

**EFFECTS OF FAMILY LIFE EDUCATION IN IMPROVING ADOLESCENTS'
KNOWLEDGE AND ATTITUDE ON REPRODUCTIVE HEALTH**

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	I
LIST OF ACRONYMS	II
LIST OF TABLES.....	III
ABSTRACT	VI
EXECUTIVE SUMMARY	VII
1. INTRODUCTION	1
1.1 THE GLOBAL STATUS OF ADOLESCENTS	1
1.2 ADOLESCENTS AND REPRODUCTIVE HEALTH SITUATION IN BANGLADESH	2
1.3 BRAC's ADDOLESCENT FAMILY LIFE EDUCATION (AFLE) PROGRAM	3
1.4 RATIONALE OF THE STUDY	4
1.5 OBJECTIVES	5
2. METHODS AND MATERIALS	5
2.1 STUDY DESIGN	5
2.2 STUDY AREA AND POPULATION	5
2.3 SAMPLE SIZE.....	6
2.4 SAMPLING METHOD.....	6
2.5 DATA COLLECTION TECHNIQUE.....	7
2.6 DATA COLLECTION TOOL	7
2.7 VARIABLES OF THE STUDY.....	7
2.8 QUALITY CONTROL.....	7
2.9 DATA ANALYSIS.....	8
2.10 CONSTRAINTS ENCOUNTERED DURING DATA COLLECTION	8
2.11 DEFINITION OF SOME VARIABLES.....	8
3. FINDINGS.....	9
3.1 BACKGROUND CHARACTERISTICS	9
3.2 ADOLESCENTS' KNOWLEDGE ON PUBERTY	10
3.3 GIRL ADOLESCENTS' KNOWLEDGE ON MENSTRUATION	13
3.4 ADOLESCENTS' KNOWLEDGE ON MARRIAGE AND PREGNANCY	18
3.5 ADOLESCENTS' KNOWLEDGE ON STD/AIDS	23
3.6 ADOLESCENTS' KNOWLEDGE ON FAMILY PLANNING	28
3.7 ADOLESCENTS' COMMUNICATION NETWORK	31
3.8 ADOLESCENTS' INFORMATION NEED ON RH ISSUES	32
4. DISCUSSION AND CONCLUSIONS	33
5. CONCLUSION AND RECOMMENDATIONS.....	36
REFERENCES	38

LIST OF ACRONYMS

AFLE	:	Adolescent Family Life Education
AIDS	:	Acquired Immunodeficiency Syndrome
BEOC	:	Basic Education for Older Children
BRAC	:	Bangladesh Rural Advancement Committee
FLE	:	Family Life Education
GoB	:	Government of Bangladesh
HIV	:	Human Immunodeficiency Virus
HNPP	:	Health, Nutrition and Population Program
ICPD	:	International Conference on Population and Development
IMR	:	Infant Mortality Rate
IPPF	:	International Planned Parenthood Federation
KKS	:	<i>Kishore Kishori</i> School (Adolescents' School)
LBW	:	Low Birth Weight
MMR	:	Maternal Mortality Rate
NFPE		Non-Formal Primary Education
MR	:	Menstrual Regulation
NGO	:	Non-Government Organization
OR	:	Odds Ratio
PO	:	Program Organizer
RDP	:	Rural Development Program
RED	:	Research and Evaluation Division
RH	:	Reproductive Health
RTI	:	Reproductive Tract Infection
SD	:	Standard Deviation
SPSS	:	Statistical Package for Social Sciences
STD	:	Sexually Transmitted Disease
TV	:	Television
UNFPA	:	United Nations Population Fund
UNICEF	:	United Nations Children's Fund
WHO	:	World Health Organization

LIST OF TABLES

TABLE	PAGE
Table 1 Distribution of respondents by their age group	14
Table 2 Distribution of respondents by status of knowledge on age of attaining puberty of a boy	16
Table 3 Distribution of respondents by status of knowledge on age of attaining puberty of a girl	16
Table 4 Distribution of respondents by level of knowledge on physical changes of a boy during puberty	16
Table 5 Distribution of respondents by level of knowledge on physical changes of a girl during puberty	17
Table 6 Distribution of respondents by level of knowledge on mental changes of a boy during puberty	17
Table 7 Distribution of respondents by level of knowledge on mental changes of a girl during puberty	18
Table 8 Distribution of respondents by their minimum overall knowledge on puberty with their level of significance	18
Table 9 Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on puberty	19
Table10 Distribution of female respondents by status of knowledge on age of onset of menstruation	19
Table11 Distribution of female respondents by status of knowledge on usual interval between menstrual episodes	20
Table12 Distribution of female respondents by response on "Q: Is monthly menstruation a disease?"	20
Table13 Distribution of female respondents by status of knowledge on usual days of menstrual bleeding	20
Table14 Distribution of female respondents by level of knowledge on taking care during menstruation	21

