Evaluation of the Impact of Parents' Reproductive Health Training in Tianjin City

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August 2005

China Youth
Reproductive Health Project

PATH
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CFPA
China Family Planning Association

Acknowledgements

The intervention study was conducted in Tianjin, China, from March to September in 2003. The Hexi District Family Planning Association and Education Department provided valuable support to the evaluation. The participating schools—Jingushiyan Middle School, Zili Middle School, and Huasheng Middle School—also supported and cooperated with the evaluation activities.

The evaluation team would like to thank the China Family Planning Association (CFPA) and PATH for providing support on the evaluation study.

The research team would also like to thank Yang Jianhua for his important contribution to the questionnaire design and student survey questionnaire. Parts of the parents' questionnaire were developed from his first draft.

Dr. Wang Guangzhou from the China Population and Development Research Center developed the software for the computerized questionnaire, which made the computerized survey among students possible.

The research team thanks Geng Qian, Lisa Mueller, and Chen Jianzhong for their comments and suggestions on the previous version of this report, and Lisa Mueller for her valuable work on the English edition.

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Suggested citation

Tianjin Municipal Research Institute for Family Planning and the Institute of Population and Labor Economics, Chinese Academy of Social Sciences (CASS) on behalf of the China Youth Reproductive Health Project. Evaluation of the Impact of Parents' Reproductive Health Training in Tianjin City. Beijing, China: CFPA and PATH (2005).

Support for the development of this document was provided by the
Bill & Melinda Gates Foundation.

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Executive Summary

Objective

Parent-child communication is an important part of adolescent reproductive and sexual health education. This evaluation aimed to assess the impact of simultaneous training of parents and students in Tianjin middle schools where sexual and reproductive health and life-planning skills training took place.

Methodology

The evaluation methodology combined quantitative and qualitative data collection. The quantitative data were collected through parent and student questionnaire surveys following a quasi-experimental scheme from one school with both student and parent training (the intervention school) and two schools with only student training (the control schools). Focus groups were organized among the training participants of both parents and students in the intervention school.

Results

The research findings showed significant changes in some components after training parents. The knowledge increase was most significant for issues of masturbation and condom use and among parents with senior high and college education. Most parents had some adolescent reproductive health knowledge before the training, and what they lacked most was communication skills. After the training, however, parents did not feel more confident in their ability to engage in parent-child communication, neither with respect to their skill nor their knowledge. Yet the reported communication with children did change in some ways: more parents reported communicating with their children regarding contraception, pregnancy, AIDS prevention, and relationships, although students reported little positive change on parent-child communication. However, the qualitative information from students shows some impact.

The research also found a gap between parents and students on the expected role of parents in reproductive health education: students' opinion of how much parents should be involved in providing information was greater than parents' ideas of how much they should be a main resource for their children for these topics.

Conclusion

The parent training in school had a positive impact on parent-child communication about sensitive topics such as contraception and pregnancy. However, the impact of such training was limited and was not often clearly observed. Further study should explore a way to work with parents that takes into account their varied needs.

Key words

Sexual and reproductive health education, parent-child communication, adolescence, school-based reproductive health education, parent training.

1. Background

1.1. Adolescent Sexual and Reproductive Health in China

In the last decade, adolescent sexual and reproductive health (ASRH) issues have gained significant attention globally. The transition from childhood to adulthood is recognized as a critical step that impacts a person's lifelong development. Many social, economic, biological, and demographic milestones take place during this time, all of which can directly affect adulthood. An adolescent's access to health care and education is a key factor that affects their later quality of life.

Demographic events that closely relate to reproductive health include menarche, first sexual intercourse, and first marriage. Research indicates that the average timing of these events in China has been changing over the last half century. Age of menarche has decreased from 15.8 years in the 1950s to 13.9 years in the 1980s. The rate decrease is larger among those who were born after 1970 (Wu et al. 2000). Meanwhile, the age of first marriage has increased from 22.0 years in 1990 to 23.6 years in 2000 (Guo 2004). There is also evidence that the age of sexual maturity has been decreasing since the late 1980s and that adolescents' interest in sex is increasing. With a longer opportunity for sexual activity before marriage, premarital sex has become more common. The increasing sociobiological gap due to early maturity and later marriage increases the need for appropriate ASRH education and services (Tu et al. 2002).

Unfortunately, sexual and reproductive health education for adolescents has lagged, largely due to the social norm that supposes that one should not know anything about sex nor have sex until one is married. Furthermore, it is rare for parents in China to discuss sexual and reproductive health issues with children, and therefore school education is one of the most important sources of adolescents' knowledge of puberty, sexuality, and reproductive health. Yet even school-based education on sexual and reproductive health is relatively poorly developed in China. The adolescent health education that was put into the national middle school curriculum in the 1980s is defined as sexual biology, sexual psychology, and social morality about sex. The actual content taught varies largely from area to area, from school to school, and even among different teachers within a school. Most of the emphasis is on social morals (which promote abstinence) rather than teaching life skills that could prepare youth for the challenges, confusion, and problems they may face.

Parents of adolescents, mostly in their 40s, did not receive sexual and reproductive health education when they were in school. Therefore, many have poor knowledge about sexual and reproductive health and lack the necessary communication skills. Although a 1998 survey of 14 cities (which included 1,855 middle school students and their parents) found that general parent-child communication is quite satisfactory (Feng 2002),[1] communication about sexual and reproductive issues is far more difficult. Very few parents of adolescents have communicated with their children on these more sensitive issues. A national survey conducted among 1,224 male and 1,278 female middle school students in 1998 found that only 2.9 percent of boys and 6.3 percent of girls reported that their knowledge about sex came from their parents; 7.5 percent of boys said that they discussed sex-related topics with their father, and 33.7 percent of girls reported having had discussions with their mother (Liu 1995).

[1] The same survey found that most students can communicate with their parents on school, family, and personal topics; more students prefer to communicate with their mother rather than father; and more students prefer to discuss secrets with classmates rather than parents. The survey also shows that reports from parents and students are consistent about parent-child communication.

The situation has not improved over time. About ten years later, a survey of 631 senior high students in Beijing found that more students expected to have communication with parents (about 70 percent) regarding sexuality issues, but they hardly had any in practice: only 5.5 percent of male students and 13.7 percent of female students reported that they had received contraception information from their parents (Xu and Liu 2000). Qualitative research that took place in eight sites across China found similar results from focus group discussions with parents of teenagers. The parents said that both they and their children were too embarrassed to speak to each other about sexual and reproductive health issues (Cui et al. 2001).

Meanwhile, parents admit that they were concerned about their children's premarital sexual activity and believe that the government should provide information and education regarding sexuality, safe sex, and contraception. Opinions on how and when the education should be provided are diverse. According to a recent study, most parents suggest that sexuality education should be provided to youth over 18 years old (Cui et al., 2001), which is obviously too late for addressing concerns through puberty.

1.2. Introduction to the China Youth Reproductive Health Project

The China Family Planning Association (CFPA) and PATH are implementing an innovative ASRH initiative in China with support from the Bill & Melinda Gates Foundation. The China Youth Reproductive Health (YRH) Project began in April 2000 and ends in 2005. The project operates in 15 sites across 12 Chinese provinces.

To reach the overall goal of improving ASRH, the project staff adopted a holistic strategy focused on a youth-development approach to providing life-planning skills (LPS) training to youth. Additional components of the project's strategy include policy and advocacy, youth-friendly services, monitoring and evaluation, media involvement, and informational materials. The objectives of the project include:

- Increasing adolescents' self-esteem, awareness of positive gender and human rights values, and safer sexual practices.
- Increasing adolescents' access to and utilization of high-quality sexual and reproductive health services and counseling (youth-friendly services).
- Creating a safe and supportive environment for programming at the national, community, and school levels.
- Improving the national-level response to ASRH issues by building the capacity of CFPA and other agencies to advocate for, plan, implement, and evaluate innovative health interventions for adolescents.

Tianjin is one of the 15 sites of the YRH Project. Tianjin is a municipality located near Beijing, with 15 districts and 3 rural counties and a population of about 10 million. There are 2.4 million youth aged 10 to 24 years, who account for almost a quarter of Tianjin's total population. Among the 10- to 24-year-old age group, 60 percent are in-school students. Tianjin has 170 middle schools.

The Tianjin Family Planning Association (TFPA) has been implementing the China YRH project since 2001.

1.3. Parents' Involvement in the Tianjin Project

Parents can play an important role in ASRH education. Their attitude toward the topic as well as their cooperation may have an effect on ASRH education, and their communication with children about ASRH can benefit young

adolescents' healthy development. As noted earlier, however, research results have shown a lack of communication between the two generations about sexual and reproductive health. Concerned that the exposure to sexual information may lead to sexual activity, some parents do not support ASRH education in middle schools. Under such circumstances, some parents' attitude and behavior may have a negative influence on school ASRH education.

To increase support from parents about ASRH education and to promote parent-child communication about ASRH, the TFPA decided to conduct parent training on ASRH in urban middle schools during the same semester as the students' training took place.

To have a better understanding of parents' opinions and attitudes as well as to explore the feasibility of conducting parent education, TFPA carried out a parent survey in an urban middle school in September 2002. Among the 105 respondents:

- 52.4 percent believed that it is necessary to provide ASRH-related training for parents and promised that they would participate in the training if the program lasted no more than three hours.
- 15.2 percent said that it is necessary but they probably did not have time to participate.
- 20 percent commented that it is not necessary but that they would like to participate.
- Only 12.4 percent believed that the training is not necessary and that they would not participate.

In summary, 67.6 percent of the parents are supportive to ASRH training, and 72.4 percent of the parents committed to participate the training. Furthermore, 45.7 percent of parents believed that it is better to have mother-daughter and father-son communication, 43.8 percent of parents said that both parents should discuss ASRH with their children, and another 8.6 percent of parents thought that either parent could discuss the topic with a daughter or son. TFPA also found that more parents of girls suggested that communication with a child of the same sex is better (60.8 percent of girls' parents), and more parents of boy students suggested that both parents should discuss the topic together (53.7 percent of boys' parents). The survey results were encouraging.

To promote parent-child communication on ASRH issues and to enable parents to communicate with better knowledge and skills, TFPA carried out ASRH training for parents in schools simultaneously with student training. There were three components of the training for parents: knowledge of ASRH, discussion about attitudes toward ASRH and communication, and communication skills.

1.4. Main Activities of the China YRH Project in Tianjin

Advocacy and Mobilization

To implement the China YRH project, the TFPA had full support from the municipal government and schools. Six districts governments were involved in the project pilot phase and distributed documents to enable the project to be conducted in schools (CFPA/PATH, 2003a). All participating schools made a training plan and assigned a schedule and classroom for the training.

To create a favorable social environment, the project was well publicized in the mass media, including newspapers, television news stations, and radio stations. Until the end of 2003, there were more than 130 articles or reports in the media about the YRH project. The major media promised TFPA that they would have a four-year follow-up report about the YRH project.

TFPA also carried out small-scale surveys and group discussions among middle-school students and parents to better understand the context and needs related to ASRH education. After the investigation, TFPA decided that the parents of middle school students should be placed in the target group of the project. A plan for simultaneous training of parents and students was initiated.

LPS Training

LPS training was carried out in middle schools with a specially designed curriculum. Curriculum development involved more than 80 experts and schoolteachers, and 38 teaching plans were developed. The project adapted and distributed the following supporting documents: Guidelines for ASRH Training, Guidelines for Parent Training, and Teachers' Reference for Parent Training. The project also developed materials such as publicity posters, a collection of cartoons created by middle school students, and a drama to support the project activity.

The training was implemented mainly in middle schools for students in second grade (generally 13 to 14 years old; equivalent to grade 8 in the United States). Focus group discussions were organized before the training to ask for suggestions from students, parents, and teachers.

The training was carried out in 23 schools in 2002 and extended to 128 schools in 2003. During this time, 18,842 school students participated in the training.

