

Knowledge, Attitude, and Practice Concerning the Prevention of STIs among High School Students in Northern, Thailand

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Abstract The objectives of this study were to examine the current state of knowledge and sexual behavior concerning the prevention of Sexually Transmitted Infections (STIs), and to evaluate attitudes toward safe sex and coping with STIs. We performed a self-administered questionnaire and focus group interview among 197 high school students in Northern, Thailand. We also determined the presence or absence of chlamydia and gonorrhea infections in urine samples taken from 70 students. The participants were actively concerned with emotional relationships and homosexuality, but held negative attitudes toward sexual behavior including premarital sex and kiss, and had less chance for sex education along with their developmental stages. Consciousness of sexuality, knowledge level of STI prevention, self-efficacy toward safe sex, and coping ability with STIs were significantly higher in females than in males. In the urine test, all of the participants as a sub-set of those surveyed had negative results for STIs. In conclusion, the knowledge level of the participants on STI prevention correlated with self-efficacy toward safe sex and coping ability with STIs. Thus, the authors of this study conclude that sex education is effective for students to get comprehensive knowledge about STI prevention, and educators need to consider students' individual sexual issues.

Keywords STIs, Prevention, Adolescents, Thailand

1. Introduction

The prevalence of sexually transmitted infections (STIs) and their related health disabilities, such as infertility or cervical cancer, among the younger generation have been increasing, and has become one of the urgent health issues across the world [1-3]. UNAIDS [4] reported that 780,000

young people aged 15–24 were newly infected with HIV in 2012. Although the number of HIV cases has been decreasing globally, it still remains high in some areas, especially in Middle East, Africa, and East Asia [4]. Behind them, there were several severe issues pertaining to young people: i.e. insufficient knowledge of STIs and contraception, defenseless of sexual behaviors in younger generations (about 300,000 new HIV infections occurred among adolescents aged 15-19 in 2012, and most of them had multiple sexual partner or were infected through unprotected sex [5]), and diversifying sexual patterns (HIV infection among young men who have sex with men aged 13-24 years increased by 26% over 2008-2011. [6]) [7-9].

Thailand is one of the countries with severe issues on STIs among young generation. Indeed, Thailand carried out a unique sexual policy (e.g. the 100% condom project) in 1991 [10], which resulted in a dramatic reduction in the new prevalence rate of STIs [11]. However, the trend had bottomed out by 2000 [11], and has been increasing again since 2005 [12], which might have contributed to the high prevalence of STIs among young people [13, 14]. By region, the rates of reported AIDS cases had been most in the Northern area since 1990 [10]. Furthermore, Thailand was tolerant of same-sex relationships and the diversification of sexual patterns among the country's youth [15-17]. Until now, many epidemiologic studies regarding sexual activity, recognition of sexuality among young people, and the knowledge of STIs have been reported [18-20]. However, there is a lack of research on the attitudes and practices concerning STI prevention among young people.

Therefore, this study examined the current state of knowledge and sexual behavior regarding STI prevention, and to evaluate attitudes toward safe sex, and coping ability with STIs among high school students in Northern, Thailand.

2. Materials and Methods

2.1. Materials

We recruited 240 high school students aged from 15 to 18 in a public and a private high school in Northern, Thailand. Number of samples was calculated based on the following formula.

$$n = \frac{N}{1 + (N/e^2)}$$

The public school was located in a middle-income class area, while the private school in a middle to high-income class area, so all of the participants met the general standard of living in Thailand. Moreover, both of the schools did not have specific courses or classes. The participants were chosen using simple random sampling from total number of the students (538 students, 315 males and 213 females, in public school and 400 students, 169 males and 231 females, in private school) with the students' name list. Finally, we obtained informed consent from 200 participants (83.3% response rate), and the number of valid response was 197 students (98.5% valid response rate).

