Effectiveness of a Youth-led Educational Program on Sexual and Reproductive Health for Thai Early Adolescents

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Abstract: Using a quasi-experimental, pre-post test, two groups design, this study sought to examine the effectiveness of a youth-led educational program on sexual and reproductive health for Thai early adolescents. The sample consisted of 169 students from two primary schools in a northern province of Thailand. Students from one school (n=80) were assigned to the experimental group, while students from the other school (n=89) were assigned to the control group. Students assigned to the experimental group received a youth-led educational program on sexual and reproductive health, while those in the control group received the school's usual educational program regarding sexual and reproductive health. Data were gathered on both groups, prior to and after the experimental group's completion of the youth-led program, by way of six questionnaires that assessed: demographic characteristics; sexual and reproductive health knowledge and attitude; sexual risk behavior attitudes; pros and cons of sexual involvement; attitude toward condom use; and safe sex and refusal sex self-efficacy. Analyses of the data included the use of: descriptive statistics; chi-square; Fisher's exact test; independent t-test; paired t-test; and, ANOVA with repeated measures.

Results revealed significant differences between the experimental and control groups, three months after the educational program, in terms of: knowledge and attitudes toward sexual and reproductive health; pros of sexual involvement; and, attitude toward condom use. However, no significant differences were noted between the two groups regarding: sexual risk behavior attitudes; cons of sexual involvement; and, safe sex and refusal sex self-efficacy. The findings suggest a youth-led program is beneficial in strengthening some aspects of adolescents' understanding of sexual and reproductive health.

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Background

Risky sexual behavior, among adolescents, has become a critical concern, worldwide, due to a trend toward youth engaging in their first sexual encounter at a younger age, as well as their continuing pattern of having multiple sexual partners and unprotected sex.[1] The consequences of such

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behavior can lead to teenage pregnancies and abortions, as well as an increased risks of contracting human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) and other sexually transmitted infections (STIs). Although Thailand has made significant progress in reducing the prevalence of HIV/AIDS and other STIs, the incident rate of STIs has been increasing among Thais under the age of 20, particularly among young males whose prevalence rate of STIs increased from 7.5% (1997) to 19.9% (2006).[2] Studies of Thai teenagers have revealed an increasing trend for risky sexual behavior, i.e. median age at first sexual intercourse decreased from 17-18 years of age[3-4] to 15 years of age.[5-7] Sexual activity with multiple short-term partners also has been found to have increased among both male and female adolescents, with only 20% to 30% of them consistently using a condom with casual partners, but rarely using one with their steady partners.[5-6] In fact, only 34.4% of Thai adolescent males and 27.6% of Thai adolescent females report having used a condom during their first sexual intercourse.[8] This may be because 48.8% of Thai adolescent males and 66.7% Thai adolescent females reportedly perceive not being at risk of contracting HIV/AIDS, even though they engaged in risky sexual behavior.[7]

One barrier to reducing risky sexual behavior, among adolescents, seems to be the ambivalence of adults toward adolescent sexuality. Another barrier appears to be the resistance of adults toward sex education programs for adolescents, because of adults fear such programs may promote earlier and/or increased sexual activity among adolescents. Because Thai parents do not see themselves as the primary source of sexual information for their adolescent children, they rarely discuss sexual issues with their adolescents. Rather, the parents expect their adolescents' teachers and healthcare providers to provide sex education to them.[9] This cultural ambivalence, toward sexuality, seems to produce confusing messages for the adolescents, causing them to seek information about sex from their friends and mass media (i.e. comic books, erotic websites, pornographic magazines, and pornographic videos or DVDs).[10-11] Information provided by the media often is sexually suggestive and strengthens the notion being sexually active is normal for teens, which, in turn, can lead to early sexual experimentation.[10]

Early adolescence is a time when dramatic changes occur in one's sexual development. Thus, during transformation from childhood to adulthood, early adolescents often encounter difficulties learning about their sexual characteristics.[10] Adolescents who participate in risky sexual behavior and experience unstable sexual identity, have been found to encounter health and behavioral problems.[12,13] Thus, in order to develop a healthy attitude toward and practice of their sexuality and gender identity, adolescents need factual information and positive images regarding sexuality.[10] Prior studies have revealed the most appropriate time to offer educational programs, on sexuality and reproductive health, is early adolescences (9 to 10 years of age), a time prior to becoming sexually active.[14-17] However, most programs, traditionally, have targeted middle and late adolescents, rather than early adolescents.[10]

