

PROGRAMMING FOR HIV PREVENTION AMONG COLLEGE STUDENTS IN THAILAND

As national education programs incorporate HIV prevention into school curricula, policymakers and educators need to know what they can expect from these initiatives. Can such courses influence the behavior of students as well as their knowledge and attitudes? If not, what can these courses reasonably be expected to accomplish, and what part can they play in overall HIV programming for youth?

To help answer these questions, the Thai Ministry of Education, the Program for Appropriate Technology in Health (PATH), and the Horizons Program embarked on a study to examine the outcomes of a school-based HIV/AIDS program for Thai college students.

The “Teens on Smart Sex” Program was developed by PATH in cooperation with the Thai Ministry of Education. The curriculum consists of eight two-hour sessions conducted once a week among college-age students (see box). The program is based on the Theory of Reasoned Action behavior change model, which posits that young people must first learn and practice behaviors in order to successfully use them at the appropriate time.

Study Methods

The study used a quasi-experimental design to determine if the “Teens on Smart Sex” curriculum influenced knowledge, attitudes, and behavior of participating students. Six *rajabhat* (teacher training) colleges in central Thailand located within 90 km of Bangkok



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Thai students learn about HIV transmission during a water-exchange exercise.

were selected for the study. All second-year students from three of the colleges received the intervention, while second-year students at the other three colleges served as the control group. Students completed a structured questionnaire three times: at baseline (T1); at post-intervention, or four months after baseline (T2); and at four months after post-intervention (T3). Data were collected using the audio-computer-assisted for self-interview (ACASI) system. This method of data collection was found to be a valid means of collecting sensitive information during a small, randomized trial carried out within one of the colleges prior to the main study.

A qualitative component was integrated into the study to more deeply explore students’ understanding of HIV/AIDS, their reactions to the course, and how exposure to the curriculum influenced students’ decision-

making processes and sexual behavior. Eight focus group discussions (FGDs) were carried out in the intervention colleges, and two FGDs were carried out in the control colleges. In-depth interviews were also conducted within these same colleges.

Teachers received two three-day training sessions to equip them to teach the curriculum. The teachers completed a self-administered questionnaire prior to their training and upon completion of teaching the curriculum. The questionnaire addressed teacher concerns, attitudes about sex education, level of comfort and confidence teaching sensitive topics, and personal knowledge of HIV/AIDS. Teachers were trained in participatory methods and visited weekly during the course. Researchers also conducted 41 observations of the teachers as they taught, as well as six FGDs to assess teachers' opinions of the course.

Study Subjects

In total, 2,450 students participated in the study, but for this report, only the 1,786 students who participated in all three rounds of data collection were included in the analysis. At T1, more than 95 percent of students were between 19 and 21 years old. Students lived in either private or college dormitories, with local monks, or with their families. Two-thirds of the students were female.

Thirty-five teachers were involved in implementing the "Teens on Smart Sex" curriculum. At the onset of the study, more than 80 percent of teachers had never taught sex education or HIV/AIDS issues in a classroom setting. Prior to the training, teachers were accustomed to using didactic rather than participatory teaching methods.

Horizons conducts global operations research to improve HIV/AIDS prevention, care, and support programs. Horizons is implemented by the Population Council in partnership with the International Center for Research on Women (ICRW), the Program for Appropriate Technology in Health (PATH), the International HIV/AIDS Alliance, Tulane University, Family Health International, and Johns Hopkins University.

Key Findings

The program did not increase initiation of sexual activity.

Although the proportion of students having sex increased in both groups, this increase was not statistically significant when comparing the intervention and control groups. This increase likely reflects the fact that as students become older, a growing proportion have their first sexual encounter. At baseline, 61 and 55 percent of males in the intervention and control groups, respectively, reported ever having sex. At T2, these proportions increased slightly to 65 and 61 percent, respectively. At T3, the proportion that had had sex in the intervention group increased slightly to 67 percent, but remained stable at 60 percent in the control group. A similar trend was observed among females, albeit a smaller proportion reported ever having sex at each point in time. These increases in initiation of sexual activity were not statistically significant for male or female students in the intervention vs. the control groups.

Students already had high levels of knowledge, and the program improved these levels.

Among males in the intervention group, mean HIV knowledge scores (out of 100) increased from 82.9 at baseline to 85.5 at T2 and then decreased slightly to 84.4 at T3 ($p < .001$). The mean HIV knowledge scores of females in the intervention group also increased from 81 at baseline to 83.7 at T2 and then decreased slightly to 82.8 ($p < .001$). In contrast, mean knowledge scores among males and females in the control group declined at T2 and T3 from baseline figures.

"Teens on Smart Sex" curriculum modules

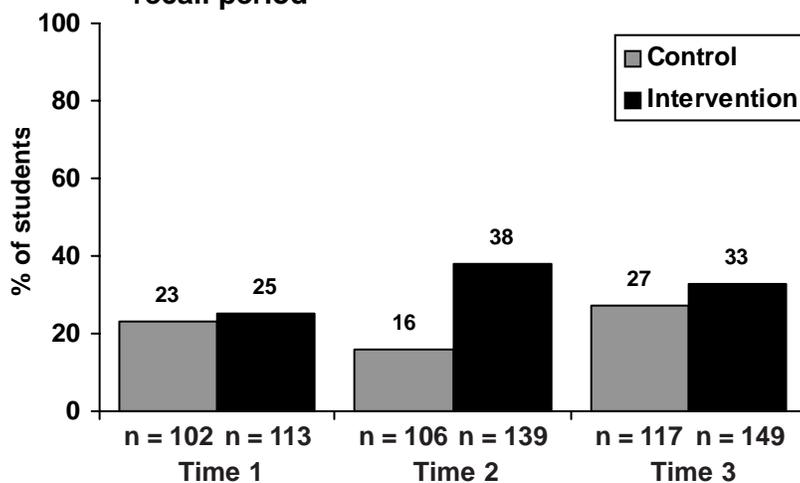
- Opening up
- Young people and love
- Attitudes toward HIV and sexuality
- Living with HIV and AIDS
- HIV and young people
- Pregnancy and HIV
- Skills for preventing pregnancy and HIV
- Health services for young people