Student training was arranged during regular class time, and parent training was arranged on weekends. Alternative sessions were arranged for parents who needed a more convenient session to attend. The parent training was designed as three sessions that included content on knowledge of ASRH, discussion about attitudes toward ASRH and communication, and communication skills.

Educational materials were also distributed to parents and students during the training. The materials included pamphlets, flyers, and compact discs that were developed by the project.

Counseling and Other Services

Several counseling services were made available to in- and out-of-school youth. The in-school services included an ASRH bookshelf, a counseling mailbox (for anonymous questions), and a counseling room. Existing services—such as the city counseling clinic for youth, a telephone hotline, a counseling center at Nankai University, and the Family Newspaper special column for youth—were also utilized.

2. Objectives and Methods of the Evaluation Research

This evaluation aimed to assess the impact of training on parents, intergenerational communication, and the possible effect on student training. The project's three objectives were to determine:

1. Whether the parent training resulted in more positive attitudes among parents about communicating with children.
2. Whether the parent training increased parents' ASRH knowledge and communication skills and facilitated improved communication with children.
3. Whether there was an actual increase in intergenerational communication about ASRH.

The evaluation research team was led by researchers from TFPA with technical assistance from the Institute of Population and Labor Economics at the Chinese Academy of Social Sciences (CASS). The research started in late 2002 and ended by mid-2004.

Evaluation Research Design

The main methodology was quantitative research. To understand the effect of training from different perspectives, data collection was carried out with both parents and students at the same time. The respondents were second-year students in middle school and their parents. Questionnaire surveys were administered to parents and students before and after the trainings to evaluate the impact and changes quantitatively. Focus group discussions were also used to further probe on certain aspects.

Students and parents were grouped into an intervention group and a control group (sampling from schools without parent training) to compare the impact cross-sectionally and control for the impact of events other than parent training, such as promotion of ASRH in the mass media. The preintervention survey (baseline) was carried out in the beginning of the 2003 spring semester, immediately before the training activity in March. The intervention itself lasted for one semester and ended by early July. After summer vacation, a post-intervention survey (endline) took place in the beginning of the fall semester (September).

The purpose of the focus group discussions was to better understand facts, attitudes, opinions, and feelings that are difficult to measure quantitatively. Focus groups were organized separately among parents and students from the intervention school.

Sampling and Data Collection

The sampling method used was cluster sampling. Students from a middle school with LPS for students and ASRH training for parents were selected as the intervention group, and students from two other schools with only student LPS training were selected as the control group. In each school, several classes were selected as the sampling cluster. All students and their parents in the selected classes were surveyed. Among all middle schools in Tianjin, the selected school and classes are ranked about mid-level in terms of performance (e.g., test scores, teacher performance).

The instruments for data collection were two questionnaires, one for parents and another for students. The questionnaires were structured and precoded, with primarily multiple-choice questions. Parents filled out the questionnaires by themselves in school voluntarily and anonymously. Students filled out the questionnaires anonymously on

computers. A computerized questionnaire was used for students because it can better protect confidentiality and make students feel more comfortable about responding to sensitive questions. The programming has functions such as range check and missing value check to ensure the quality of data entry and prevent missing values or typing errors.

At least two research assistants were trained to assist parents and students during the survey, answer or clarify questions, and provide technical assistance to computerized response.

The student questionnaire included individual basic information, information about their family and friends, reproductive knowledge, attitudes and skills, personal development, and behavior. The parent questionnaire included similar knowledge items plus additional items addressing their attitudes and communication information. (Both questionnaires are included in the Appendix.)

Focus group discussions were organized in the intervention school with parents and students. Two focus group discussions were organized before the baseline survey, one with parents (two fathers and eight mothers) and one with students (seven boys and five girls) in the intervention school. Four focus group discussions were organized after the endline survey with a total of 34 parents (5 fathers and 29 mothers), and four focus group discussions were organized with the participation of 42 students (17 boys and 25 girls).

Data Processing and Analysis

The Tianjin research team entered the data after the parent survey. For the student survey, the data were automatically captured on the computer as students selected their responses. The Tianjin research team was also responsible for processing and analyzing the data. The records from focus group discussions were sorted and summarized for analysis.

Parents' Participation

The parents' training in the intervention school included three topics: (1) building positive attitudes toward sexuality and being the first teacher of your child, (2) learning about ASRH and helping children during puberty, and (3) learning communication skills and communicating with children. Each training session focused on one topic and lasted 90 minutes. Twelve training courses were given during the spring semester, and 800 parents participated. By the end of the semester, all students in the second grade at the intervention school had at least one parent participate in the three-session training.

Although there were three training sessions, most of the training activity included all sessions in one day. Therefore most parents participated once but received three consecutive trainings sessions. Their participation status was asked in the questionnaire survey, as shown in Table 2-1. Since the survey took place two months after the training, some respondents (about 13.5 percent) who did not participate in the training filled out the questionnaire, since their spouses did participate in the training and may have shared the information with them.

Table 2-1. Parents' Participation in Training (N=506)

Question	Response	Endline (%)
Do you know of any parent who took YRH training in school?	Yes	86.4
	No	3.1
	Not clear	10.5
Have you ever participated in the training? If so, how many times?	Never	9.8
	Once	89.5
	Twice	0.4
	Three times	0.2

Students' Participation

Students in both the intervention and control schools participated in LPS training with the topics of values, adolescent development, interpersonal relationships, drug abuse prevention, HIV/AIDS prevention, and planning for their future. Each training session focused on one topic and lasted for 90 minutes, and each session included about 50 participating students. All students participated in all training sessions.

Implementation Delay

In the spring of 2003, Tianjin was badly struck by the SARS epidemic and all schools closed for approximately one month. The training activities for both parents and students were therefore affected by the event, and some training topics might not have been provided as designed. These factors may have had an impact on the effectiveness and outcome of the training.

The impact evaluation findings for parent training are based mainly on questionnaire survey results, with some results from focus group discussion with parents and students.

3. Main Findings

3.1. Background Characteristics of the Survey Respondents

Parents

A greater number of mothers than fathers participated in the training. This is quite normal in school, as more mothers usually attend parents' meetings. There was no significant difference between baseline and endline surveys regarding the proportion of mother respondents, nor was there a significant difference between the two groups. However there was a slightly higher percentage of mothers in the control group at the endline survey. Table 3-1 shows the frequency for each survey and for each group by sex.

Table 3-1. Sample Size of Parent Respondents

	Baseline		Endline	
	I	C	I	C
Father	179	172	184	158
Mother	402	397	369	412
Percentage of parents who are mothers	69.2	69.8	66.7	72.3
Total	581	569	553	570

The average age of the parents was about 42 years old at baseline survey.

The education level attained by parents from the intervention and control groups was distributed differently. More parents in the intervention group had a college education or higher, while more parents from the control group had only middle school education (see Table 3-2). The difference between the two groups remained in the endline survey, and the distribution was consistent between baseline and endline surveys for each group.

The difference in education attainment may have affected the training outcome. Therefore, controlling for education was necessary in some later analyses. Some past research has found that parents' education as a predictor of communication with children has mixed effects (Dilorio et al. 2003).

Occupation is a variable that usually closely correlated with education levels. The occupations of the two groups of parents were significantly different. More parents in the intervention group parents were professionals, managers, or government workers, while more parents in the control group were factory workers or unemployed/retired.

A majority of respondents (about 94 percent) were in their first marriage; five percent of parents had divorced.

According to the baseline survey, almost all parents (96 percent) had only one child. Most children (73 percent) had their own room in the home. Ninety-six percent of parents reported that their child lived at home with them.

Students

The number and sex of student respondents are shown in Table 3-4. The average age of respondents was 14.3 years. There was no significant difference in age and sex composition between the two groups or the two surveys.

Table 3-2. Education Levels of Parent Respondents (%)

Education	Intervention			Control		
	Father	Mother	Total	Father	Mother	Total
Illiterate	0.56	0.00	0.17	0.00	0.00	0.00
Primary school	0.00	0.25	0.17	0.58	1.26	1.05
Middle school	5.03	4.73	4.82	20.93	15.37	17.05
Senior high school	27.37	33.33	31.50	43.60	53.40	50.44
College	30.73	42.29	38.73	21.51	21.41	21.44
University	30.17	17.91	21.69	13.37	8.06	9.67
Graduate degree	6.15	1.49	2.93	0.00	0.50	0.35

Table 3-3. Occupational Distribution of Parent Respondents (%)

Occupation	Intervention			Control		
	Father	Mother	Total	Father	Mother	Total
Professional	25.14	35.32	32.19	15.70	19.65	18.45
Manager	27.37	8.71	14.46	12.21	5.54	7.56
Government worker	19.55	18.41	18.76	16.86	11.34	13.01
Self-employed	5.03	3.48	3.96	6.98	5.29	5.80
Commercial/service	5.59	4.98	5.16	3.49	6.05	5.27
Factory worker	8.94	11.19	10.50	25.58	21.41	22.67
Unemployed/retired	4.47	15.42	12.05	16.28	27.20	23.90
Other	3.91	2.49	2.93	2.91	3.53	3.34

Table 3-4. Number of Student Respondents by Sex and by Group

	Baseline		Endline	
	Intervention	Control	Intervention	Control
Boys	257	275	310	280
Girls	267	251	289	254
% of girls	51.0	47.7	48.3	47.6
Total	524	526	599	534

Parent-Child Communication Reported in Baseline

In the section about parent-child communication in the parent questionnaire, the questions and corresponding answers are:

- How often do your children discuss school issues with you? 1: often; 2: sometimes; 3: seldom; 4: never.
- Have you paid attention to your child in the past year regarding his/her (a) favorite music or TV show; (b) dress and hair style; (c) books; (d) manners; (e) habits (such as smoking or drinking); (f) relationship with same-sex friend; (g) relationship with opposite-sex friend; (h) school record; (i) future career. Answer either "yes" or "no" for each.
- Do you feel that it is easy or difficult to discuss sex-related topics with your child? There are five choices for the answer: 1: very easy; 2: easy; 3: so so; 4: a little difficult; 5: very difficult.
- Have you discussed the following topics with your child in the past year: (a) relationships; (b) pregnancy; (c) contraception; (d) dating; (e) puberty and growth; (f) HIV prevention. If the answer is "yes," two more questions follow: Who initiated the discussion, the parent or child? What was discussed: everything, only issues both agreed to, or only general issues that are not specific to the child?

The first question—"How often do your children discuss school issues with you"—received a positive response from almost all parents, a very small proportion reported that their children seldom discuss these issues with them, and even fewer reported that they never had such discussions with their children. Significantly more mothers reported that their children often discussed school issues with them. There was a significant but less impressive difference between the intervention and control groups, as observed and tested. The difference mainly related to the disparity in parents' education attainment between the two groups; a higher education was associated with more frequent discussion.

P-values for chi-square tests for association between the discussion frequency and other factors were as follows: mother vs. father: ≤.0005; intervention vs. control: .007; association with father's education: .731; association with mother's education: ≤.0005.

In addition, the study team found that girls were more likely to discuss school issues with their parents (both their father and mother). A multivariate analysis showed that more frequent discussions ("often" or "sometimes") were more likely to happen if the child is a girl, if the parent is a mother, and if the mother has an education above senior high school.[2] This

[2] It is interesting to note that the father's education level does not make much difference in the frequency of discussions about school.

Table 3-5. Discussion of School Issues With Child, Reported by Parents (Baseline) (%)

	Intervention			Control		
How often issues are discussed	Father	Mother	Subtotal	Father	Mother	Subtotal
Often	29.1	43.3	38.9	23.8	34.5	31.3
Sometimes	52.5	45.8	47.8	55.2	49.9	51.5
Seldom	17.3	10.7	12.7	18.0	13.9	15.1
Never	1.1	.2	.5	2.9	1.8	2.1
Total number of responses	179	402	581	172	397	569

Table 3-6. Parent Has Paid Attention to Child (Baseline) (%)

Favorite music or TV show	Father	Mother	Total
	86.3	**91.9**	**90.2**
Dress and hair style	77.8	86.2	83.7
Books	91.7	93.5	93.0
Manners	93.2	95.5	94.8
Habits (such as smoking or drinking)	80.9	84.2	83.2
Relationship with same-sex friend	76.6	87.2	84.0
Relationship with opposite-sex friend	72.1	81.1	78.3
School record	98.6	99.2	99.0
Future career	70.7	73.8	72.9

result is consistent with other similar studies (Dilorio et al. 2003).