Educational programs for Thai adolescents, on sexual and reproductive health, were launched in 2001, under the name of "Family Life Education." A number of studies have been conducted since then that have examined the diverse strategies that have been used, in schools, to provide sexual and reproductive health education to Thai early adolescents.[11,18-21] Results of these studies have revealed teachers provide instructions only on the parts of the designed curriculum they feel confident about and, thus, often have neglected content that needs to be provided to meet the educational program's objectives.[22]

It is well known adolescents tend to be influenced by their peers and believe the dominant behavior pattern of their peers to be the norm. Therefore, the use of peers as part of the educational process, related to risky behaviors among adolescents, has been considered, by a number of agencies and organizations, to be an important strategy for consideration.[23,24] This practice is based upon the belief adolescents can be efficient and credible educators, while being role models for their peer group. In Thailand, peer education has grown in popularity and practice, regarding sexual and reproductive health, as well as HIV/AIDS prevention. Prior studies have reported positive results, regarding sexual/reproductive behavior and HIV/AIDS prevention, after implementing, among early adolescents, both formal and informal peer education programs.[10,23,25]

A successful peer-led education program, on sexual and reproductive health, should address the biological, socio-cultural, psychological, moral and spiritual dimensions of sexuality, as well as content related to HIV/AIDS.[26] Participatory learning and "edutainment" approaches have been found to be effective in providing such content, especially when these approaches have been appropriate within the cultural context of the target group.[10] Programs developed through a partnership of youth and adults have been noted to be effective in building skills and reducing risky sexual behaviors.[17] In addition, programs designed to promote desired changes in sexual behavior need to: be culturally appropriate; meet adolescents' and key stakeholders' needs; and, involve early adolescents, family members, peers, significant adults and community members.[26]

Thus, based upon prior research and review of the literature, the purpose of this study was, using a participatory approach among key stakeholders, to develop and evaluate the effectiveness of a peer-led education program on sexual and reproductive health.[10] It was hoped the results of this study would help identify an effective way to offer future peer-led education programs on sexual and reproductive health.

Method

Design: The study used a quasi-experimental, nonequivalent, control group design, with pre and post-test components.

Ethical Considerations: Approval to conduct the study was granted by the Research Ethics Review Committee of the Faculty of Nursing, Chiang Mai University, as well as the administrators of the two study-site schools. All students in grades six to eight were approached by a research assistant (RA) trained, by the primary investigator (PI), on all aspects of the study. The RA provided information to students they were to be share with their respective parents, regarding: the purpose of the study; risks and benefits of being involved in the study; what study involvement would entail; voluntary involvement; confidentiality and anonymity issues; and, withdrawal from the study at anytime without repercussions. Each student also was provided with a consent form for his/her parents to sign, as well as an assent form for him/her to sign. Parents consenting and students assenting were asked to return the respective signed forms, to the students' respective teachers, within one week after receipt of the forms.

Sample and setting: The sample consisted of students from two public schools in a province in northern Thailand. The two schools were selected because they: a) had similar demographic characteristics; b) were not adjacent to each other; and, c) were under the administration of two different educational departments that provided primary education (kindergarten to 6th grade). The schools were randomly assigned as the site for either the experimental or control group. Criteria for subject inclusion consisted of students who: a) were from

one of the two study site schools; were enrolled in grades six to eight; were age 10 to 13 years of age; had parents or guardians who consented to participate; and, assented to participate.

Seven of the 96 students from the school assigned to be in the control group refused to participate in the study. Thus, the final number of study subjects was 169, with 80 in the experimental group and 89 in the control group. Of the 169 students, 86 (50.9%) were boys and 83 (49.1%) were girls. The students' average age was 12.69 years (SD= 1.09), and most (97.6%) were Buddhist. Almost half of them were in grade 6 (42.0%), the others were in grade 7 and 8 (32.0% and 26.0, respectively). The majority (96.4%) had parents with sufficient incomes. There were no significant differences in the demographic characteristics between the students in the experimental and control groups (see **Table 1**).