2.2. Methods

2.2.1. Self-reported Questionnaires

The questionnaires consisted of six parts: characteristics (school, gender, age, grade, religion, and family), sexual behavior, best counselor and information sources on sexuality, sex education (educational back grounds, educators, contents, and satisfaction level for sex education), knowledge test on STI prevention, self-efficacy toward safe sex, and coping ability with the symptoms of STIs using a scenario setting. The knowledge test had 12 questions (12 points maximum), and the scorings were divided into 3 groups: low score group (≤ 8), middle score group (9, 10), and high score group (≥ 11). Self-efficacy toward safe sex was evaluated using the Sexual Abstinence Behavior Scale (SABS) [21], which consists of four items: decision-making ("Tell yourself you were making the right decision by waiting to have sex."), interacting ("Say "No" to sex."), negotiation ("Tell her/him that you want to wait to have sex."), and peer pressure ("Avoid being pressured into have sex by making sure you are out with a group of people"). A 6-point Likert scale was used, from 1= strongly disagree to 6= strongly agree. Cronbach's alpha was .80 for the total. Moreover, the Likert scale was divided into 2 groups: agree group (1 to 3) and disagree group (4 to 6) in order to correlate with coping ability with STIs symptoms. All items were translated into Thai language, and were arranged through the coworker, Suriareporn, Assistant Professor in Faculty of Nursing of Chiang Mai University. On coping with the symptoms of STIs, we set two kinds of scenario on the symptoms of chlamydia (situation 1) and gonorrhea (situation 2) infections which showed different

pathophysiology, and then asked to the subjects "if these symptoms occurred, how would you cope with them?". Coping ability with STIs was divided into two groups: medical checkup group and non-medical checkup group. We used the Thai language version of the questionnaires, which were translated from the English version by a research assistant of Chiang Mai University.

2.2.2. Focus Group Interview

Five males and five females at each high school were chosen randomly from the participants who responded to the questionnaire. The interview was held at the gymnasium or the infirmary along with an interview guide on sex educations, self-efficacy toward safe sex, and coping with the symptoms of STIs, and took from 1.5 to 2 hours for each group. The group was divided into males and females. The aim of the focus group interview was to evaluate the information on the questionnaires more deeply. Four nursing staff of Chiang Mai University (one male and three females) played roles as research assistants in the focus group interview: Interview Leader, recorders, and assistants. The Leader interviewed the participants in Thai language according to the interview guide. After the interview, research assistants of Chiang Mai University summarized the records and translated them from Thai language to English.

2.2.3. Urine Test for Chlamydia and Gonorrhea

The presence or absence of chlamydia and gonorrhea in urine was determined using APTIMA Combo2 chlamydia/gonorrhea for 22 students (10 males and 12 females) in the public high school, and 48 students (26 males and 22 females) in the private high school. We asked all survey respondents for the cooperation of the urine test, and obtained informed consent for cooperation in the urine test from 70 students as a sub-set of those surveyed. We reported all the results of the participants to both high school, and recommended that any students who showed the positive response to the STI tests visit the hospital.

2.3. Statistical Analyses

SPSS Statistics version 22.0 software was used for statistical analysis. In analyses, the differences in the distribution of the baseline characteristics were tested using the Chi-square test. The scorings of the knowledge test were presented as means and standard deviations. To identify differences in scores in the knowledge test between males and females, a paired t-test was used. A Chi-square test was used to test the differences between the knowledge levels on STI prevention and the ability of self-efficacy toward safe sex; between the knowledge levels and the presence or absence of medical checkup for STIs; between the ability of self-efficacy and the presence or absence of medical checkup for STIs; and between the presence or abundance of medical checkup for STIs and best counselor/information sources on sexuality. In all cases, P values of < 0.05 were considered statistically significant.

Table 1. Characteristics

	Public(n=93)	Private(n=104)	Total(N=197)
Age			
Mean±SD	16.4±0.9	16.6±0.5	16.5±0.8
Gender			
Male	45 (48.4 %)	51 (49.0%)	93 (47.2%)
Female	48 (51.6 %)	53 (51.0%)	104 (52.8 %)
Religion			
Buddhist	89 (95.7 %)	90 (86.5%)	179 (90.9 %)
Christian	3 (3.2 %)	11 (10.6 %)	14 (7.1 %)
Muslim	1 (1.1 %)	2 (1.9 %)	3 (1.5 %)
Family			
Parents	82 (88.2 %)	96 (92.3 %)	178 (90.4 %)
Siblings	1 (1.1 %)	5 (4.8 %)	6 (3.0 %)
Ground Parent	5 (5.4 %)	1 (1.0 %)	6 (3.0 %)

2.4. Ethical Consideration

Before we started any research, we explained the purpose and method of this study to the research participants, and obtained the consent forms from the teachers, participants and their parents. This survey was approved by Ethical Committee of Kobe University Graduate School of Health Sciences (No.304) and Faculty of Nursing, Chiang Mai University.

3. Results

3.1. Characteristics and Sexual Behavior

Table 1 shows the characteristics of the participants. The mean age was 16.5 ± 0.8 years (range 15-18).