Most parents reported that they have paid attention to their child's life and behavior. The difference between the intervention and control groups is not significant when controlled for the parents' education, sex, and the sex of child. Table 3-6 lists the results from the baseline survey for both groups together.

Compared with communication regarding school issues, discussions related to sex topics are more difficult between parents and children. Only a few parents reported that it is easy to discuss sex-related topics with their child. There was a significant difference between the intervention and control groups in the baseline survey results, even after they were controlled for the sex of the parent and the sex of the student, as well as parents' education attainment, with a higher percentage falling into the "very easy" or "easy" in intervention groups. However, the difference is not very large (see Table 3-7).

Regarding the topics discussed between parents and children, most parents reported discussing puberty and growth, relationships, and dating (see Table 3-8); they seldom talked about pregnancy and contraception. Parents initiated a large percentage of the talks, and the contents were mostly topics that the parent and student both agreed about and general issues. Very few parents reported that they had talked about everything. Multivariate analysis showed no significant difference between the intervention and control groups with other variables controlled. The analysis showed that the sex of the child and the parent's education are related to the discussion of relationships (e.g., girls and more educated parents are more likely to discuss the topics), the sex of the child and sex of the parent are related to the discussion of pregnancy (e.g., the talks are more likely to happen between mother and girl child), the sex of the child, sex of the parent, and the parent's education are related to the discussion on dating and puberty/growth (e.g., the talks are more likely to happen between mothers with college or higher education and their female children).

Table 3-7. Parents' Feelings About Discussing Sex-Related Topics With Child (Baseline) (%)

	Intervention			Control		
	Father	Mother	Subtotal	Father	Mother	Subtotal
Very easy	2.8	4.2	3.8	2.3	2.5	2.5
Easy	17.9	19.9	19.3	16.9	11.6	13.2
So so	25.1	35.8	32.5	22.1	30.2	27.8
A little difficult	43.6	32.8	36.1	45.3	41.1	42.4
Very difficult	10.6	7.2	8.3	13.4	14.6	14.2

Table 3-8. Topics Parent Discussed With Child During the Past Year (Baseline) (%)

Topic	Ever discussed	Parent initiated the talk
Relationships	41.0	83.4
Pregnancy	8.2	41.1
Contraception	3.4	67.5
Dating	35.8	69.2
Puberty and growth	53.7	53.7
HIV prevention	23.4	73.6

Table 3-9. First Person to Talk to About Important Issues, Reported by Students in Both Groups (Baseline) (%)

	Boys	Girls
Father	22.2	9.5
Mother	33.1	44.0
Grandparent(s)	1.7	1.4
Other elder relatives	1.1	1.0
Same-age relatives	3.6	3.5
Classmates/friends	31.8	37.8
Girl/boyfriends	1.7	.4
Other	4.9	2.5

The p-value of a chi-square test is .0005

The information above reflects the parent-child communication as reported by parents; the student survey results tell a very similar story. The response to the question "Who will you first talk to or discuss with things that are important to you?" is listed in Table 3-9. The differences between boys and girls were significant. No difference was found between intervention and control groups.

A small proportion of students felt that it was easy to talk about sex-related issues with parents. There was a statistically significant difference between boys and girls (Table 3-10) but no difference between the two groups.

Table 3-10. Students' Feelings About Discussing Sex-Related Topics With Parents, Both Groups (Baseline) (%)

	Boy	Girl
Very easy	7.9	13.3
Easy	10.5	13.9
Average	32.0	30.5
Difficult	16.2	14.9
Very difficult	10.3	11.0
Not applicable	23.1	16.4

The p-value of a chi-square test is .006.

Table 3-11. Sex-Related Topics Students Discussed With Parents, Both Groups (Baseline) (%)

	Boy	Girl
Almost everything	10.3	16.0
Only what they would approve of	13.5	15.3
Only general topics, not specifically about me	23.1	30.5
Tell them nothing about my sex life	35.0	26.8
Not applicable	18.0	11.4

The p-value of a chi-square test is ≤.0005.

Regarding the question, "Have you ever discussed sex-related topics with your parents?" responses were significantly different between boys and girls at baseline (see Table 3-11). There was no difference between the intervention and control group among the girls, but significant difference was observed between the two groups among the boys (p=.001), where more boys from the control group reported that they talk about everything related to sex with their parents.

Table 3-12. Scores of Reproductive Health Knowledge

	Baseline		Endline		p-value of t-test
	Mean	SD*	Mean	SD	
Intervention group	81.52	18.84	86.66	18.89	<.001
Control group	75.29	21.60	75.15	23.94	.992

*SD=standard deviation. A larger standard deviation means the distribution is more spread out.

3.2. Parent Training Impact—Reproductive Health Knowledge

The parent questionnaire included a set of true/false statements related to puberty and reproductive health. They are:

1. Boys and girls enter puberty at the same time.
2. Although a pattern exists, adolescent development differs by person.
3. Wet dreams are normal for a boy who has entered puberty.
4. Only boys masturbate.
5. It is abnormal for a girl to masturbate.
6. A girl can shower during her period.
7. Both boys and girls should care about reproductive hygiene.
8. Youth often like new ideas and are willing to try new things.

To examine the knowledge of respondents, the researchers scored correct answers as "1" and incorrect and "don't know" answers as "0." The total score was defined as the sum of the scores divided by 8 and multiplied by 100, so the score ranges from 0 (none of the responses are correct) to 100 (all responses are correct). The reproductive health knowledge scores improved significantly after training for the intervention group, while the average score of control group was the same or worse (see Table 3-12).

Table 3-13 provides more detailed information on the three items that had the most significant and largest improvement. The topic of masturbation had been confusing to most people; it became clearer to a majority of parents after the training. More complete results about knowledge findings are listed in Appendix 1, Table 1.

Table 3-13. Proportion of Correct Answers From the Intervention Group (%)

Questions	Baseline	Endline	p-value of X^2 test
Boys and girls enter puberty at the same time.	70.74	79.75	0.001
Only boys masturbate.	72.98	83.00	<0.001
It is abnormal for girls to masturbate.	59.90	73.78	<0.001

In focus group discussions it was found that a lack of knowledge among the parents often keeps them from communicating with children about sexual and reproductive health. Their lack of knowledge is reflected in statements such as:

> "We really wanted to learn more about …"
>
> "My parents did not tell me all these things when I was young;"
>
> "We are not very clear about …"

From the results of the baseline survey, it appeared that most of the parents had some knowledge of these topics, but, as they said, they were not confident enough to talk about it with their children.

Table 3-14. Knowledge Gain of Intervention Group Parents by Education Levels

Parent education	Survey	N	Mean score	SD*	Difference	p-value of t-test
Middle school or lower	Baseline	30	63.33	30.61	10.74	.159
	Endline	27	74.07	25.69		
Senior high	Baseline	183	76.57	19.57	7.39	.001
	Endline	180	83.96	21.23		
College	Baseline	225	83.67	16.66	3.77	.017
	Endline	212	87.44	16.12		
University or higher	Baseline	143	88.29	13.20	3.32	.063
	Endline	134	91.61	16.28		

*SD: Standard deviation. A larger standard deviation means the distribution is more spread.

> "I can only talk about it roughly. Although I think I know about those biological or psychological things, about relationships, I could not talk about them clearly."

The parents said that after training they felt more confident since they learned the facts.

As noted earlier, the education levels of parents between the two groups differed, so it was necessary to look at the impact by education. After breaking down parents into groups by education levels, the t-test shows that the knowledge improvements were more significant among parents with senior-high or college-level educations, and the statistical test was marginally significant for the university or higher group. There was no significant result for parents in the control group by the same method of grouping.

Four questions were related to knowledge about HIV/AIDS prevention. These addressed:

1. Which body fluids can transmit HIV.
2. What behaviors can transmit HIV.
3. How to test for HIV.
4. Whether always using a condom correctly would reduce the chance of HIV infection.

The same formula described above was used to calculate the total score of HIV/AIDS-related knowledge. The results show that the intervention did not affect the average score, while the average score for the control group was even lower. Further analysis shows that the effect of education was also not significant. Table 2 in Appendix 1 displays the survey results for both the intervention and control groups.

Among the intervention group, 83.13 percent provided a positive response to the question about condom use during the baseline; the percentage increased to 89.33 in the endline, which is a statistically significant change (p=.003).

Table 3-15. Scores of HIV/AIDS Prevention Knowledge

	Baseline		Endline		p-value of t-test
	Mean	SD*	Mean	SD	
Intervention	65.77	10.96	66.52	10.48	.236
Control	64.31	11.64	62.54	12.36	.013

*SD: Standard deviation. A larger standard deviation means the distribution is more spread.

3.3. Parent Training Impact—Attitude Changes

The survey included a set of questions related to attitudes such as attitudes toward ASRH education in school, attitudes toward premarital sex, and attitudes toward adolescents' curiosity and need to know more about sex. The questions are:

1. Do you think family education about ASRH is necessary for middle school students?
2. Do you think you have adequate knowledge and ability to communicate with your child about reproductive health?
3. Which topics do you think are appropriate for middle school students?
4. What do you think about premarital sex?
5. Can you accept that children have any need for information or curiosity regarding sexuality?
6. What do you think about middle school students dating?
7. Would you allow your child to participate in ASRH education activities in school?
8. Would you like to participate if the school provided ASRH education for parents?

The majority of parents in both the intervention and control groups responded that it is necessary for parents to teach children about reproductive health (about 90 percent or higher in each survey and in each group). However, most parents are not very confident in their ability or their knowledge for communicating with children about reproductive health issues (see Table 3-16). The situation remained similar after the intervention.

Regarding the topics that are appropriate to teach in middle school, most parents selected reproductive health and sexual health, and fewer selected sexuality, sex, and contraception as the appropriate topics (range: 9 to 17 percent). There was no significant difference between the two surveys between either the intervention group or the control group (see Table 3 in Appendix 1).

Parents' attitudes toward premarital sex and toward children's curiosity or needs for information about sexuality did not change significantly either.

The most significant changes were observed in tolerance toward dating, which is an issue of concern to most parents. Being so concerned about their child dating someone, some

Table 3-16. Perceived Communication Ability by Parents (%)

	Intervention		Control	
Response	Baseline	Endline	Baseline	Endline
Capable in knowledge and skill	19.97	24.41	15.99	13.68
Have knowledge but not skill	49.05	44.30	41.65	43.51
Can communicate but lack knowledge	22.55	23.51	31.11	27.37
Lack both knowledge and skill	8.43	7.78	11.25	15.44

parents even listened in to children's telephone conversations, which offended the children very much. After participating in the training, one parent realized that "to tell children about ASRH knowledge is to respect their right; it should not be kept as a secret. Children should have the knowledge and know how to apply it in practice." Table 3-17 shows that a majority of parents still have concerns at endline, however.

Most parents agreed that their child should participate in school activities on ASRH education, and they also showed their willingness to participate in parent training, although with the condition of "if there is time" (Table 3 in Appendix 1).

Table 3-17. Attitude Toward Dating, Parents of Intervention Group (%)

What is your attitude toward dating in middle school	Baseline	Endline
Understandable	2.75	4.52
Do not agree but can tolerate	14.46	20.98
No opinion	0.17	0.18
Do not agree	13.77	10.67
Strongly against	68.85	63.65

p-value of chi-square test: 0.013.