Table 1 Comparison of the Demographic Characteristics of Experimental and Control Groups

	Experimental group		Control group		*p values*	Total	
	n	%	n	%		n	%
Total Number	80		89			169	
Gender							
Males	41	51.2	45	50.6	1.00[a]	86	50.9
Females	39	48.8	44	49.4		83	49.1
Age (years)							
Mean=12.69; SD=1.09							
10-12	38	47.5	40	44.9		78	46.1
13-15	40	50.0	49	55.1	.29[a]	89	52.7
16-18	2	2.5	0	0		2	1.2
Religion							
Buddhism	77	96.2	88	98.9	.35[b]	165	97.6
Christianity	3	3.8	1	1.1		4	2.4
Education							
Grade 6	37	46.2	34	38.2		71	42.0
Grade 7	20	25.0	34	38.2	.18[a]	54	32.0
Grade 8	23	28.8	21	23.6		44	26.0
Income							
Sufficient	76	95.0	87	97.8	.42[b]	163	96.4
Insufficient	4	5.0	2	2.2		6	3.6

[a]Chi-square p value; [b]Fisher's exact p value

Youth-led educational program on sexual and reproductive health: The educational program on sexual and reproductive health was designed to be taught over 3 days, outside the normal school hours, to those assigned to the experimental group. The program consisted of eight sessions that ranged from 60 to 180 minutes in length. During each session, the male and female students were divided in the gender-based sessions where they discussed sexual and reproductive health, played games and practiced skills. The program was developed on the basis of early adolescent, parent and teacher involvement from the previous project.[10]

The program content consisted of information on, and attitudes about,: a) sexual and reproductive rights; b) puberty related physical changes, reproductive organs and sexual hygiene; c) masculine and feminine gender roles; d) skills to use, regarding sexual and reproductive health, when associating with peers; e) sexual feelings and control; f) sexual values, sexual intercourse, STDs and HIV/AIDS, and contraception; and, g) negotiation skills regarding condom use and responsible sexual relationships.

To emphasize the use of peers during the educational process, the eight educational sessions were conducted by 12, seventeen year old, youth leaders. The youth leaders were educated about the program information to be presented, as well as how to handle sensitive issues related to sex and building self-confidence in early adolescents. To implement "edutainment" and participatory learning, games, tales, movies, word cards, group activities, a virtual human body model, sample products (i.e. condoms), miming and a puppet show, all borrowed from a previous project,[10] were used as teaching strategies. The youth leaders delineated the roles and responsibilities of each student and actively participated in organizing and conducting each session, while the PI, research team and teachers served as supporters of and facilitators for the youth leaders.

Instruments: Data were obtained, from each student subject, using six, paper and pencil, questionnaires. The instruments included a(n): *Demographic Data Sheet (DDQ); Sexual and Reproductive Health Knowledge and Attitude Questionnaire (SRHKAQ);*[8] *Sexual Risk Behavior Attitudes Questionnaire (SRBAQ);*[27] *Pros and Cons about Sexual Involvement Questionnaire (PCSIQ);*[27] *Attitude Toward Condom Use Questionnaire (ATCUQ);*[27] *and, Sexual Self-efficacy Questionnaire (SSEQ).*[27] It took approximately 30 minutes for each subject to completed the six questionnaires.

The research designed *Demographic Data Questionnaire* (DDQ) was used to obtain demographic information from the subjects. Information obtained consisted of each subject's: gender; age; religion; grade level; and, sufficiency/insufficiency of parents' income.

The *Sexual and Reproductive Health Knowledge and Attitude Questionnaire (SRHKAQ),* developed by the Youth and Family Community Development project,[8] was a 35-item instrument used to assess subjects' knowledge and attitude about sexual and reproductive health. The *SRHKAQ* consisted of 15 items that assessed knowledge. An example of an item was: "How does a pregnancy occur?" Each subject was asked to response to one of the four possible response items. The correct response was: "After the sperm successfully fertilizes the egg." Every correct response, received a score of 1, while every incorrect response received a score of 0. The respective item scores were summed to obtain a total score for the knowledge component of the *SRHKAQ.* Scores could range from 0 to 15. Higher scores suggested a better level of knowledge about sexual and reproductive health. The attitude component of the *SRHKAQ* consisted of 20 true-false items. Each student was asked to indicate his/her attitude, by placing a √ (if agrees) or an X (if disagrees), with the statement: "Wet dreams occur only when a boy has an increased sexual

desire or is obsessed with sex" For every correct response a score of 1 was assigned and for every incorrect response a score of 0 was given. A total score, for the attitude component of the instrument, was obtained by summing the response scores across relevant items. Scores could range from 0 to 20, with higher scores suggesting a more positive attitude toward sexual and reproductive health. For this study, the internal reliability consistencies of the *SRHKAQ,* using the Kunder-Richardson-20 statistic, were: 0.74 for knowledge and 0.84 for attitude.