With regard to sexual behavior, 70.8% males and 67.3% females had boy/girlfriends, and 19.8% males and 11.9% females agreed with premarital sex. 39.6% males and 20.8% females had kissed, being significantly higher in males than in females ($P < 0.001$). Additionally, 22.9% males and 61.4% females were identified as having had same sex partners, being significantly lower in males than in females ($P < 0.001$).

Regarding counselors and information sources on sexuality, 42.3 % of the participants selected “parents” and 41.8% selected “friends” as the best counselor, but 6.0% selected “nobody”. Furthermore, 89.3% selected ‘school’ and 77.6% selected “media” as information sources, and the percentages of the participants who selected “media”, ‘medical specialists’, and “parents” were significantly higher in females than in males ($P < 0.05$, 0.001, and 0.05, respectively).

3.2. Sex Education

With regard to experiences of learning about sexuality at

school, 70.6% of the participants received sex education at pre-school, 48.2% at junior high school, and 30.5% at high school. 83.9% were taught by teachers. On the contents of sex education which the participants had learned, 73.1% learned about “safe sex”, and 46.2% learned about “premarital sex”. Moreover, on STIs, 71.4% learned about “prevention of STIs”, 61.9% learned about “symptoms of STIs”, and 50.3% learned about “treatment of STIs”. These percentages in all the contents were higher in females than in males. On the satisfaction level, 62.8% selected “somewhat satisfied” (the 3rd of 4 stage) with the sex education they had received.

As the results of the interview survey, all of the participants received sex education in school. Several opinions were offered: “The main educators are teachers, but the advisers on private sexual problems are friends, parents, and Internet, because some of sexual contents are not enough or teachers didn’t talk deeply in details. Therefore, it is needed to ask their parents or website.”, “I want the chance to share the experiences or opinions on sexuality with friends.”, and “School sex education is ambiguous, so I need more clear education such as providing clarified pictures, models and simulators.”

3.3. Knowledge Test on STI Prevention

The results of the knowledge test on the prevention of STIs are shown in Table 2. More than 95% of the participants selected correct answered to “STIs are transmitted by sexual intercourse”, “AIDS is an STI”, and “Smoking or second-hand smoking is a risk for cancers in general”. On the other hand, 59.9% selected correct answered to “Human papillomavirus (HPV) is the cause of cervical cancer”, and 25.9% selected to “STIs are only caused by viruses”. The mean scorings were significantly higher in females than in males ($P < 0.001$).

Table2. Knowledge Test between males and females

	Male (n=96)	Female (n=101)	p
STIs are transmitted by sexual intercourse.	89 (92.7%)	101 (100.0%)	.006
STIs are caused only by viruses.	33 (34.4%)	18 (17.8%)	.009
Some STIs are asymptomatic.	73 (76.0%)	78 (77.2%)	n.s.
STIs symptoms in female are stronger than those in male.	61 (63.5%)	63 (62.4%)	n.s.
STIs are one of the causes of abortion.	48 (50.0%)	76 (75.2%)	.000
STIs can pass from mother to fetus.	90 (93.8%)	92 (91.1%)	n.s.
Some STIs can spread through mucous membrane of any organs.	82 (85.4%)	88 (87.1%)	n.s.
AIDS is an STIs.	94 (97.9%)	99 (98.0%)	n.s.
Human papillomavirus (HPV) is the cause of cervical cancer.	52 (54.2%)	66 (65.3%)	n.s.
It is important to keep a healthy lifestyle for the prevention of Cervical Cancer.	81 (84.4%)	88 (87.1%)	n.s.
Smoking or second- hand smoking is a risk for cancers in general.	93 (96.9%)	100 (99.9%)	n.s.
You need to have a medical examination, if you have any symptoms such as itching, pain, or odors from your sex organ.	89 (92.7%)	97 (96.0%)	n.s.
Scoring (mean±SD)	9.3±1.6	10.0±1.3	.000

Chi-square test/t-test

Table3. Self-efficacy toward safe sex N=194

	1	2	3	4	5	6
Decision-making	6(3.1%)	7(3.6%)	10(5.2%)	21(10.8%)	40(20.6%)	110(56.7%)
Interacting	7(3.6%)	13(6.7%)	34(17.4%)	17(8.7%)	40(20.5%)	84(43.1%)
Negotiation	4(2.1%)	6(3.1%)	6(3.1%)	23(11.8%)	34(17.4%)	122(62.6%)
Peer-pressure	10(5.1%)	12(6.2%)	23(11.8%)	42(21.5%)	48(24.6%)	60(30.8%)

*1: Strongly disagree 2: Moderately disagree 3: Slightly disagree 4: Slightly agree 5: Moderately agree 6: Strongly agree

3.4. Attitude toward Safe Sex

Self-efficacy toward safe sex is shown in Table 3. Most of the participants selected “strongly agree”, followed by “moderately agree” for all items. The abilities of self-efficacy were significantly higher in females than in males (decision-making, interacting, negotiation, and peer-pressure: $P < 0.01, 0.001, 0.001,$ and 0.01 , respectively).