3.4. Parent Training Impact—Parent-Child Communication

Intergenerational communication skills are a very important part of the training. Before the training, students reported that they were eager to learn about their bodies and growth, and some of them had asked their parents about it. However, most parents tried not to talk about it or even criticized the curiosity. Only a few parents could explain the issues to children.

Parents' Perspective

To evaluate the impact of training on parent-child communication, a set of questions was asked for respondents to report the practices at home. The questions were:

1. How often do your children discuss school issues with you?
2. Have you paid attention to your child regarding his/her favorite music or TV show, dress and hair style, books, manners, habits (smoking and drinking), relationship with same-sex friends, relationship with opposite-sex friends, school record, and future career?
3. How do you feel when you discuss sex-related topics with your child?
4. Have you talked about the following topics: making friends with people opposite sex, pregnancy, contraception, dating among classmates, puberty knowledge, and HIV/AIDS prevention? Who initiated the topic?

A score was calculated for each respondent,[3] the higher the score, the more communication reported. The average score of mothers after training increased significantly in the intervention group (Table 3-18), and there was no significant change for the control group parents.

Although the score changes are not dramatic, a further look into specific items provides additional insight (Table 3-19). The most significant change occurred in communication regarding contraception, a topic that is usually very difficult to talk about. The control group also showed an increase in communication regarding contraception; this difference, however, was not as great as with the intervention group (which implies some cause other than the training).

[3] Score assignment: Question 501: more frequent discussion with child has a score of 4, never discuss has a score of 1. Question 502: each "yes" has a score of 1, otherwise 0. Question 503: very easy has a score of 5, and very difficult has a score of 1. Question 504: discussed topic has 1, parent initiate the talk has 1, and 0 otherwise; the content about everything has a score of 3, only general talk has a score of 1. For a detailed summary of questions and answers, please refer to the parent questionnaire in Appendix 2.

Table 3-18. Scores of Reported Communication Practices

	Baseline		Endline		p-value of t-test
	Mean	SD	Mean	SD	
Intervention group					
Father	38.40	14.31	40.21	16.12	0.2585
Mother	43.88	14.35	48.12	17.04	0.0002
Subtotal	42.19	14.55	45.49	17.14	0.0005
Control group					
Father	35.95	13.26	35.92	15.36	0.9840
Mother	39.81	13.74	39.24	15.92	0.5823
Subtotal	38.65	13.70	38.32	15.82	0.7091

Table 3-19. Topics Parent Discussed With Child During the Past Year

	Intervention (%)		Change	Control (%)		Change
	Baseline	Endline		Baseline	Endline	
Relationships*	43.20	54.61	1.26	38.66	35.96	0.93
Pregnancy***	10.33	19.89	1.93	6.15	9.47	1.54
Contraception***	3.61	12.66	3.50	3.16	7.72	2.44
Dating	37.87	44.67	1.18	33.74	31.93	0.95
Puberty and growth	59.72	63.47	1.06	47.63	39.65	0.83
HIV prevention***	25.82	36.53	1.41	20.91	24.39	1.17

Intervention has a significant effect: *p≤.05; *** p≤.001. The tests are from logistic regression with sex of child, sex of parent, education of parent, and group controlled

Intervention has a significant effect: *p≤.05; *** p≤.001. The tests are from logistic regression with sex of child, sex of parent, education of parent, and group controlled.

The findings from focus group discussions also support these statistical test results. Before the training, some parents agreed that there should be some education for children, but they were not sure what to talk about, how to talk about it, and when to talk about it. They said that there was hardly any communication regarding puberty and reproductive health with their children. In the focus group discussion after training, parents commented:

"The activity built a bridge between parents and children."

"(Before) I did not know how to talk about that with child, I could not find a good approach; but after training, I do."

"Now I can communicate with my child about the issues, and the child is willing to tell me what happened in school. We have a better communication now."

"I now tell some stories (about reproductive health and sex) to my son."[4]

[4] Other studies have found that mothers used storytelling to accomplish sexual socialization and to persuade their daughters to avoid making the same mistakes they reportedly made as teenagers (Dilorio et al. 2003).

A single mother told the facilitator that before the training, she did not know how to talk about health issues (such as the importance of cleaning foreskin) with her only son; after the training, she did not feel as embarrassed to discuss such issues with her son. Another mother in the focus group discussion offered her appreciation of the training activity, since she had something to share and discuss with her daughter after the training. (Some parts of the parent training activities are very similar to the student training, such as the "water exchange" exercise which illustrates the potential of HIV to spread in a population).

However, the training on communication skills seems to need further strengthening since parents suggested that they would like to learn even more about communication from the training, perhaps reflecting the limited number of sources on this topic. Furthermore, parents also requested more case studies related to their own situations, so they could better know how to deal with issues in different situations.

Parents also suggested that the training should create an opportunity for them to exchange experiences and learn from each other.

Students' Perspective

There is often a tension between parents and children of adolescent age. Students in the focus group before the intervention expressed their concerns about communication with parents—for example, parents always try to force their own will, parents talk too interminably, and parents do not have adequate knowledge.

> "I asked my mom where I came from. My mom said that I jumped out from a gap of stone.[5] Then I never asked again."

> "My mother always let me ask my father (on sex-related topics), but my father seldom talked with me, so I got the knowledge mainly from books, newspapers, and magazines."

> "My parents never touched physiology issues. I feel embarrassed too. My mother never talks about the issues directly, and I do not want my mother to think I care about the things too much."

> "I am not refusing to communicate with them. The problem is that I gain nothing I need from the communication."

> "I have watched a TV program about youth development with my mother, and I found out that she did not know much about it either."

Such situations may not be changed by one training activity. The students' surveys showed no statistically significant difference between the baseline and endline surveys regarding parent-child communication on sex-related

Table 3-20. Parent-Child Communication Reported by Students, Intervention Group (%)

	Baseline	Endline
Discuss sex-related issues with parents		
Very easy	12.21	12.19
Easy	11.45	13.85
Average	32.06	31.72
Difficult	13.36	16.03
Very difficult	10.88	9.85
Not applicable	20.04	16.36
What content related to sexual development was discussed		
Almost everything	12.79	15.19
Only what they approved of	12.02	15.86
General not self-related	26.72	25.38
Never discussed	30.34	27.04
Not applicable	18.13	16.53

[5] This is a very popular story in China, since a well-known figure in a fairy tale, the Monkey King, was told that he was born from a stone.

topics (see Table 3-20). However, feedback from students in focus group discussion reflects greater change:

"My mother was used to yelling at me. Now her tone changed."

"I used to have difficulty communicating with my parents. After the training, they are willing to communicate with me, and I like to share what happened in school with them."

"Had a comfortable talk with mum after the training. I felt very good."

"After participating in the training, my mother never compared me with others (someone better then I) anymore."

Students also gave their suggestions regarding parent training.

"I think the training should start from parents. It is practical since parents understand their child best. They know how to educate their child and what is appropriate."

"It is better to have the parent and child participate in the training together so that parents understand our thoughts directly. We do not know what our parents are thinking; they also do not know what we are thinking and what we need. They come back home to tell us what they thought is important, but we don't know what they were thinking in the process (of training)."

Table 3-21. The Most Preferred ASRH Information Source (%)

Group and Source	Baseline	Endline	p-value of X^2
Parents, intervention			
School education	76.1	85.5	.001
Parents	6.7	4.7	
Classmates/friends	.5	1.4	
Health professionals	10.3	5.4	
Parents, control			
School education	83.8	87.7	.264
Parents	3.9	1.4	
Classmates/friends	1.1	1.1	
Health professionals	7.7	7.4	
Students, intervention			
School education	65.3	72.6	.005
Parents	9.5	7.8	
Classmates/friends	4.0	5.5	
Health professionals	9.4	6.5	
Students, control			
School education	65.0	69.1	.111
Parents	7.4	6.2	
Classmates/friends	6.7	5.8	
Health professionals	10.1	5.4	

3.5. Expected Information Source

In both the parent and student surveys, the following question was asked: What is the best/preferred source of sexual and reproductive health information for youth? The answers from parents and students are quite consistent. Their first choice is school education (Table 3-21). After participating in training in school, the proportion of participants who prefer school as the first source of ASRH information is even higher for both parents and students in the intervention school. The result is also consistent with other responses, such as the lack of confidence in communication capability among parents even after training (Table 3-16) and the unchanged feeling about discussing sex issues with parents (Table 3-20).

The next choice is a health professional. Given the reality that hardly any youth-friendly health services exist in China, the low proportion of participants choosing this option is understandable. It is interesting to note that a proportion of students chose parents as the most preferred source, and that proportion was much higher than among parents, implying a small gap between parents and students on their expectation of parents in reproductive health education.

3.6. Student Training Impact—Changes Observed

In the student questionnaire, there were 16 questions related to knowledge of reproductive health including HIV/AIDS prevention,[6] 10 questions related to attitudes and skills,[7] and 10 questions related to self-esteem.

At baseline, the knowledge, attitudes, and self-esteem scores did not differ between the intervention and control groups. At endline, the differences between the two groups were all statistically significant.

Table 3-22 shows the observable and statistically significant changes among students who received training during a semester. The changes are significant (only at <0.0001) for students in the intervention group, but not significant for students in the control group. These results were quite unexpected. The expectation was that LPS training for students would have a positive impact on both groups, and perhaps a greater impact when coupled with parent training. It seems

[6] See Appendix 2, student questionnaire, questions 301-317.

[7] See Appendix 2, student questionnaire, questions 401, 404, 406, 407, 408, 409, and 410.

Table 3-22. Changes Observed From Students*

	Baseline		Endline		p-value of t-test
	Mean	SD	Mean	SD	
Intervention group					
Knowledge	49.45	21.12	56.43	20.31	<0.0001
Attitude	40.01	20.94	45.80	20.29	<0.0001
Self-esteem	45.03	12.34	43.70	11.54	0.0634
Control group					
Knowledge	48.59	18.91	49.83	19.54	0.2940
Attitude	40.90	19.15	41.97	21.45	0.3949
Self-esteem	45.33	11.56	45.57	12.53	0.7474

*There are 16 questions related to reproductive health knowledge including HIV/AIDS prevention (40 items total), 10 questions related to attitudes and skills (34 items total), and 10 questions related to self-esteem. The full score is 100.

the implementation of LPS in control schools was not as effective as in the intervention school. The findings indicate that the project needs to take a closer look at the process of implementation in schools to improve LPS activities across all schools.

Because of these unexpected findings, the researchers cannot attribute the difference in changes only to addition of parent training at the implementation school. More details of these findings are given in Table 5 of Appendix 1.

3.7. Summary and Discussion

After training parents during one semester, the research found significant changes in some components, with some strong and some more subtle effects. Knowledge gains were more significant on issues of masturbation and use of condoms to prevent sexually transmitted infection and among parents with senior high and college educations. These findings imply a need for more specific program activities designed to fit the diversified needs of parents.

Most parents in both the intervention and control groups had some knowledge of these issues before the training. What they lacked most was communication skills, as mentioned by several parents in focus group discussions. After the training, parents did not feel more confident in their capabilities for intergenerational communication (neither in skill nor in knowledge), indicating that a short training program could not solve all problems.

However, the communication with children, as reported by parents, did change in certain ways. In particular, more parents reported communicating with their children regarding contraception, pregnancy, AIDS prevention, and relationships. The quantitative research revealed a gap between parents and students reports, as students did not report much change in intergenerational communication in the survey. However, qualitative information from the students did indicate some impact of parent training.

This research also found a gap between parents' and students' expectations of parents' role in ASRH education. Parents are more reluctant to have and to play a role. Both parents and students have high expectations on the role of school education about ASRH. Therefore, a combined education approach with school and family together is a challenge for future work to address.

For LPS training among students, this evaluation found a more significant knowledge increase in the intervention group than in the control group. However, it is difficult to assess what happened with the LPS intervention in the control school. The training program may not have been implemented in the same way as the intervention school, or the training style and contents may have differed from the intervention school. Because of the unexpected insignificant changes in knowledge among students in the control group, the researchers cannot draw any conclusions that attribute an increase in student knowledge to parent training. While the findings are promising, further research is recommended.