The eight-item *Sexual Risk Behavior Attitude Questionnaire (SRBAQ)*[27] was used to measure the subjects' perceived behavioral beliefs about sexual norms, sexual infection control and multiple sexual partners. An example of an item was: "I believe people my age should wait until they are older before having sex." All items had possible responses ranging from 1 = "definitely no" to 4 = "definitely yes." Prior to calculating the total score, all negatively focused items had their response scores reversed. The total score then was calculated by summing across all item responses. Total scores could range from 8 to 32, with higher scores indicating a more unfavorable attitude toward risky sexual behavior. In this study, Cronbach's alpha coefficient, for the instrument, was 0.61 for female subjects and 0.67 for male subjects.

Pros and cons of sexual involvement (i.e. sexual intercourse) were measured using the 8-item *Pros/cons of Sexual Involvement Questionnaire (PCSIQ).*[27] Four items assessed pros of sexual involvement, while 4 items assessed cons of sexual involvement. An example of a pro-item was, "Having sex makes me feel grown up," while an example of a con-item was, "Having sex will negatively impact my further education." All items had possible responses ranging from 1 = "strongly disagree to 4 = "strongly agree." Total scores for both pro-items and con-items were calculated by summing the response scores across relevant items. Possible ranges of scores for both the pro-items and con-items were 4 to 16. A higher total score on the pro-items suggested a favorable attitude toward sexual intercourse, while a higher total score on the con-items suggested an unfavorable attitude toward sexual intercourse. In this study, Cronbach's alpha coefficients, for the instrument's pro-items, were 0.72 for female subjects and 0.74 for male subjects. For con-items, Cronbach's alpha coefficients were 0.65 for female subjects and 0.61 for male subjects.

To assess attitude toward condom use, the 8-item *Attitude toward Condom Use Questionnaire (ATCUQ)*[27] was used. Four items measured barriers to condom use, while four measured condom use hedonistic-beliefs. An example of a barrier to condom use item was, "It would be embarrassing to buy condoms (rubbers) in a store," while an example of a condom use hedonistic-belief item was, "Sex feels unnatural when using a condom." All eight items had possible responses ranging from 1 = "strongly disagree" to 4 = "strongly agree." A total score, which could range from 8 to 32, was calculated by summing item responses across all eight items. Higher scores suggested unfavorable outcome expectancy toward condom use. Cronbach's alpha coefficients, in this study, for items related to barriers to condom use were 0.75 for female subjects and 0.58 for male subjects. For items related to condom use hedonistic-beliefs, Cronbach's alpha coefficients were 0.89 for female subjects and 0.72 for male subjects.

Sexual self-efficacy was measured using the 20-item *Sexual Self-efficacy Questionnaire (SEQ).*[27] The SEQ consisted of four scenarios, with each scenario having five questions. Sixteen of the 20 items addressed safe sex self-efficacy and four addressed refusal sex self-efficacy. For both safe sex self-efficacy and refusal sex self-efficacy,

respondents were asked to grade the difficulty level, regarding five behaviors, including: a) self-efficacy for refusing sex; b) self-efficacy for bringing up the issue of condoms in conversation; c) self-efficacy for convincing one's partner to be safe, even if the partner said he/she hated condoms; d) self-efficacy for convincing one's partner to be safe, even though both hated condoms; and, e) self-efficacy for refusing sexual intercourse, if the partner would not be safe. To indicate how confident respondents were about engaging in each behavior, possible responses, for each of the five behaviors in each scenario, were assessed on a scale of 0 to 10. A total score, for the safe sex self-efficacy component of the instrument, had a possible range of 0 to 160, which was obtained by summing response scores across the 16 relevant items. Higher scores indicated a higher self-efficacy to have safe sex. A total score, for the refusal sex self-efficacy component of the instrument, has a possible range of 0 to 40, which was obtained by summing response scores across the four relevant items. Higher scores indicated a higher self-efficacy for refusing sex. For this study, Cronbach's alpha coefficient, for safe sex self-efficacy items, was 0.95 for both female and male students. For refusal sex self-efficacy items, Cronbach's alpha coefficient was 0.73 for female subjects and 0.80 for male subjects.

