result of univariate logistic regression, as shown in Table 4, substance use was found to be significantly associated with sexual intercourse with the opposite sex (adjusted OR=5.691; 95% CI=4.223-7.670), sexual intercourse with the same sex (adjusted OR=21.180; 95% CI=14.704-30.507), being sexually assaulted (adjusted OR=9.936; 95% CI=7.217-13.680), being date raped (adjusted OR=16.979; 95% CI=11.648-24.751), having sexual intercourse after drinking (adjusted OR=6.564; 95% CI=3.986-10.810), having an unwanted pregnancy (adjusted OR=18.628; 95% CI=8.476-40.936), and contracting STDs (adjusted OR=21.872; 95% CI=13.920-34.367).

Table 4. Factors related to substance use in Korean adolescents: Focused on sexual experiences and risky sexual behavior (N=75,643)

Variables	Univariate			
	Crude OR (95% Confidence Intervals)	p-value	Adjusted OR† (95% Confidence Intervals)	p-value
Sexual experiences				
Ever had sexual intercourse with opposite gender				
No	1		1	
Yes	8.859(6.903-11.369)	<.001	5.691(4.223-7.670)	<.001
Ever had sexual intercourse with same gender				
No	1		1	
Yes	50.788(39.181-65.833)	<.001	21.180(14.704-30.507)	<.001
Risky sexual behaviors				
Ever been sexually assaulted				
No	1		1	
Yes	17.863(13.790-21.138)	<.001	9.936(7.217-13.680)	<.001
Ever had date rape				
No	1		1	
Yes	41.548(31.900-54.114)	<.001	16.979(11.648-24.751)	<.001
Ever had sexual intercourse after drinking (n=3,537)				
No	1		1	
Yes	6.236(3.944-9.862)	<.001	6.564(3.986-10.810)	<.001
Contraception practice (n=3,537)				
Yes	1		1	
No	0.950(.682-1.324)	.762	0.887(.602-1.308)	.545
Ever had pregnancy* (n=1,103)				
No	1		1	
Yes	21.127(11.055-40.374)	<.001	18.628(8.476-40.936)	<.001
Ever had sexually transmitted Disease (n=3,537)				
No	1		1	
Yes	38.710(26.452-56.650)	<.001	21.872(13.920-34.367)	<.001

* Female students only

† Adjusting for Demographic Characteristics such as, gender, grade level, school achievement, economic status of family, and living arrangement

4. Discussion

Results of our study provide further support for understanding the factors related to the substance use in Korean adolescents. The factors linked to increased risk of substance use were male sex, low school achievement, low family economic status, and living in a child care center.

Studies in other countries also identified male students as being at increased risk [10,19]. Considering that a previous study[20,21] found relationships with parents and family to be a protective factor, while the influence of peer groups a risk factor, adolescents who are not living with their families need full support and care from their schools and governments. More effort need to be made in order to address the factors that influence adolescents substance use, such as contextual factors related to the person or society, relationships between parents and children, failures in study, weak attachment to school, influence of peer groups or friends, depression, pessimism, and personal factors such as the sense of being alienated[8,9].

This study found that the students used substances in order to feel better, reduce depression, anger, anxiety from withdraw, spending time with friends, by addiction or to reduce one's weight. These purposes were associated with pleasure, curiosity, and peer pressure[19],[22,23]. Therefore, intervention program need to take into account reasons of substance use. It is urgent to recognize alternative measures that can reduce adolescent's motivation to start and maintain substance use. Systematic counseling program should be placed in the intervention program in order to tailor made solution for each reasons of substance use. Most of all, in order to stop substance use of adolescents, it is important to detect adolescent substance user in early stage and to provide continuous attention to adolescent that use substance in both family and school until they don't feel temptation of substance use.

Substance users had a higher rate of sexual intercourse with partners of the opposite sex, sexual

intercourse with the same sex, compared to non-substance users. Also, substance users were found to have a significantly higher rate of sexual assault, date rape, drinking after sexual intercourse, pregnancy and STDs than non-substance user. These results are similar to the previous research findings. Early sexual experiences lead to problem behaviors such as substance uses in the future[16,17,18]. And, teenagers' use of substance particularly increase probabilities of being engaged in sexual relationships, and raising the risks of exposure to STDs or pregnancy[14,15].

Additionally, prescription drug use also has an impact on high-risk sexual behavior(e.g., multiple sex partners, more unprotected sex)[24,25]. This study identified the priority needs of education in order to prevent STDs, HIV/AIDS, and unwanted pregnancy for adolescents who use substance.

Risky sexual behaviors in the adolescent period hamper normal physical growth and are closely associated with other problems, such as smoking, drinking, running away from home, and suicide. Teens who start having sex early suffer physically and mentally from STDs and unwanted pregnancies[4]. Sexual problems and substance use among adolescents are not only problems in themselves, but they are also related to other behavioral problems, including running away from home and suicide. The effects could be mutual: substance use could be one of the risk factors for adolescents' sexual problems[16,17,18], and sexual problems could also be one of the risk factors for adolescents' substance use[10]. Adolescents' substance use and sexual problems could potentially impact their current and future health and life[14,15].

Based on significant association between substance use and risky sexual behavior in Korean adolescents, it is required to pay attention to both substance use and risky sexual behaviors of adolescents, and we need to prepare a multidisciplinary support strategy for the future. Some studies have reported that educational interventions in school or family relationship are effective in stopping youth sexual and substance use

problems[26,29], but interventions to address both problems at the same time have not yet been found. Hartos et al.[30] found that communication with parents is high association with reducing juvenile delinquency such as substance use and sexual activity. Adolescents who perceived experiencing less family emotional responsiveness is likely to engage in substance use and increased sexual activity[31].

We suggest that it is needed to assess family relationships before starting intervention program. And, the intervention program should be conducted to improve relationships with the parents, family, and caregivers. Moreover, the most effective education for the adolescents is the school based education. Health curriculum in schools should be included the contents of correct substance use and safe sexual behavior. In addition, education program should be provided at elementary school or junior high school, as the age of sexual experience and substance use is lower and lower. To make sure effective implementation of the above, health education policy should help to organize these health education curriculum since elementary school.

In conclusion, solutions to the adolescents' substance use problems need to be sought along with solutions to their sexual problems, and preventive and therapeutic intervention is needed at the school level. And, to solve these problems, comprehensive attention from the family, school, and community are necessary.

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Min Hee Park

[Regular member]



- Aug. 2006 : Seoul National Univ., Public health, MPS
- Aug. 2012 : Ewha Womans Univ., Nursing, PhD
- Mar. 2013 ~ current : Wonkwang Univ., Dept. of Nursing, Assistant professor

<Research Interests>

Adolescent' health risk behavior, Instrument development research, Health policy

Hae Ok Jeon

[Regular member]



- Feb. 2007 : Ewha Womans Univ., Nursing, MS
- Aug. 2010 : Ewha Womans Univ., Nursing, PhD
- Mar. 2011 ~ current : Cheongju Univ., Dept. of Nursing, Assistant professor

<Research Interests>

Chronic illness, Internet based coaching program