Table15 Distribution of female respondents by level of knowledge on abnormal menstruation	22
Table16 Distribution of female respondents by their minimum overall knowledge on menstruation with their level of significance	23
Table17 Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on menstruation	24
Table18 Distribution of respondents by status of knowledge on appropriate age of marriage of a girl	24
Table19 Distribution of respondents by level of knowledge on demerits of early pregnancy	24
Table20 Distribution of respondents by level of knowledge on early signs/symptoms of pregnancy	25
Table21 Distribution of respondents by level of knowledge on demerits of of frequent pregnancy/child birth	26
Table22 Distribution of respondents by level of knowledge on taking care during pregnancy	26
Table23 Distribution of respondents by level of knowledge on taking care after delivery	26
Table24 Distribution of respondents by their minimum overall knowledge on marriage and pregnancy	28
Table25 Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on marriage and pregnancy	29
Table26 Distribution of respondents by level of knowledge on common symptoms of STDs in women	29
Table27 Distribution of respondents by level of knowledge on common symptoms of STDs in men	30
Table28 Distribution of respondents by level of knowledge on prevention of STDs	31
Table29 Distribution of respondents by level of knowledge on ways of getting AIDS	32

Table30 Distribution of respondents by level of knowledge on persons at high risk of getting AIDS	32
Table31 Distribution of respondents by level of knowledge on prevention of AIDS	33
Table32 Distribution of respondents by their minimum overall knowledge on STD/AIDS with their level of significance	33
Table33 Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on STD/AIDS	34
Table34 Distribution of respondents by their status of knowledge on minimum years of gap between two pregnancies	35
Table35 Distribution of respondents by their minimum overall knowledge on family planning with their level of significance	36
Table36 Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on family planning	37

ABSTRACT

The study assessed the effects of Family Life Education meant for the Adolescents (AFLE) in improving their knowledge and attitude on the fundamental elements of reproductive health vis-a-vis explored their pattern of sharing about the learning with the peers, and identified further information needs on reproductive health. Data were collected from 444 adolescents through one to one interviews (148 with BRAC AFLE and 148 without BRAC AFLE, and 148 adolescents who had never been enrolled in schools). Adolescents from the BRAC school (296) were chosen by using multistage sampling method while the never school going adolescents (148) were selected conveniently. The study outcomes were compared between the three groups of adolescents mentioned above. Bivariate analysis showed that a majority of AFLE students had significantly higher correct knowledge on puberty (95.3%), menstruation (98.6%), marriage and pregnancy (99.3%), STD/AIDS (78.4%), and family planning (95.3%) compared to the adolescents without AFLE as well as those who never went school. Except in the case of correct age at first marriage of a girl, the adolescents with AFLE had higher level of satisfactory knowledge on most of the specific RH issues than those other two groups. In the logistic regression analysis, the AFLE appeared to be the strongest influential predictor, followed by the respondents' age, TV-exposure, radio-exposure, and sharing of RH lessons with others. Thus, it appears that AFLE has played a positive role in improving rural adolescents' knowledge and attitude on RH issues. But it warrants addressing sex inequality and involving peers and family.

EXECUTIVE SUMMARY

INTRODUCTION

Adolescents (10-19 years old) constitute one-fourth of the total population of Bangladesh. But their illness burden appears to be unacceptably high. The highest proportion (66%) of adolescent girls below 20 years of age give birth every year and nearly a quarter of them are unplanned. Consequently, issues such as high maternal and infant mortality and low birth weight are creating consistent problems to attain a healthy nation. In addition, incidence of STDs and AIDS is on the rise. Sensing this grim scenario, BRAC has launched AFLE program for improving rural adolescents' knowledge, attitude, and behavior on reproductive health/sexual matters. This study assessed the level of those effects, if any.