Procedure: Subjects meeting the inclusion criteria, and having both consent and assent, were administered, in a designated school classroom in their respective schools, the self-report questionnaires. During all questionnaire administrations, subjects were told not to place any identifying marks on their questionnaires. Code numbers were placed on the questionnaires to identify to which group (experimental or control) subjects were assigned.

Progression of the study procedure, for those in the experimental group, included: a) administration of the questionnaires prior to implementation of the program (pre-test); b) implementation of the experimental program; c) administration of the questionnaires (except for the DDQ) immediately upon completion of the experimental program (post-test 1); and, d) administration of the questionnaires (except for the DDQ) 3 months after completion of the experimental program (post-test 2)

Progression of the study procedure, for those in the control group, involved: a) administration of the questionnaires prior to the experimental group receiving the experimental program (pre-test); b) implementation of the school's usual instruction on sexual and reproductive health; c) administration of the questionnaires (except for the DDQ) 3 months after the experimental group completed the experimental program (post-test 2).

Data Analysis: Descriptive statistics, chi-square and Fisher's exact test were used to analyze demographic data. The independent t-test was used to compare mean scores, between the experimental and control group, of the pre-test and post-test 2. Analysis of variance, with repeated measures, was used to evaluate differences among the experimental groups' scores for the pre-test, post-test 1 and post-test 2. Furthermore, the paired t-test was used to compare the control groups' mean scores between the pre-test and post-test 2.

Results

As shown in **Table 2**, results showed no statistical differences in the mean scores, between the control and experimental group, on knowledge and attitude toward sexual and reproductive health, sexual risk behavior attitudes, pros/cons of sexual involvement, attitude toward condom use, safe sex self efficacy and refusal sex self-efficacy, before implementation of the program (pre-test). Three months after completion of the program (post-test 2), significant differences were found, between the experimental and control

groups mean scores, on knowledge and attitude toward sexual and reproductive health, pros of sexual involvement and attitude toward condom use (see **Table 2**). However, as noted in **Table 2**, no significant differences were found, between the experimental and control groups' mean scores, on sexual risk behavior attitudes, cons of sexual involvement, safe sex self efficacy and refusal sex self-efficacy, after the experimental group completed the program (post-test 2).

Table 2 Comparison of Questionnaire Mean Scores between the Control and Experimental Groups at Pre-test and Post-test 2

Variables	Control group (n= 89)		Experimental group (n= 80)		t	p-value
	Mean	S.D.	Mean	S.D.		
Knowledge about SRH						
Pre-test	6.25	2.35	6.08	1.93	.53	.59
Post-test 2	6.73	1.79	9.06	2.55	6.93	.00*
Attitude about SRH						
Pre-test	12.05	2.92	12.36	3.20	.66	.51
Post-test 2	12.37	2.85	14.08	3.24	3.61	.00*
Sexual risk behavior attitudes						
Pre-test	24.90	3.59	24.66	3.76	.44	.66
Post-test 2	23.50	3.39	23.22	3.95	.49	.62
Pros of sexual involvement						
Pre-test	7.05	2.45	7.32	2.07	.80	.42
Post-test 2	7.46	2.53	6.56	2.04	2.52	.01*
Cons of sexual involvement						
Pre-test	13.45	2.63	12.76	2.82	1.66	.10
Post-test 2	13.07	2.62	12.70	3.14	.82	.41
Attitude toward condom use						
Pre-test	18.12	4.29	16.93	3.74	1.96	.06
Post-test 2	17.36	4.20	15.51	3.73	3.03	.00*
Safe sex self-efficacy						
Pre-test	63.23	24.43	62.29	21.75	.27	.79
Post-test 2	64.79	20.98	68.46	20.27	1.16	.25
Refusal sex self-efficacy						
Pre-test	63.44	24.55	62.91	19.91	.16	.87
Post-test 2	64.21	19.93	67.99	20.77	1.20	.23