60.2% of the participants agreed with sexual intercourse in teens, 11.2% disagreed, and 28.6% answered unknown. Moreover, according to the interview survey, 16 participants (3 males and 5 females in public school and 3 males and 5 females in private one) disagreed with sexual intercourse in teens because they thought sexual intercourse while a teenager was too early for them. The others answered unknown. Some students described that sexual intercourse depended on the relationship with the partner. One participant mentioned that I should protect myself completely such as using condom.

Self-efficacy toward safe sex were positively correlated with the percentage of acceptance of sexual intercourse during teenage years (All items: $P < 0.001$).

3.5. Practices for Coping with STIs

As the result of the scenario setting regarding coping with STI symptoms, 87.8% of the participants agreed to

undertake a medical checkup if chlamydia symptoms were present, and 91.4% agreed in the case of gonorrhea symptoms. The figures were significantly higher in females than in males (Chlamydia and gonorrhea: $P < 0.001$ and 0.01 , respectively). Out of the participants who disagreed to undertake a medical checkup (“the non-medical checkup group” is shown below), 59.1% of the participants in the case of chlamydia and 87.5% in the case of gonorrhea selected “consult with someone”. As a result of the interview survey, all of the participants agreed to undertake a medical checkup, while some of them described they would consult with someone before undertake a medical checkup.

The relationship between the best counselor/information sources on sexuality and coping with the symptoms of STIs is shown in Table 4. The percentage of the participants who selected “parents” as the best counselor was significantly higher in the medical checkup group than in the non-medical checkup group (chlamydia, and gonorrhea: $P < 0.01$ and 0.05 , respectively). Moreover, in both cases, the percentage of the participants who selected “medical specialists” and “parents” as information sources was significantly higher in the medical checkup group than in the non-medical checkup group (chlamydia: $P < 0.05$ and 0.05 , respectively / gonorrhea: $P < 0.01$ and 0.01 , respectively).

Table 4. Comparison between best counselor/information sources and coping with the symptoms of STIs

	Chlamydia			Gonorrhea		
	Yes(n=158)	No(n=22)	P	Yes(n=165)	No(n=16)	p
Best Counselor						
Parents	73(46.2%)	4(18.2%)	.020	75(45.5%)	2(12.5%)	.015
Friends	58(36.7%)	16(72.7%)	.002	64(36.8%)	11(68.8%)	.031
Nobody	11(7.0%)	0(0.0%)		11(7.0%)	0(0.0%)	
Teachers	4(2.5%)	0(0.0%)		3(1.8%)	1(6.3%)	
Health specialists	3(1.9%)	1(4.5%)		4(2.4%)	0(0.0%)	
Information Souses	Yes(n=173)	No(n=22)	P	Yes(n=180)	No(n=16)	P
School	157(90.8%)	18(81.8%)	n.s.	163(90.6%)	13(81.3%)	n.s.
Media	137(79.2%)	14(63.6%)	n.s.	140(77.8%)	12(75.0%)	n.s.
Internet	106(61.3%)	10(45.5%)	n.s.	110(61.1%)	7(43.8%)	n.s.
Friends	81(46.8%)	8(36.4%)	n.s.	84(46.7%)	6(37.5%)	n.s.
Health specialists	81(46.8%)	4(18.2%)	.012	83(46.1%)	2(12.5%)	.009
Parents	75(43.4%)	4(18.2%)	.036	78(43.3%)	1(6.3%)	.003
School	157(90.8%)	18(81.8%)	.026	55(30.6%)	2(12.5%)	n.s.
Media	137(79.2%)	14(63.6%)	n.s.	3(1.7%)	0(0.0%)	n.s.