4. Conclusion and Recommendations

4.1. Overall Assessment

The evaluation findings show that training parents of school children improves parents' knowledge on adolescent reproductive health, especially on certain topics such as masturbation. Given that most parents already had some knowledge at the baseline, the scale of improvement was not very large. Therefore, the gaps in ASRH knowledge among parents need to be better understood when designing a program.

The change in parents' attitudes toward dating was also significant: more parents tended to have more tolerant and understanding attitudes rather than strictly being against the activity. Although parents agreed that they had benefited from the training, they still felt uncomfortable communicating with children about these topics after training. This result may indicate a limitation in the training program.

The parent training on ASRH and parent-child communication was a pilot activity to gain experience and learn lessons. From these evaluation results, we believe that only part of the story has been learned and more needs to be understood. However, this program shows that (1) parent training in school is possible (although limited by parents' busy schedules) and most parents were supportive; (2) the parent training benefits parent-child communication in different ways, and both parents and children agreed that parent training led to some improvements.

Additionally, the two-year project activity has already created a social atmosphere that may contribute to changing parents' and children's knowledge, attitudes, communication, and, eventually, behavior over time. The survey results show some evidence of this, as the parents in both the intervention and control groups had some knowledge about youth reproductive health at the beginning of the activities, and there were changes even in the control group parents knowledge after a half year.

4.2. Recommendations

Based on these findings, the following recommendations for implementing parent education in schools are provided for further consideration:

1. As suggested by parents, include more time and information on communication skills in the training to improve the parents' skills.
2. Improve the training content and style. Some parents would like to hear more about typical cases, and they expect not only to learn from trainers but also to learn from each other.
3. Tailor parent training to meet their different needs. All participating students are from the same grade in the same school, but the parents are from varied situations. Parents have different educations, occupations, and other backgrounds. Adjust the content and focus of parent training depending on the group.
4. Consider other countries experiences with parent training for further program design. Training parents of in-school youth is not new in some other countries, including developed and developing countries.

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Appendix 1. The Survey Result Tables

Table 1a. Parents' Reproductive Health Knowledge, Intervention Group (%)

Question	Answer	Baseline	Endline
Boys and girls enter puberty at the same time.	No	70.74	79.75**
Although a pattern exists, adolescent development differs by person.	Yes	94.66	92.04
Wet dreams are normal for a boy who has entered puberty.	Yes	89.50	92.95
Only boys masturbate.	No	72.98	83.00***
It is abnormal for a girl to masturbate.	No	59.90	73.78***
A girl can shower during her period.	Yes	82.10	86.80
Both boys and girls should care about reproductive hygiene.	Yes	98.45	97.47
Youth often like new ideas and are willing to try new things.	Yes	83.82	87.52

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 1b. Parents' Reproductive Health Knowledge, Control Group (%)

Question	Answer	Baseline	Endline
Boys and girls enter puberty at the same time.	No	60.11	63.51
Although a pattern exists, adolescent development differs by person.	Yes	89.46	86.32
Wet dreams are normal for a boy who has entered puberty.	Yes	82.78	83.68
Only boys masturbate.	No	64.67	67.54
It is abnormal for a girl to masturbate.	No	53.08	54.21
A girl can shower during her period.	Yes	76.10	76.14
Both boys and girls should care about reproductive hygiene.	Yes	97.89	94.91*
Youth often like new ideas and are willing to try new things.	Yes	78.21	74.91

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 2a. Parents' HIV/AIDS Knowledge, Intervention Group (%)

Question	Answer	Baseline	Endline
Body fluid that can transmit HIV			
Blood	Yes	97.76	96.93
Semen	Yes	92.94	90.05
Vaginal discharge	Yes	71.77	66.91
Breastmilk	Yes	35.80	41.05
Sweat	No	96.73	96.56
Saliva	No	70.22	73.24
Urine	No	92.25	94.03
Behavior that can transmit HIV/AIDS			
Sexual intercourse	Yes	97.07	97.47
Blood transfusion	Yes	98.62	97.11
Sharing needles	Yes	99.31	96.20**
Shaking hands or hugging	No	94.15	91.86
Kissing	No	57.14	59.67
Sharing bathroom/swimming pool/telephone	No	63.34	66.37
Insect bites	No	32.87	49.37
How to check for HIV infection	Blood test	97.07	98.37
Condom use can reduce HIV infection risk	Yes	83.13	89.33**

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 2b. Parents' HIV/AIDS Knowledge, Control Group (%)

Question	Answer	Baseline	Endline
Body fluid that can transmit HIV			
Blood	Yes	97.01	90.70***
Semen	Yes	85.59	78.60***
Vaginal discharge	Yes	62.21	57.02
Breastmilk	Yes	31.46	26.67
Sweat	No	97.36	98.07
Saliva	No	71.88	72.63
Urine	No	92.79	92.11
Behavior that can transmit HIV			
Sexual intercourse	Yes	97.54	93.16**
Blood transfusion	Yes	96.49	94.91
Sharing needles	Yes	96.49	94.56
Shaking hands or hugging	No	91.21	89.12
Kissing	No	56.94	53.16
Sharing bathroom/swimming pool/telephone	No	56.94	52.46
Insect bites	No	34.80	38.95*
How to check for HIV infection	Blood test	94.55	92.28
Condom use can reduce HIV infection risk	Yes	82.07	80.18

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 3a. Parents' Attitude to ASRH-Related Issues, Intervention Group (%)

Question	Answer	Baseline	Endline
Family ASRH education is necessary for middle school students	Necessary	94.32	95.84
	Not necessary	2.93	1.45
	Does not matter	2.75	2.71
Have adequate knowledge and ability to communicate with your child	Have knowledge and capable	19.97	24.41
	Have knowledge but lack skill	49.05	44.30
	Able to communicate but lack knowledge	22.55	23.51
	Have neither knowledge nor skill	8.43	7.78
Content is appropriate for middle school student	Reproductive health	84.17	74.68
	Sexuality, sex, contraception	17.21	13.74
	Sexual health	69.71	60.22
	Other	4.13	5.97
Attitude toward premarital sex	Understandable	7.40	8.50
	Not agree but can tolerate	26.16	30.20
	No opinion	0.52	1.44
	Do not agree	12.74	12.66
	Strongly against	53.18	47.20
Attitude toward children having needs or curiosity about sexuality	Accept	26.16	27.85
	Not agree but can understand	54.91	56.96
	Cannot accept	18.24	14.65
	Other	0.69	0.54
Attitude toward middle school students dating*	Understandable	2.75	4.52
	Do not agree but can tolerate	14.46	20.98
	No opinion	0.17	0.18
	Do not agree	13.77	10.67
	Strongly against	68.85	63.65
Allow child to participate school organized education about ASRH*	Yes	95.87	98.01
	No	4.13	1.99
Would parent like to participate if the school organized parent training about ASRH	Yes, I would	43.55	47.74
	Yes, I would if have time	53.70	50.09
	No	2.75	2.17

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 3b. Parents' Attitude to ASRH-related Issues, Control Group (%)

Question	Answer	Baseline	Endline
Family ASRH education is necessary for middle school students	Necessary	93.67	89.65
	Not necessary	2.28	3.51
	Does not matter	4.04	6.84
Have adequate knowledge and ability to communicate with your child	Have knowledge and capable	15.99	13.68
	Have knowledge but lack skill	41.65	43.51
	Able to communicate but lack knowledge	31.11	27.37
	Have neither knowledge nor skill	11.25	15.44
Content is appropriate for middle school student	Reproductive health	79.79	77.19
	Sexuality, sex, contraception	11.25	9.12
	Sexual health	60.63	49.65
	Other	4.04	5.44
Attitude toward premarital sex	Understandable	8.08	10.00
	Not agree but can tolerate	22.67	25.26
	No opinion	1.23	1.58
	Do not agree	10.90	2.77
	Strongly against	57.12	54.39
Attitude toward children having need or curiosity about sexuality	Accept	18.45	15.79
	Not agree but can understand	56.41	54.04
	Cannot accept	24.43	28.77
	Other	0.70	1.40
Attitude toward middle school students dating	Understandable	2.99	3.16
	Do not agree but can tolerate	12.13	16.84
	No opinion	0.53	0.52
	Do not agree	9.14	8.95
	Strongly against	75.22	70.53
Allow child to participate school organized education about ASRH	Yes	94.02	93.68
	No	5.98	6.32
Would parent like to participate if the school organized parent training about ASRH	Yes, I would	38.49	38.60
	Yes, I would if have time	57.29	57.72
	No	4.22	3.68
Would parent like to participate if the school organized parent training about ASRH	Yes, I would	38.49	38.60
	Yes, I would if have time	57.29	57.72
	No	4.22	3.68

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 4a. Parent-Child Communication Reported by Parents, Intervention (%)

Question	Answer	Baseline	Endline
How often does your child discuss school issues with you	Often	38.90	39.42*
	Sometimes	47.85	43.58
	Seldom	12.74	14.83
	Never	0.52	2.17
Have you paid attention to child in the past year regarding his/her :	Favorite music or TV show	90.36	88.07
	Dress and hair style	85.20	80.47*
	Books	95.52	94.03
	Manners	96.56	92.95**
	Habits (such as smoking or drinking)	86.57	80.83**
	Relationship with same-sex friend	84.51	83.36
	Relationship with opposite-sex friend	81.24	78.66
	School record	99.31	99.28
	Future career	69.02	62.75*
Do you find it easy or difficult to discuss sex-related topics with your child	Very easy	3.79	6.33
	Easy	19.28	17.72
	So so	32.53	35.44
	A little difficult	36.14	31.83
	Very difficult	8.26	8.68
Topics discussed with child in the last year:			
Relationships	Yes	43.20	54.61***
Who initiated the topic?	Parent	35.80	45.21**
	Child	7.40	9.40
What content was discussed?	Everything	9.29	13.56**
	Only things both agreed to discuss	14.46	17.18
	Only general not specific to child	19.45	23.87
Pregnancy	Yes	10.33	19.89***
Who initiated the topic?	Parent	4.30	11.75***
	Child	6.02	8.14
What content was discussed?	Everything	0.52	1.27***
	Only things both agreed to discuss	4.48	6.51
	Only general not specific to child	5.34	12.11
Contraception	Yes	3.61	12.66***
Who initiated the topic?	Parent	2.75	10.49***
	Child	0.86	2.17
What content was discussed?	Everything	0.34	0.36***
	Only things both agreed to discuss	1.72	3.44
	Only general not specific to child	1.55	8.86

(continued from previous page)

Question	Answer	Baseline	Endline
Dating	Yes	37.87	44.67*
Who initiated the topic?	Parent	24.96	27.49*
	Child	12.91	17.18
What content was discussed?	Everything	7.06	11.57*
	Only things both agreed to discuss	12.05	11.75
	Only general not specific to child	18.76	21.34
Puberty and growth	Yes	59.72	63.47
Who initiated the topic?	Parent	49.23	52.08
	Child	10.50	11.39
What content was discussed?	Everything	10.84	14.83
	Only things both agreed to discuss	30.46	29.29
	Only general not specific to child	18.42	19.35
HIV prevention	Yes	25.82	36.53***
Who initiated the topic?	Parent	19.79	28.57***
	Child	6.02	7.96
What content was discussed?	Everything	4.48	7.78**
	Only things both agreed to discuss	11.53	15.37
	Only general not specific to child	9.81	13.38

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 4b. Intergenerational Communication Reported by Parents, Control (%)