* $p < .05$; SRH = Sexual and reproductive health; Pre-test = Prior to the program; Post-test 2 = 3 months after implementation of the experimental program

As noted in **Table 3**, the experimental group showed significant differences in mean scores between the pre-test (before the program), and both the post-test 1 (immediately after completion of the program) and post-test 2 (3 months after completion of the program) regarding: a) knowledge about sexual and reproductive health; b) attitude about sexual and reproductive health; c) sexual risk behavior attitudes; d) attitude toward condom use; e) safe sex self-efficacy; and, e) refusal sex self-efficacy. In addition, mean scores for sexual risk behavior attitudes in post-test 1 (immediately after completion of the program) and post-test 2 (3 months after completion of the program), and mean scores for pros of sexual involvement, between the pre-test (before the program) and post-test 2 (3 months after completion of the program) were found to be statistically different. However, means scores of cons of sexual involvement between the pre-test (before the program), and both post-test 1 (immediately after the completion of the program) and post-test 2 (3 months after completion of the program) were not found to be statistically different (see **Table 3**).

Table 3 Using Multivariate Analysis of Variance with Repeated Measures, Comparison of the Experimental Group's Mean Score Differences between Pre-test, Post-test 1 and Post-test 2 (n = 80)

Variables	Mean	S.D.	Mean Differences	
			Post-test 1	Post-test 2
Knowledge about SRH				
Pre-test	6.08	1.93	.00*	.00*
Post-test 1	9.57	3.11	-	.14
Post-test 2	9.06	2.55	-	-
Attitude about SRH				
Pre-test	12.36	3.20	.00*	.00*
Post-test 1	13.85	3.21	-	1.00
Post-test 2	14.08	3.24	-	-
Sexual risk behavior attitudes				
Pre-test	24.66	3.76	.01*	.04*
Post-test 1	25.80	3.53	-	.00*
Post-test 2	23.22	3.95	-	-
Pros of sexual involvement				
Pre-test	7.33	2.07	.44	.00*
Post-test 1	7.00	2.28	-	.23
Post-test 2	6.56	2.04	-	-

Table 3 Using Multivariate Analysis of Variance with Repeated Measures, Comparison of the Experimental Group's Mean Score Differences between Pre-test, Post-test 1 and Post-test 2 (n = 80) (Cont.)

Variables	Mean	S.D.	Mean Differences	
			Post-test 1	Post-test 2
Cons of sexual involvement				
Pre-test	12.76	2.82	-	-
Post-test 1	12.90	2.98	-	-
Post-test 2	12.70	3.14	-	-
Attitude toward condom use				
Before Intervention	16.94	3.74	.01*	.02*
Post-test 1	15.55	3.82	-	1.00
Post-test 2	15.51	3.72	-	-
Safe sex self-efficacy				
Before Intervention	62.29	21.75	.04*	.01*
Post-test 1	66.58	19.90	-	.86
Post-test 2	68.46	20.27	-	-
Refusal sex self-efficacy				
Before Intervention	62.91	19.91	.01*	.02*
Post-test 1	67.23	19.85	-	.70
Post-test 2	67.99	20.77	-	-

*p < .05; SRH = Sexual and reproductive health; Pre-test = Prior to the program; Post-test 1= immediately after implementation of the experimental program; Post-test 2 = 3 months after implementation of the experimental program

As noted in **Table 4**, only the mean scores, of the control groups' sexual risk behavior attitude, between pre-test (before the program) and post-test 2 (3 months after completion of the program) were found to be significantly different. No other significant differences were found.