The program improved students' attitudes about condom use, particularly among females. Mean condom attitude scores among males in the intervention group increased from 71.4 (out of 100) at T1 to 73.8 at T2 and then remained relatively stable at 73.1 at T3 ($p < .001$). This indicates a small sustained increase in favorable attitudes about condoms, such as feeling confident about using a condom correctly. No similar change was found in the control group. Among females in the intervention group improvements in attitudes about condom use were more substantial: 70.3 at T1 to 74.8 at T2, remaining stable at 74.5 at T3 ($p < .001$). Although scores for females in the control group increased slightly between T1 and T3, the researchers did not find these increases to be statistically significant. There were no statistically significant changes in the number of partners for males or females.

Immediately after the program, condom use among females in the intervention group increased. At baseline, about one fourth of sexually experienced females in the intervention and control groups had used a condom the last time they had sex during the recall period (Figure 1). For females in the intervention group at T2, the figure increased to 38 percent, while the figure for the control group decreased to 16 percent ($p < .001$). At T3, however, there was a slight decline in the proportion of condom use at last sex among the intervention group and an increase in the control group. There was no similar increase in condom use among male students, although a greater proportion of males compared to females reported using condoms at baseline.

Male students feel more pressure from friends to engage in sexual activity than female students; the program did not affect these perceptions. At baseline, 41 and 47 percent of males in the control and intervention groups, respectively, agreed with the statement, "My friends encourage me to have sex," while only 5 and 7 percent of females in these groups felt the same way. Among both male and female students, participation in the program did not

Figure 1 Proportion of sexually experienced female students using a condom at last sex during the recall period



Note: Level of significance between intervention and control schools was $p = .701$ at time 1, $p < .001$ at time 2, and $p = .259$ at time 3.

have a statistically significant effect on perceptions of peer pressure to have sex.

The program helped increase communication among specific intervention subgroups, but gaps remain. At T1, 9 and 6 percent of females with no sexual experience within the intervention and control groups, respectively, had discussed HIV/AIDS with a boyfriend. At T2, the proportion of sexually inexperienced females who talked to a boyfriend more than doubled, even though there was only a modest increase in the control group (19 vs. 9 percent; $p < .001$). These figures were similar at T3. There were no statistically significant increases in communication with boyfriends among sexually active female students, or with girlfriends among male students, regardless of sexual experience.

At baseline, about a fourth of sexually experienced males in both groups reported discussing HIV/AIDS with a teacher or counselor. At T2, 37 and 29 percent in the intervention and control groups, respectively, reported this type of communication. However, this difference was not statistically significant until T3, when 40 percent of intervention males and 28 percent of control males reported discussing HIV/AIDS with a counselor or teacher ($p < .05$). Similar changes were not found among intervention females.

Participation in the program had no effect on the proportion of students talking about HIV/AIDS with a parent, other family members, or health professionals.

The program improved students' acceptance of people living with HIV and AIDS (PLHA). Among males in the intervention group, the mean attitude score (out of 100) increased from 69.7 at T1 to 78.1 at T2, and then decreased slightly to 77 at T3 ($p < .001$). This indicates more favorable attitudes about PLHA, such as HIV-positive students should remain in school. No such increase occurred among males in the control group.

Similarly, the mean attitudes score for females in the intervention group increased from 71.6 at T1 to 78.1 at T2 and then decreased slightly to 76.9 at T3 ($p < .001$). There was also an improvement in the mean attitude score among females in the control group, although it was not as strong as the change observed in the intervention group (68.5 at T1 to 71 at T2 to 71.7 at T3; $p < .05$). This indicates that outside influences also played a role in improving students' attitudes about PLHA.

Teacher training and experience contributed to improvements in knowledge and attitudes. After the three-day teacher training course, teachers' mean scores on HIV knowledge, attitudes about sexuality and gender, and attitudes toward PLHA each increased significantly ($p < .001$) from baseline among the 35 teachers and four administrators participating. For example, the mean score for correct answers on HIV knowledge rose from 79 to 89 (out of a maximum score of 100). Nevertheless, some teachers did express concerns about their ability to effectively teach the curriculum, and some felt uncomfortable discussing and demonstrating condom use. They suggested enlisting the help of health professionals to teach sensitive aspects of the course.

Program Implications

The "Teens on Smart Sex" successfully improved students' HIV-related knowledge and attitudes about PLHA. It also improved female students' attitudes about condom use and increased actual use. There was no evidence, however, of the adoption of other protective behaviors, such as abstinence, among males and females.

The fact that improvements in many of the attitude and behavior variables differed by sex and sexual experience highlights the importance of targeting the program to better fit the needs of specific subgroups.

The study also demonstrates that intensive teacher training which includes follow-up, while fundamental to the success of school-based HIV programs, may not be sufficient to prepare teachers to teach all aspects of the curriculum. In the future, teachers should have more time to practice these topics during training, or health professionals should be brought into the classroom to help teach sensitive portions of the course. Evaluation findings are being used to strengthen course activities so that course impact can result in greater behavior change. 

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