Chi-square test

Table 5. Comparison between knowledge level and self-efficacy toward safe sex

	Self-efficacy toward safer sex						P
	1	2	3	4	5	6	
1. Decision-making	n=6	n=7	n=10	n=21	n=40	n=101	
Low	3(50.0%)	4(57.1%)	5(50.0%)	4(19.0%)	5(12.5%)	15(14.9%)	
Middle	3(50.0%)	3(42.9%)	5(50.0%)	17(81.0%)	31(77.5%)	46(45.5%)	.001
High					4(10.0%)	50(49.5%)	
2. Interacting	n=7	n=13	n=34	n=17	n=40	n=84	
Low	4(57.1%)	6(46.2%)	10(29.4%)	3(17.6%)	3(7.5%)	10(11.9%)	
Middle	3(42.9%)	7(53.8%)	24(70.6%)	13(76.5%)	29(72.5%)	29(34.5%)	.001
High				1(5.9%)	8(20.0%)	45(53.6%)	
3. Negotiation	n=4	n=6	n=6	n=23	n=34	n=122	
Low	3(75.0%)	5(83.3%)	3(50.0%)	7(30.4%)	7(20.6%)	11(9.0%)	
Middle	1(25.0%)	1(16.7%)	3(50.0%)	16(69.6%)	24(70.6%)	60(49.2%)	.001
High					3(8.8%)	51(41.8%)	
4. Peer pressure	n=10	n=12	n=23	n=42	n=48	n=60	
Low	4(40.0%)	5(41.7%)	4(17.4%)	7(16.7%)	9(18.8%)	7(11.7%)	
Middle	6(60.0%)	7(53.8%)	19(82.6%)	28(66.7%)	25(52.1%)	20(33.3%)	.001
High				7(16.7%)	14(29.2%)	33(55.0%)	

Chi-square test

3.6. Correlation among Knowledge Level of STI Prevention, Self-efficacy toward Safe Sex, and Coping Ability with STIs

The scorings of knowledge test on STI prevention correlated with self-efficacy toward safe sex ($P < 0.001$) (Table 5). Moreover, medical checkup group had higher scoring of knowledge test than non-medical checkup group (Table 6). Additionally, there were positive correlations in medical checkup on the symptoms of STIs between the self-efficacy toward safe sex and coping with the symptoms of STIs (In chlamydia symptoms: decision-making and interacting: $P < 0.05$ and 0.05 , respectively, and in gonorrhea symptoms: decision-making: $P < 0.05$) (Table 7).

Table 6. Comparison between knowledge level and coping ability with STIs

Knowledge \ Coping	Chlamydia			Gonorrhoea		
	Yes (n=173)	No (n=22)	p	Yes (n=180)	No (n=16)	p
Low	32 (18.5%)	6 (27.3%)	n.s.	34 (18.9%)	4 (25.0%)	n.s.
Middle	91 (52.6%)	13 (59.1%)		95 (52.8%)	9 (56.3%)	
High	50 (28.9%)	3 (13.6%)		51 (28.3%)	3 (18.8%)	
Mean±SD	9.68±1.37	9.09±1.37		9.67±1.37	9.06±1.43	

Chi-square test

Table 7. Comparison between self-efficacy toward safe sex and coping ability with STIs

Coping \ Self-efficacy	Chlamydia			Gonorrhoea		
	Yes(n=172)	No(n=22)	p	Yes(n=179)	No(n=16)	p
1.Decision-making						
Agree	155(90.1%)	16(72.7%)	.029	161(90.0%)	11(68.8%)	.026
Disagree	17(9.9%)	6(27.3%)		18(10.1%)	5(31.3%)	
2.Interacting						
Agree	128(74.4%)	12(54.5%)	n.s.	133(74.3%)	8(50.0%)	.046
Disagree	44(25.6%)	10(45.5%)		46(25.7%)	8(50.0%)	
3.Negotiation						
Agree	160(93.0%)	18(81.8%)	n.s.	166(92.7%)	13(81.3%)	n.s.
Disagree	12(7.0%)	4(18.2%)		13(7.3%)	3(18.8%)	
4.Peer pressure						
Agree	132(76.7%)	18(81.8%)	n.s.	137(76.5%)	13(81.3%)	n.s.
Disagree	40(23.3%)	4(18.2%)		42(23.5%)	3(18.8%)	

*Agree: 1-3 (from slightly agree to strong agree), Disagree: 4-6 (from strongly disagree to slightly disagree)

Chi-square test

3.7. Chlamydia and Gonorrhoea Infections in Urine

All of 70 participants as a sub-set of those surveyed showed negative reactions for chlamydia and gonorrhoea infections in urine assessed using APTIMA Combo2 chlamydia/gonorrhoea.