Table 4 Comparison of the Control Group's Mean Scores at Pre-test and Post-test 2 (n = 89)

Variables	Mean	S.D.	t	p-value
Knowledge about SRH				
Pre-test	6.25	2.35		
Post-test 2	6.73	1.79	1.58	.12
Attitude about SRH				
Pre-test	12.05	2.92		
Post-test 2	12.37	2.85	.83	.41
Sexual risk behavior attitudes				
Pre-test	24.90	3.59		
Post-test 2	23.50	3.39	2.80	.01*
Pros of sexual involvement				
Pre-test	7.05	2.45		
Post-test 2	7.46	2.53	1.22	.23
Cons of sexual involvement				
Pre-test	13.45	2.63		
Post-test 2	13.07	2.62	1.19	.24
Attitude toward condom use				
Pre-test	18.12	4.29		
Post-test 2	17.36	4.20	1.96	.05
Safe sex self-efficacy				
Pre-test	63.23	24.43		
Post-test 2	64.79	20.98	1.03	.30
Refusal sex self-efficacy				
Pre-test	63.44	24.55		
Post-test 2	64.21	19.93	.61	.54

* $p < .05$; SRH = Sexual and reproductive health; Pre-test = Prior to the program; Post-test 2 = 3 months after implementation of the experimental program

Discussion

The study's findings highlight the positive impact a youth-led sexual and reproductive health program can have on 6th to 8th grade early adolescent students. Three months after completion of the program, students in the experimental group, compared to students in the control group, reported: significantly more knowledge regarding sexual and reproductive health; more positive attitudes about sexual and reproductive health, and condom use; and, less positive perceptions about premature sexual intercourse. These findings are reassuring since they demonstrate that the needs of early adolescent subjects were culturally appropriate for their involvement. The study's program contained content on "abstinence-plus sex and reproductive education." Similar to the findings of this study, prior "abstinence-plus sex and reproductive education" programs have been shown to reduce short-term and long-term risk behavior.[28,29] In contrast, abstinence-only programs, which focus primarily on delayed sexual intercourse until marriage, with limited discussion about contraception, have been found to not reduce the likelihood of individuals engaging in sexual activity.[30] Furthermore, the activities for imparting the content of this program were designed based on the early adolescences' full participation. This approach was consistent with prior suggestions regarding the use of multiple-activities that are appropriate for the adolescent's culture, developmental age and sexual experience.[31]

The use of youth leader/educators, rather than teacher and adult educators, in a sexual and reproductive health program, has been found to be more effective in conveying knowledge and encouraging early adolescents to feel comfortable about participating, raising questions, learning, and acquiring knowledge and skills.[26] Prior research also has found the use of peer education is one of the most effective strategies to use to enhance HIV/AIDS knowledge and attitudes toward condom use, as well as reduce premarital sex among youth.[24,32,33] Similar to the findings of this study, prior research has shown implementing a peer-led education program helps in keeping young learners' attention, which ultimately leads to positive results.[34] However, adequate training and evaluation of the competency of youth leaders, as educators, is required in order to ensure the effectiveness of a sexual and reproductive health program. Capable peer educators also can serve as role models for desired health behavior.[35, 36] Youth can be taught to become competent peer educators if they are well-trained, and receive support and supervision from adults who are competent and experienced in the content relevant to the program to be presented.[24]

The study findings also showed, in the experimental group, a more unfavorable attitude toward sexual risk behavior after completion of the program, with a slight decrease in unfavorable sexual risk behavior three months after completion of the program. These findings demonstrate, in the short term, the positive influence peers and "edutainment" may have on adolescents' risky sexual attitude. These results are somewhat similar to prior findings that have revealed the top five factors influencing male adolescents' sexual activities are friends, girlfriends, media, alcohol and themselves, while the top five influencing factors for female adolescents are friends, boyfriends, alcohol, media and themselves.[8] Furthermore, the study's findings were similar to those of Bumrungthum[37] who found friends and mass communication to be powerful factors influencing the beliefs and attitudes of youths toward touching and having multiple boy/girlfriends, as well as having a premarital sexual relationship. All of which may contribute to risky sexual behavior and low sexual self-efficacy.

Limitations

Like all studies, this study has limitations. First, the results may be generalized only to populations of early adolescents and not be applicable to adolescents attending schools different from those used as study sites. Secondly, the accuracy and honesty of the subjects' responses, to the questionnaires, may be questionable due to the sensitive nature of talking about sexual issues in mainstream Thai society. The subjects may not have fully expressed their true feelings and beliefs about sexual behavior. Finally, only two school study sites and one region within Thailand were used to obtain subjects. Thus, generalizability to other populations is limited.