Question	Answer	Baseline	Endline
How often does your child discuss school issues with you?	Often	31.28	32.98
	Sometimes	51.49	48.77
	Seldom	15.11	14.91
	Never	2.11	3.34
Have you paid attention to child in the past year regarding his/her:	Favorite music or TV show	89.98	88.95
	Dress and hair style	82.07	79.30
	Books	90.33	90.18
	Manners	92.97	91.05
	Habits (such as smoking or drinking)	79.79	75.61
	Relationship with same-sex friend	83.48	80.53
	Relationship with opposite-sex friend	75.40	74.04
	School record	98.77	98.42
	Future career	76.80	79.47
Do you find it easy or difficult to discuss sex-related topics with your child?	Very easy	2.46	1.40
	Easy	13.18	11.05
	So so	27.77	31.41
	A little difficult	42.36	40.70
	Very difficult	14.24	15.44

(continued from previous page)

Question	Answer	Baseline	Endline
Topics discussed with child in the last year			
Relationships	Yes	38.66	35.96
Who initiated the topic?	Parent	32.51	30.88
	Child	6.15	5.09
What content was discussed?	Everything	6.50	8.77
	Only things both agreed to discuss	14.46	14.06
	Only general not specific to child	19.45	18.10
Pregnancy	Yes	6.15	9.47*
Who initiated the topic?	Parent	2.46	6.67**
	Child	3.69	2.81
What content was discussed?	Everything	0.35	0.53
	Only things both agreed to discuss	4.48	2.81
	Only general not specific to child	5.34	2.99
Contraception	Yes	3.16	7.72**
Who initiated the topic?	Parent	1.93	6.14**
	Child	1.41	1.58
What content was discussed?	Everything	0.35	0.53*
	Only things both agreed to discuss	1.72	0.88
	Only general not specific to child	1.55	2.11
Dating	Yes	33.74	31.93
Who initiated the topic?	Parent	24.78	22.28
	Child	9.14	9.65
What content was discussed?	Everything	5.62	5.79
	Only things both agreed to discuss	12.05	12.65
	Only general not specific to child	18.76	15.64
Puberty and growth	Yes	47.63	39.65**
Who initiated the topic?	Parent	39.19	31.93*
	Child	8.44	7.72
What content was discussed?	Everything	5.80	6.67*
	Only things both agreed to discuss	30.46	25.83
	Only general not specific to child	18.42	15.99
HIV prevention	Yes	20.91	24.39
Who initiated the topic?	Parent	14.59	18.25
	Child	6.33	6.14
What content was discussed?	Everything	3.16	4.91
	Only things both agreed to discuss	11.53	10.02
	Only general not specific to child	9.81	7.73

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 5a. Knowledge, Attitude, and Self-Esteem of Students, Intervention (%)

Question	Answer	Baseline	Endline
Knowledge			
Boys and girls enter puberty at the same time.	No	65.65	76.80***
Although a pattern exists, adolescent development differs by person.	Yes	85.69	88.48***
Wet dreams are normal for a boy who has entered puberty.	Yes	69.08	81.64***
Only boys masturbate.	No	33.97	51.92***
Even causal masturbation leads to sexual dysfunction in later life.	No	27.48	34.56*
A girl can shower during her period.	Yes	43.51	47.24
Both boys and girls should care about reproductive hygiene.	Yes	77.67	86.64***
A woman is most likely to get pregnant 14 days before next menses.	Yes	12.98	19.53**
A girl is able to get pregnant after she has her period.	No	8.21	9.85*
A girl can get pregnant on the first sexual intercourse if she has already had her period.	Yes	21.18	34.39***
A girl stops growing after she has intercourse for the first time.	No	27.29	39.23***
A girl can only get pregnant during those days in the middle of her menstrual cycle.	No	12.60	19.53**
Infrequent intercourse cannot cause a girl to become pregnant even she has had her period.	No	17.37	28.21***
A boy who has experienced wet dreams can make a girl pregnant the first time he has sexual intercourse.	Yes	22.52	30.38**
Activities that can transmit sexually transmitted infections (STIs)			
Sexual intercourse	Yes	66.79	70.78
Kissing	No	39.12	44.57
Shaking hands	No	64.31	68.78
Hugging	No	63.74	68.11
Sharing towel or washing utensils	Yes	30.73	31.05
Sharing toilet	Yes	28.05	31.22
A person with an STI has noticeable symptoms	No	23.85	33.05**
STIs may interfere with a woman's fecundity in later life	Yes	27.67	30.22
HIV infection equals AIDS	No	47.33	60.43***
Body fluid that can transmit HIV/AIDS			
Blood	Yes	83.02	88.98**
Sweat	No	87.79	84.47
Semen	Yes	60.50	71.45***
Vaginal discharge	Yes	47.14	56.09**
Saliva	No	64.89	58.93*
Urine	No	84.92	76.13***
Breastmilk	Yes	30.73	48.91***

(continued from previous page)

Question	Answer	Baseline	Endline
Behavior that can transmit HIV/AIDS			
Shaking hands or hugging	No	82.06	88.31**
Kissing	No	45.61	51.42*
Sexual intercourse	Yes	80.92	89.48***
Sharing bathroom and swimming pool	No	40.84	48.91*
Insect bites	No	29.39	31.05
Sharing telephone	No	75.95	77.80*
Blood transfusion	Yes	87.98	93.16*
Eating together	No	53.82	61.77*
Sharing needles	Yes	83.59	91.99***
Behavior can prevent HIV/AIDS			
Stick to one sexual partner	Yes	17.72	22.68*
Use condoms correctly and consistently	Yes	23.14	25.20
Avoid unsafe blood transfusions	Yes	33.48	43.41***
Avoid sharing syringes/needles	Yes	32.25	42.04***
Blood test can check for HIV infection		63.74	73.29**
A single sexual intercourse may cause a person to become infected with HIV	Yes	28.24	41.90***
A teenager may become infected with HIV even when he/she has sex for the first time	Yes	33.78	49.92***
Using condoms correctly and regularly can greatly reduce the risk of getting HIV/AIDS	Yes	41.79	46.41
Attitudes			
I believe it is natural for a boy of my age to have sexual dreams	Agree	40.27	53.09***
I believe it is natural for a girl of my age to have sexual dreams	Agree	35.88	47.75***
I believe it is natural for a boy of my age to fantasize about sex	Agree	45.61	53.09*
I believe it is natural for a girl of my age to fantasize about sex	Agree	36.26	47.75***
I believe it is okay for a boy of my age to masturbate	Agree	23.28	31.55**
I believe it is okay for a girl of my age to masturbate	Agree	18.51	27.88***
It is natural for people at my age to have interest in pornographic materials	Disagree	43.32	52.26*
I think it is okay for people of my age to date if it does not interfere with their studies	Strongly agree	13.93	9.68
	Agree	16.22	15.69
	Hard to tell	26.15	25.54
	Disagree	21.76	26.38
	Strongly disagree	21.95	22.71

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Question	Answer	Baseline	Endline
Willingness to do the following activities with a person infected with HIV			
Eat together		45.42	51.59*
Work together		56.11	64.77**
Patron the services provided by them		34.35	36.06
Go to their homes		36.07	39.40
Use the same telephone		42.75	46.24
Believe that people with AIDS should be separated from society			
Fully agree		8.02	5.84
Agree		7.06	8.85
Uncertain		11.64	10.52
Somewhat disagree		31.49	35.72
Disagree		33.78	31.89
Don't know		8.02	7.18
What would you do if you thought you might have HIV?			
Tell my parents	Yes	60.88	66.78*
Go to hospital	Yes	63.93	63.77
Keep away from classmates/friends	Yes	22.33	29.22**
If a friend offered you a cigarette or alcohol, do you believe you are able to refuse?			
Definitely		75.19	78.46
Yes, but to a less certainty		14.69	13.02
Maybe, not sure		4.96	4.17
Afraid not		2.67	3.01
Definitely not		2.48	1.34
Self-esteem			
I feel that I am well received and respected by my friends	Not at all	4.39	
	Somewhat	20.99	23.21
	Yes	50.19	45.91
	Very	24.43	27.21
I feel that I am as important to my family as other members.	Not at all	2.48	1.17
	Somewhat	9.54	9.01
	Yes	22.52	18.70
	Very	65.46	71.12
I feel I am the kind of person capable of doing many things.	Not at all	6.68	5.51
	Somewhat	27.86	26.38
	Yes	39.31	40.57
	Very	26.15	27.54

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Question	Answer	Baseline	Endline
I hardly feel proud of myself.	Not at all	61.26	65.27
	Somewhat	22.33	19.87
	Yes	10.50	10.02
	Very	5.92	4.84
Whatever I do, I can make myself happy	Not at all	7.44	6.51
	Somewhat	19.47	18.53
	Yes	31.11	31.89
	Very	41.98	43.07
I am not satisfied with my relationships with people around me..	Not at all	50.00	52.26
	Somewhat	29.96	31.05
	Yes	12.21	11.35
	Very	7.82	5.34
	Not at all	4.20	4.67
	Somewhat	19.08	21.20
	Yes	36.45	36.23
	Very	40.27	37.90
I feel that many things I do are not meaningful to me.	Not at all	58.59	59.93
	Somewhat	29.01	25.21
	Yes	7.06	8.85
	Very	5.34	6.01
I am quite sure what kind of person I will be in the future and know how to realize it.	Not at all	8.21	4.34**
	Somewhat	21.18	16.69
	Yes	29.01	31.89
	Very	41.60	47.08
I believe that I am a failure in many senses.	Not at all	60.50	66.94
	Somewhat	27.48	21.37
	Yes	5.53	6.51
	Very	6.49	5.18

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Table 5b. Knowledge, Attitude, and Self-Esteem of Students, Control (%)

Question	Answer	Baseline	Endline
Knowledge			
Boys and girls enter puberty at the same time	No	58.94	64.61
Although a pattern exists, adolescent development differs by person	Yes	87.64	81.65*
Wet dreams are normal for a boy who has entered puberty	Yes	66.92	76.97***
Only boys masturbate	No	38.78	41.95
Even causal masturbation leads to sexual dysfunction in later life	No	26.81	28.09**
A girl can shower during her period	Yes	43.54	42.70*
Both boys and girls should care about reproductive hygiene	Yes	84.03	79.78
A woman is most likely to get pregnant 14 days before next menses	Yes		9.32
A girl is able to get pregnant after she has her period	No	7.98	8.80**
A girl can get pregnant on the first sexual intercourse if she has already had her period	Yes	18.06	26.03**
A girl stops growing after she has intercourse for the first time	No	29.47	32.21
A girl can only get pregnant during those days in the middle of her menstrual cycle	No	12.93	14.61**
Infrequent intercourse cannot cause a girl to become pregnant even if she has had her period	No	18.44	21.72
A boy who has experienced wet dreams can make a girl pregnant the first time he has sexual intercourse	Yes	17.68	25.84**
Activities that can transmit STIs			
Sexual intercourse	Yes	66.73	58.99***
Kissing	No	37.83	33.90***
Shaking hands	No	67.87	56.18***
Hugging	No	66.54	55.06***
Sharing towel or washing utensils	Yes	31.18	31.65***
Sharing toilet	Yes	21.10	25.65***
A person with an STI has noticeable symptoms	No	24.14	22.28
STIs may interfere with a woman's fecundity in later life	Yes	25.67	24.91
HIV infection is equal to AIDS	No	43.35	64.23***
Body fluid that can transmit HIV/AIDS			
Blood	Yes	78.52	88.20***
Sweat	No	89.54	65.36***
Semen	Yes	53.04	74.16***
Vaginal discharge	Yes	41.44	45.13
Saliva	No	66.92	39.70***
Urine	No	80.04	47.38***
Breastmilk	Yes	33.84	68.91***