4. Discussion

This study demonstrated for the first time that high school students in Thailand in our research sample had less chance to receive sex education along with growing up, self-efficacy toward safe sex and coping ability with STIs were higher in females than in males, and knowledge of STI prevention might affect abilities concerning self-efficacy toward safe sex and coping ability with STIs.

In this study, about 70% of the participants had boy/girlfriends and about 20% males and 60% females were identified as having had same sex partners, while less than half of the participants had undertaken sexual behavior such as premarital sex and kiss. It was deemed that the students tolerated emotional relationships and homosexuality, while they hesitated to engage in sexual behavior. Furthermore, females obtained sexual information from many sources, and had more chance to receive sex education compared with males. Vitharon Boon yasidhi [22] has shown that males have risk sexual behavior more than females. It was

suggested that consciousness of sexuality might be correlated with acquirement of the knowledge on STI prevention and sexual behavior.

As results of the knowledge test, the participants had poor knowledge on the etiology of STIs, while they had adequate knowledge on the infection routes and risk factors of STIs. Additionally, the chance of sex education affected the levels of knowledge test. Douglas Kirby [23] has argued that young people have a right to education, which is one of the means by which they can protect of themselves from abuse, exploitation, unintended pregnancies and STI. On the other hand, Pimrat [24] has insisted that the present sex education in Thailand is insufficient for students because Thai teachers felt unsure of what to say or how to begin, and hesitated to talk to students, particularly adolescents, on sexual topics. In fact, this study indicates that the participants had less chance to receive sex education along with growing up. Moreover most of the participants were willing to learn sexuality and required more substantial and concrete sex education program such as sharing opinions or experiences. Therefore, these findings suggest that comprehensive sex education may increase the knowledge levels concerning STI prevention among the students. Moreover, educators need to provide knowledge on sexuality along with the developmental stage and consider students' individual sexual issues.

On self-efficacy toward safe sex, most of the participants

selected “strongly agree” in all items, and more than 60% agreed with sexual intercourse during teenage years. Moreover, there were significant differences between the self-efficacy level and the percentage of agreement with sexual intercourse at teenage. Somsuk Panurat [25] reported that sexual abstinence self-efficacy was correlated with judgment of the ability to refrain from sexual intercourse among adolescents. Taking this into account for our findings, self-efficacy toward safe sex contributes to an appropriate judgment toward teenage sexual intercourse.

The results of the practice toward coping with the symptoms of STIs indicated that about 90% of the participants could cope with STIs appropriately. In addition, the participants who could cope with the symptoms of STIs appropriately selected “parents” or “health specialists” as the best counselor or information sources concerning their sexuality. The interview survey also demonstrated that most of the participants consulted with someone, especially their parents about issues related to sexuality. Thai people tend to show a great deal of respect for elderly, which is one of the unique features of Thai culture. Therefore, these findings indicate that parents or health specialists as the advisers play important roles in coping ability with STIs.

In this study, the knowledge level of STI prevention was positively correlated with self-efficacy toward safe sex and coping ability with STIs. Moreover, self-efficacy toward safe sex were positively correlated with coping ability with STIs as well. These findings indicate that information on STI prevention are essential for the students to acquire self-efficacy toward safe sex and coping ability with STIs. Moreover, self-efficacy toward safe sex affects coping ability with STIs.

Regarding the urine test, all of the participants had negative reactions on the determinations of chlamydia and gonorrhea. However, the sample size was very small, so we try to accept the possibility that the results are not conclusive.

5. Conclusions

This study supports the contention that high school students in Thailand in our research sample had interests in emotional relationships and homosexuality, hesitated to engage in sexual behavior, and had less chance to receive sex education along with their developmental stage. Moreover, the students did not want casual sex education but substantial education. Knowledge level on STI prevention contributed to self-efficacy toward safe sex and coping ability with STIs. Therefore, sex education is essential for the students to acquire comprehensive knowledge of STI prevention, which can positively contribute to attitude toward safe sex and practice for coping with STIs. Additionally, educators need to consider the students’ developmental stage and their individual sexual issues.

Further Study

This study focused on the Northern area of Thailand and two high schools, so the degree to which the results generalized to the other region was unclear. Therefore, further studies are needed in order to obtain the generalized results on the prevention of STIs among high school students in Thailand. Moreover, the sample size of the urine test was very small, so we try to accept the possibility that the results are not conclusive but warrants examination.

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