Conclusions and Recommendations

The youth-led sexual and reproductive health program, used in this study, implemented "edutainment" and a participatory approach, and produced some positive results among the early adolescents. While a similar program should be considered for implementation in other schools throughout Thailand, there appears to be a need for the youth-led program to be further developed to change Thai early adolescents' sexual risk behavior attitude, cons of sexual involvement, safe sex self-efficacy and refusal sex self-efficacy. In addition, it may be useful to conduct a longitudinal study to evaluate outcome measures of sexual behaviors of students and hypothesize mediators of intervention effects.

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ประสิทธิผลของโปรแกรมการให้ความรู้เรื่องสุขภาพทางเพศและอนามัยการเจริญพันธุ์โดยแกนนำเยาวชนในเด็กวัยรุ่นไทยตอนต้น

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บทคัดย่อ: การศึกษานี้เป็นการวิจัยกึ่งทดลองแบบสองกลุ่มก่อนและหลังการทดลอง มีวัตถุประสงค์เพื่อทดสอบการใช้โปรแกรมการให้ความรู้เรื่องสุขภาพทางเพศและอนามัยการเจริญพันธุ์โดยแกนนำเยาวชนในเด็กวัยรุ่นตอนต้นที่ศึกษาในโรงเรียนประถมขยายโอกาส 2 แห่งในจังหวัดเชียงใหม่จำนวน 169 ราย โดยแบ่งเป็นกลุ่มทดลองจำนวน 80 ราย และกลุ่มควบคุมจำนวน 89 ราย กลุ่มทดลองได้รับการอบรมจากแกนนำเยาวชนโดยใช้โปรแกรมการให้ความรู้เรื่องสุขภาพทางเพศและอนามัยการเจริญพันธุ์ เก็บรวบรวมข้อมูลทั้งสองกลุ่ม ก่อนและหลังจากสิ้นสุดการได้รับโปรแกรมในกลุ่มทดลอง โดยใช้แบบสอบถาม 6 ตอน ประกอบด้วย ความรู้และทัศนคติเกี่ยวกับสุขภาพทางเพศและอนามัยการเจริญพันธุ์ ความคิดเห็นต่อพฤติกรรมเสี่ยงทางเพศ ความเชื่อที่สนับสนุนและความเชื่อที่ไม่สนับสนุนการมีเพศสัมพันธ์ ความคิดเห็นต่อการใช้ถุงยางอนามัย และสมรรถนะในตนเองต่อการมีเพศสัมพันธ์ วิเคราะห์ข้อมูลโดยใช้สถิติทีแบบสองกลุ่มอิสระ สถิติทีแบบสองกลุ่มสัมพันธ์ และวิเคราะห์ความแปรปรวนร่วมแบบวัดซ้ำ

ผลการศึกษาพบว่า คะแนนเฉลี่ยของความรู้และทัศนคติเกี่ยวกับสุขภาพทางเพศและอนามัยการเจริญพันธุ์ ความเชื่อที่สนับสนุนการมีเพศสัมพันธ์ และความคิดเห็นต่อการใช้ถุงยางอนามัยภายหลังการอบรม 3 เดือน ระหว่างกลุ่มทดลองและกลุ่มควบคุมมีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติ ในขณะที่คะแนนเฉลี่ยของความคิดเห็นต่อพฤติกรรมเสี่ยงทางเพศ ความเชื่อที่ไม่สนับสนุนการมีเพศสัมพันธ์ และสมรรถนะในตนเองต่อการมีเพศสัมพันธ์ระหว่างกลุ่มทดลองและกลุ่มควบคุมไม่มีความแตกต่างกัน ซึ่งแสดงให้เห็นว่าโปรแกรมการให้ความรู้เรื่องสุขภาพทางเพศและอนามัยการเจริญพันธุ์โดยแกนนำเยาวชนสามารถเสริมสร้างความเข้าใจของวัยรุ่นในบางมิติที่เกี่ยวกับสุขภาพทางเพศและอนามัยการเจริญพันธุ์ได้อย่างมีประสิทธิภาพ

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คำสำคัญ: การให้ความรู้เรื่องสุขภาพทางเพศและอนามัยการเจริญพันธุ์, การป้องกันการติดเชื้อเอชไอวี, พฤติกรรมเสี่ยงทางเพศ, เด็กวัยรุ่นตอนต้น, การให้ความรู้โดยแกนนำ

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