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Question	Answer	Baseline	Endline
Behavior that can transmit HIV/AIDS			
Shaking hands or hugging	No	82.51	80.15**
Kissing	No	44.30	43.45***
Sexual intercourse	Yes	79.85	86.14***
Sharing bathroom and swimming pool	No	40.68	41.57
Insect bites	No	27.76	37.45**
Sharing telephone	No	79.09	73.03***
Blood transfusion	Yes	90.49	87.83
Eating together	No	50.19	50.75
Sharing needles	Yes	86.31	88.95
Behavior can prevent HIV/AIDS			
Stick to one sexual partner	Yes	14.72	20.97**
Use condoms correctly and consistently	Yes	19.32	21.47
Avoid unsafe blood transfusions	Yes	33.60	38.96
Avoid sharing syringes/needles	Yes	31.68	37.21
Blood test can check for HIV infection		62.74	60.49
A single sexual intercourse may cause a person to become infected with HIV	Yes	28.14	31.65
A teenager may become infected with HIV even when he/she has sex for the first time	Yes	36.50	41.76
Using condoms correctly and regularly can greatly reduce the risk of getting HIV/AIDS	Yes	34.41	36.14
Attitudes			
I believe it is natural for a boy of my age to have sexual dreams	Agree	39.35	43.07
I believe it is natural for a girl of my age to have sexual dreams	Agree	32.13	36.89
I believe it is natural for a boy of my age to fantasize about sex	Agree	45.25	44.76
I believe it is natural for a girl of my age to fantasize about sex	Agree	34.41	39.89
I believe it is okay for a boy of my age to masturbate	Agree	24.14	29.02
I believe it is okay for a girl of my age to masturbate	Agree	19.01	23.41
It is natural for people at my age to have interest in pornographic materials	Disagree	52.23	48.88
I think it is okay for people of my age to date if it does not interfere with their studies	Strongly agree	10.65	8.24
	Agree	12.74	10.30
	Hard to tell	23.00	22.28
	Disagree	23.76	27.53
	Strongly disagree	29.85	31.65

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Question	Answer	Baseline	Endline
Willingness to do the following activities with a person infected with HIV			
Eat together		44.87	50.19
Work together		59.70	59.74
Patron the services provided by them		37.64	36.14
Go to their homes		36.88	37.27
Use the same telephone		43.54	42.32
Believe that people with AIDS should be separated from society			
Fully agree		7.22	10.86***
Agree		6.46	12.55
Uncertain		8.37	11.42
Somewhat disagree		25.67	26.22
Disagree		41.25	28.84
Don't know		11.03	10.11
What would you do if you thought you might have HIV?			
Tell my parents	Yes	61.60	62.36
Go to hospital	Yes	64.83	69.29
Keep away from classmates/friends	Yes	28.33	33.15
If friend offered you a cigarette or alcohol, do you believe you are able to refuse?			
Definitely		69.96	71.35
Yes, but to a less certainty		15.40	14.61
Maybe, not sure		7.79	5.99
Afraid not		4.56	5.62
Definitely not		2.28	2.43
Self-esteem			
I feel that I am well received and respected by my friends	Not at all	4.56	2.44**
	Somewhat	23.38	26.03
	Yes	51.52	42.32
	Very	20.53	29.21
I feel that I am as important to my family as other members	Not at all	2.47	2.43
	Somewhat	10.27	11.42
	Yes	16.92	22.10
	Very	70.34	64.05
I feel I am the kind of person being capable of doing many things	Not at all	7.03	5.24
	Somewhat	30.80	29.78
	Yes	40.11	39.89
	Very	20.05	25.09

(continued from previous page)

Question	Answer	Baseline	Endline
I hardly feel proud of myself	Not at all	61.03	55.06*
	Somewhat	16.92	24.34
	Yes	12.36	10.30
	Very	9.70	10.30
Whatever I do, I can make myself happy	Not at all	8.17	6.93
	Somewhat	15.40	20.04
	Yes	29.66	30.15
	Very	46.77	42.88
I am not satisfied with my relationships with people around me	Not at all	49.05	50.00
	Somewhat	28.33	29.40
	Yes	13.50	13.30
	Very	9.13	7.30
I know my weaknesses and know how to deal with them	Not at all	7.03	7.12
	Somewhat	19.20	22.28
	Yes	30.80	29.96
	Very	42.97	40.64
I feel that many things I do are not meaningful to me	Not at all	61.60	55.62
	Somewhat	23.38	23.59
	Yes	8.94	12.55
	Very	6.08	8.24
I am quite sure what kind of person I will be in the future and know how to realize it	Not at all	7.41	6.55
	Somewhat	18.63	19.29
	Yes	26.05	24.72
	Very	47.91	49.44
I believe that I am a failure in many senses	Not at all	62.36	63.48
	Somewhat	21.86	21.72
	Yes	9.32	9.37
	Very	6.46	5.43

Result of chi-square test: * p<.05, ** p<.01, *** p<.001

Appendix 2. The Parent Questionnaire

I. Basic Information

101. Is your son or daughter in this class?
   1) Son
   2) Daughter

102. You are student's
   1) Father
   2) Mother

103. Your age: _____ years old

104. Your education
   1) Illiterate
   2) Primary
   3) Middle school
   4) Senior high
   5) College
   6) University
   7) Master degree 8 PhD

105. Your occupation
   1) Professional
   2) Manager
   3) Government employee
   4) Self-employed
   5) Commercial/service
   6) Factory worker
   7) Unemployed/retired
   8) Agriculture
   9) Other

106. Your marital status
   1) Married
   2) Remarried
   3) Divorced
   4) Widowed (skip to 201)

107. Education of your spouse
   1) Illiterate
   2) Primary
   3) Middle school
   4) Senior high
   5) College
   6) University
   7) Master degree
   8) PhD

108. Occupation of your spouse
1) Professional
2) Manager
3) Government employee
4) Self-employed
5) Commercial/service
6) Factory worker
7) Unemployed/retired
8) Agriculture
9) Other

II. Family Information

201. How many children do you have? (skip to 202 if only one)

201.1. Which of your children is in this class?
(If there is more than one child, the following questions are for the one in this class.)

202. Does your child have his/her own room?
1) Yes
2) No

203. How many rooms do you have in your house (including bedrooms and sitting room)?

204. Where does your child live now?
1) With own family
2) Dorm
3) With relatives
4) With friends/classmate
5) Other

III. Reproductive health knowledge and source

301. Please indicate if the following statements are true or false:

	True	False	Don't know
Boys and girls enter puberty at the same time			
Although a pattern exists, adolescent development differs by person.			
Wet dreams are normal for a boy who has entered puberty.			
Only boys masturbate.			
It is abnormal for a girl to masturbate.			
A girl can shower during her period.			
Both boys and girls should care about reproductive hygiene.			
Youth often like new ideas and are willing to try new things.			

302. Which body fluids can transmit HIV and lead to AIDS?

1) Blood
2) Sweat
3) Semen
4) Vaginal discharge
5) Saliva
6) Urine
7) Breastmilk
8) Don't know

303. Which of the following activities can transmit HIV/AIDS?

	Yes	No	Don't know
Shaking hands or hugging			
Kissing			
Sexual intercourse			
Sharing bathroom and swimming pool			
Insect bites			
Sharing telephone			
Blood transfusion			
Eating together			
Sharing needles			

304. Which of the following ways can check HIV infection?

1) Check blood pressure
2) Check reproductive organs
3) Check body weight
4) Blood test
5) Take X ray
6) Don't know

305. "Using condoms correctly and regularly can greatly reduce the risk of getting HIV/AIDS." Is that right?
1) Yes
2) No
3) Don't know

306. Where do you think is the best place for youth to get sexual health information (please list the three most preferred)?
first_____ second_____ third_____
01) School education
02) Classmate/friend communication
03) Parents/elder relatives
04) Siblings/same age relatives
05) Health professional
06) Medical readings
07) TV/radio/newspaper
08) Internet
09) Posters
10) Other (please specify)

IV. Attitude

401. Do you think family education about ASRH is necessary for middle school students?
1) Necessary
2) Not necessary
3) Does not matter

402. Do you think you have adequate knowledge and ability to communicate with your child about reproductive health?
1) Have knowledge and capable
2) Have knowledge but lack skill
3) Able to communicate but lack knowledge
4) Have neither knowledge nor skill

403. Which of the following topics do you think are appropriate for middle school students?
1) Concept of sexuality
2) Reproductive health
3) Sexuality, sex, contraception
4) Sexual health
5) Other (please specify) _____

404. What do you think about premarital sex?
1) Understandable
2) Not agree but can tolerate
3) No opinion
4) Do not agree
5) Strongly against

405. Can you accept that children have any need for information or curiosity about sexuality?
1) Accept
2) Not agree but can understand
3) Cannot accept
4) Other_____

406. What do you think about middle school students dating?
1) Understandable
2) Do not agree but can tolerate
3) No opinion
4) Do not agree
5) Strongly against

407. Would you allow your child to participate if the school organized education about ASRH?
1) Yes
2) No

408. Would you like to participate if the school organized parent training about ASRH?
1) Yes, I would
2) Yes, I would if have time
3) No

V. Communication with children

501. How often do your children discuss school issues with you?
1) Often
2) Sometimes
3) Seldom
4) Never

502. Have you paid attention to your child in the past year regarding his/her:

	Yes	**No**
a. Favorite music or TV show	1	2
b. Dress and hair style	1	2
c. Books	1	2
d. Manners	1	2
e. Habits (such as smoking or drinking)	1	2
f. Relationship with same-sex friend	1	2
g. Relationship with opposite-sex friend	1	2
h. School record	1	2
i. Future career	1	2

503. Do you feel that it is easy or difficult to discuss sex-related topics with your child?

1) Very easy
2) Easy
3) So so
4) A little difficult
5) Very difficult

504. Have you discussed the following topics with your child in the past year:

Topic	Ever discussed? 1 yes 2 no (skip to next topic)	Who initiated it? 1 parent 2 children	What content was discussed? 1 everything 2 only issues both agreed to 3 only general not specific to child
Relationships			
Pregnancy			
Contraception			
Dating			
Puberty and growth			
HIV prevention			

VI. Please give any suggestions for the YRH activity:

Appendix 3. The Student Questionnaire

I. Individual Basic Information

101. Birth year and month: _____

102. Sex
1) Male
2) Female

103. What is the highest education level, if possible, you want to complete?
1) Senior high
2) College (2-year)
3) University (4-year)
4) Graduate degree
5) Don't know

104. Do you smoke?
1) Never
2) Sometimes
3) Often but not everyday
4) Almost everyday

105. Have you been in KTV, Café, or on the internet in the last 3 months?
1) Every week
2) Once a month
3) Seldom
4) Never (skip to 107)

105.1. Whom did you usually go with?
1) Self/alone
2) Parents
3) Relatives
4) Friends of same sex
5) Friends of different sex
6) Many friends(with both sexes)
7) other

106 Have you been to the movies?
1) Every week
2) Once a month
3) Seldom
4) Never (skip to 108)

106.1 Whom did you usually go with?

1) Self alone
2) Parents
3) Relatives
4) Friends of same sex
5) Friends of different sex
6) Many friends (with both sexes)
7) Other

107. How much money do you spend each month on average, except boarding and meals (including stationery)?

108. How well does each of the following statements describe your feelings about yourself?

	Not at all	Somewhat	Yes	Very
I feel that I am well received and respected by my friends.				
I feel that I am as important to my family as other members.				
I feel I am the kind of person capable of doing many things.				
I hardly feel proud of myself.				
Whatever I do, I can make myself happy.				
I am not satisfied with my relationships with people around me.				
I know my weaknesses and know how to deal with them.				
I feel that many things I do are not meaningful to me.				
I am quite sure what kind of person I will be in the future and know how to realize it.				
I believe that I am a failure in many senses.				

II. Family and Friends

201. What family members do you have and what is their background?

	Relationship	Age	Occupation	Education level
Code	1. Father 2. Mother 3. Brothers 4. Sisters 5. Grandparent		1. Technical 2. Manager 3. Government employee 4. Self-employed 5. Commercial/service 6. Worker 7. Farmer 8. Unemployed/retired 9. Other	1. Below primary 2. Primary 3. Middle school 4. High school 5. College or above 6. Don't know
1				
2				
3				
4				
5				
6				

202. Do you have your own room in your home?
1) Yes
2) No

203. What economic status does your family have compared to the local standards?
1) Well off
2) Just above average
3) About average
4) Below average
5) Far below average

204. Where do you live to go to school?
1) My own family
2) Dorm
3) With relatives
4) With friends/classmate
5) Other

205. Do you find it is difficult or easy to talk with your parents about things happening at school?
1) Very easy
2) Easy
3) Average
4) Difficult
5) Very difficult
6) Other

206. Who will you first talk to or discuss with things that are important to you?
1) Father
2) Mother
3) Grandparent(s)
4) Other elder relatives
5) Same-age relatives
6) Classmates/friends
7) Girl/boy friends
8) Other

207. Have your parents shown interest in your following activities in the last 12 months?

	Father				**Mother**			
	No	**Yes**	**Some**	**Don't know**	**No**	**Yes**	**Some**	**Don't know**
Music or TV program you like								
Your dress and hairstyle								
Books/magazines you like								
Your manners								
Your lifestyle such as smoking or drinking								
Friends of same sex								
Friends of opposite sex								
Your academics								
Your future carrier								

208. How do you feel about talking about sex-related issues with your parents?
    1) Very easy
    2) Easy
    3) Average
    4) Difficult
    5) Very difficult

209. How would you describe your parents in terms of their attitudes towards sexual affairs among unmarried youths?
    1) Very liberal
    2) Liberal
    3) Average
    4) Conservative
    5) Very conservative
    6) Don't know
    7) Not applicable

210. Have you ever discussed your own sexual development with your parents?
    1) Yes, almost everything
    2) Yes, but I tell them only what they would approve of
    3) We only talk in a general way about sex, not specifically about me
    4) I tell them nothing about my sex life
    5) Not applicable

211. Have you ever discussed sex issues with your brother/sisters or cousins, if there are any?
    1) Yes, I have
    2) No, I have not
    3) I don't have any siblings

212. How many of your close friends are out-of-school youths?
    1) Most of them
    2) About half
    3) Fewer than half
    4) None

213. Are "dirty" jokes common among your friends?
    1) Yes
    2) No

214. Have you ever seriously discussed sex issues with your best friends?
    1) Yes
    2) No

215. If you have some sexual concerns about yourself, whom will you talk to first?
1) Mother
2) Father
3) Sibling(s)
4) Teachers
5) Friends of same sex
6) Friends of opposite sex
7) Health professionals
8) Others
9) No one

216. As far as you know, how many youth your age are dating?
1) Most of them
2) About half
3) Some
4) None
5) Don't know

216.1. How many of your friends are dating?
1) Most of them
2) About half
3) Some
4) None
5) Don't know

III. Reproductive Health Knowledge

301. Please indicate whether the following statements are true or false

	True	False	Don't know
Boys and girls enter puberty at the same time.			
Although a pattern exists, adolescent development differs by person.			
Wet dreams are normal for a boy who has entered puberty.			
Only boys masturbate.			
Even causal masturbation leads to sexual dysfunction in later life.			
A girl can shower during her period.			
Both boys and girls should care about reproductive hygiene.			

302. When is a woman most likely to get pregnant during her menstrual cycle?
1) Before next menses
2) During menses
3) Right after menses
4) 14 days before next menses
5) Any time between two menses
6) Don't know

303. Please indicate whether the following statements about reproductive biology are true or false.

	True	False	Don't know
A girl is able to get pregnant after she has her period.			
A girl can get pregnant on the first sexual intercourse if she has already had her period.			
A girl stops growing after she has intercourse for the first time.			
A girl can only get pregnant during those days in the middle of her menstrual cycle.			
Infrequent intercourse cannot cause a girl to become pregnant even if she has experienced her menstruation.			
A boy who has experienced wet dreams can make a girl pregnant the first time he has sexual intercourse.			

305. Have you ever heard of any sexually transmitted infection (STI) ?

1) Yes
2) No (Skip to Question 309)

306. Can the following activities transmit STIs?

	Yes	No	Don't know
Sexual intercourse			
Kissing			
Shaking hands			
Hugging			
Sharing towel or washing utensils			
Sharing toilet			

307. "If a person is infected with STIs, he/she surely will have noticeable symptoms." Is that right?

1) Yes
2) No
3) Don't know

308. "STIs may interfere with a woman's fecundity in later life." Is that right?

1) Yes
2) No
3) Don't know

309. Do you think HIV infection equals AIDS?

1) Yes
2) No
3) Don't know

310. Which body fluids can transmit HIV and lead to AIDS?
1) Blood
2) Sweat
3) Semen
4) Vaginal discharge
5) Saliva
6) Urine
7) Breastmilk
8) Don't know

311. Which of the following activities can transmit HIV/AIDS?

	Yes	No	Don't know
Shaking hands or hugging			
Kissing			
Sexual intercourse			
Sharing bathroom and swimming pool			
Insect bites			
Sharing telephone			
Blood transfusion			
Eating together			
Sharing needles			

312. Can HIV/AIDS be prevented?
1) Yes
2) No
3) Don't know (skip to 314)

313. Which of the following behaviors do you believe can prevent AIDS?
(Check all that are applicable.)
1) Exercises more
2) Stick to one sexual partner
3) Use condoms correctly and consistently
4) Improve nutritional status
5) Avoid unsafe blood transfusions
6) Avoid sharing syringes/needles
7) Abstinence
8) Don't know

314. Which of the following ways can check for HIV infection?
1) Check blood pressure
2) Check reproductive organs
3) Check body weight
4) Blood test
5) Take X ray
6) Don't know

315. "Even a single sexual intercourse may cause a person to become infected with HIV."
Is that right?
1) Yes
2) No
3) Don't know

316. "A teenager may contract HIV even when he/she has sex for the first time in his/her life."
Is that right?
1) Yes
2) No
3) Don't know

317. "Using condoms correctly and regularly can greatly reduce the risk of getting HIV/AIDS."
Is that right?
1) Yes
2) No
3) Don't know

IV. Attitudes and Skill

401. Do you agree or disagree with following statements?

	Agree	Disagree	Don't know
I believe it is natural for a boy of my age to have sexual dreams.			
I believe it is natural for a girl of my age to have sexual dreams.			
I believe it is natural for a boy of my age to fantasize about sex.			
I believe it is natural for a girl of my age to fantasize about sex.			
I believe it is okay for a boy of my age to masturbate.			
I believe it is okay for a girl of my age to masturbate.			
It is natural for people at my age to have interest in pornographic materials.			

402. "I think it is okay for people of my age to date if it does not interfere with their studies."
Do you agree or disagree?
1) Strongly agree
2) Agree
3) Hard to tell
4) Disagree
5) Strongly disagree
6) Don't know

403. When people of your age are dating, will they conduct the following behaviors?
1) Holding Hands
2) Hugging
3) Kissing
4) Petting
5) Intercourse
6) Don't know

404. Do you agree or disagree with following statements?

	Agree	**Disagree**	**Don't know**
Sex is a way to show young people's maturity.			
People of my age are very unlikely to have sexual intercourse.			
I admire people of my age who have the chance to have sex.			
I think most people of my age wouldn't refuse sex if they had the chance.			
Sex before marriage is okay if they are really in love.			
Premarital sex can cause loss of self-respect and dignity to girls, but not to boys.			
If most people my age have experienced sex, I will also do it in the near future.			
Providing contraceptives to unmarried youth implies approval of premarital sex.			
If I do not want to have sex at this moment, I am able to refuse it.			
If I was sexually harassed, I know how to protect myself.			

405. What is the youngest age you think is appropriate to start dating?_____

406. Do you agree or disagree with following statements?

	Agree	Disagree	Don't know
For young people, knowing more about condoms is a sign of caring about oneself.			
A woman would make her boyfriend unhappy if she insists on him using a condom.			
Asking questions about condoms is difficult because it looks as if I plan to have sex.			
It is embarrassing for people my age to purchase condoms.			
The main purpose for using condoms among people of my age is to prevent pregnancy.			
I don't want to know much about condoms because I don't want to have sex at this time.			

407. Are you willing to do the following activities with a person infected with HIV?

	Yes	**No**
Eat together	1	2
Work together	1	2
Patron the services provided by them	1	2
Go to their homes	1	2
Use the same telephone	1	2

408. "People with AIDS should be separated from society." Do you agree?
1) Fully agree
2) Agree
3) Uncertain
4) Somewhat disagree
5) Disagree
6) Don't know

409. What would you do if you suspected that you were HIV-infected?
1) Tell my parents
2) Go to the hospital
3) Keep away from classmates/friends
4) Find some medicine
5) Go to a private clinic
6) Keep it a secret
7) Leave school silently
8) Other

410. If your friend offered you a cigarette or alcohol, do you believe you are able to refuse?
1) Definitely
2) Yes, but to a less certainty
3) Maybe, not sure
4) Afraid not
5) Definitely not

V. Personal Development and Behavior

For girls only

501. Have you menstruated?
1) Yes
2) No (skip to 507)

502. How old were you when you had your first period?
I was _____ years old and in grade _____

503. What was your reaction to your first menses?
1) I expected it and I was not worried/scared.
2) I expected it and I was worried/scared.
3) I did not expect it and I was worried/scared.
4) I did not expect it and I was not worried/scared.
5) I forget.

For boys only

504. Have you ever had a wet dream (nocturnal emission)?
1) Yes
2) No (skip to 507)

505. How old were you when you have your first wet dream?
I was _____ years old and in grade _____

506. What was your reaction to your first wet dream?
1) I expected it and I was not worried/scared.
2) I expected it and I was worried/scared.
3) I did not expect it and I was worried/scared.
4) I did not expect it and I was not worried/scared.
5) I forget.

For boys and girls

507. Have you ever masturbated?
1) I have
2) I have not (skip to 508)

507.1 Have you ever felt shame or anxiety after masturbation?
1) I have
2) I have not

508. Have you ever worried about whether you are normal in terms of your growth and development?
1) I have
2) I have not

509. Have you ever had a feeling of liking someone of the opposite sex and want to be close to him/her?
1) Yes
2) No (skip to 511)

510. If yes, when was that?
I was _____ years old and in grade _____.

511. Have you dated?
1) Yes
2) No (skip to 513)

512. If yes, when was that?
I was _____ years old and in grade _____.

513. Have you done any of the following with someone of the opposite sex during the last year?

	Yes	**No**
Hold hands		
Hug		
Kiss		
Petting		

514. Where did you get your current sexual and reproductive health information? (Please list the most important three.)

First_____ Second_____ Third_____

1) School education
2) Classmate/friend communication
3) Parents/elder relatives
4) Siblings/same-age relatives
5) Health professional
6) Medical readings
7) Novels and leisure readings
8) TV/radio/newspaper
9) Internet
10) Adult materials (pornography)
11) Posters
12) Other (please specify)

524. Where do you prefer to get sexual and reproductive health information?(Please list the most preferred three.)

First_____ Second_____ Third_____

1) School education
2) Classmate/friend communication
3) Parents/elder relatives
4) Siblings/same-age relatives
5) Health professional
6) Medical readings
7) Novels and leisure readings
8) TV/radio/newspaper
9) Internet
10) Adult materials (pornography)
11) Posters
12) Other (please specify)

525. Where did you get your current HIV/AIDS information? (Check all that apply.)

☐ Health professional
☐ Newspaper/magazines/books
☐ Internet
☐ Classmates/friends
☐ Public IEC activity
☐ Education pamphlets
☐ TV/radio
☐ School/teacher
☐ Parents/relatives
☐ Other

526. Did you ever have classes on reproductive health or HIV prevention in this school?

1) Yes
2) No (skip to 527)

526.1. What topics did the class have? (Check all that apply.)

1) Reproductive biology and health
2) Contraception
3) STI prevention
4) HIV/AIDS prevention
5) Values and decision-making
6) Interpersonal relationships
7) Courtship, marriage, and family life
8) Drug abuse prevention
9) Others (Please specify) _____

527. Does your school provide a counseling room and services for students seeking health information?

1) Yes
2) No (end of survey)

528. Have you ever been to a counseling room or received services?

1) Yes
2) No

This is the end of the questionnaire. Thank you for your participation!

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