OBJECTIVES

The specific objectives were to:

- Assess the level of adolescents' knowledge on reproductive health matters particularly on puberty, menstruation, marriage and pregnancy, STD/AIDS, and family planning,
- Understand their attitude regarding reproductive health behavior,
- Identify the pattern of health care they choose for reproductive health problems,
- Explore whether they share reproductive health/sexual matters, and
- Explore the information they need to know on reproductive health issues.

METHODS AND MATERIALS

It was a cross-sectional comparative study among three groups of adolescents: (i) *Kishore Kishori* (Adolescent) School (KKS) students with Adolescent Family Life Education (AFLE) curriculum, (ii) KKS students without AFLE curriculum, and (iii) adolescents who had never been in school.

The study was carried out in five *upazillas* (subdistricts) of Nilphamari district. The data were collected from 444 unmarried adolescents 11-17 years old (148 with BRAC AFLE, 148 without BRAC AFLE, and 148 who never went school). In each of the above groups, there were 74 boys and 74 girls. A multi-stage sampling method was applied to select KKS students, while the never enrolled adolescents were selected purposively. Because, the adolescents of the latter group dispersely located in the community and it was difficult to cover enough population in the given time for the study.

The data was collected through face to face interview by using a structured questionnaire, containing pre-coded and open-ended questions. Data were analyzed by using SPSS software. Chi-square test and logistic regression were employed for determining the level of significance of association.

FINDINGS

The mean age of KKS students was 12 years. Their AFLE lesson classes started one year back that was thought to be the right time to begin with, though their cognitive capacity was yet to mature.

Although a significantly greater number of KKS students (95%) with AFLE have had minimum overall correct knowledge on puberty-related issues than the KKS students without AFLE (34.9%) and never enrolled ones (28%), but a smaller number of them had satisfactory knowledge on age of attaining puberty of a boy and a girl (34% vs. 30%), which was still higher than other two study groups of adolescents. More of the AFLE students had satisfactory knowledge on the physical changes of a boy (79.7%) and a girl

(62.8%) in puberty than other two groups. They had also a higher knowledge on the mental changes of a boy (40.5%) and a girl (39.2%) in puberty than the KKS students without AFLE and never enrolled.

Almost 99% of AFLE girls had minimum overall correct knowledge on menstruation-related issues compared to those without AFLE (56.8%) and never enrolled (63.5%). About one-third of AFLE girls (29.7%) had a satisfactory knowledge on the need of health care during abnormal menstruation compared to none among the other two groups. Over four-fifths (85%) of AFLE girls had correct knowledge on the age of menarche (between 12 and 14 years) compared to KKS students without AFLE (35%) and never enrolled (43%).

Nearly 99% of AFLE students had minimum overall correct knowledge on marriage and pregnancy which was significantly higher than the KKS students without AFLE (86.5% and never enrolled ones (75.7%). Whereas, the lower number of AFLE students (20%) held correct idea of proper age (≥ 19 years) at first marriage of a girl than the KKS students without AFLE (53%) and never enrolled (43%). Only 3 AFLE girls out of all 444 respondents knew the possible time of conception in a menstrual cycle. Furthermore, a higher number of AFLE students (36%) had satisfactory knowledge on demerits of frequent pregnancy/child birth than two other study groups. Around 35% and 45% of AFLE group had satisfactory knowledge on taking care during pregnancy and after delivery respectively which appeared to be higher than the other two groups. But 92% of the respondents did not hear about 5-doses of TT vaccination for a woman in reproductive age despite nationwide campaign in place for a long time. Moreover, 64% of AFLE students as opposed to 98% KKS students without AFLE and 100% never enrolled ones lacked in knowledge on complications that might occur during pregnancy. While a higher number of AFLE students (33.8%) had knowledge on complications during delivery as opposed to none of the either groups on post-delivery complications.

About 78% of AFLE students had minimum overall correct knowledge on STD/AIDS compared to the KKS students without AFLE (1.4%) and never enrolled (0%). Nearly one-tenth of the AFLE students as opposed to none of KKS students without AFLE and never enrolled had satisfactory knowledge on the signs/symptoms of STD in women (10.8%) and men (11.5%). About 12% of the AFLE students as against to none of the KKS students without AFLE and never enrolled knew about the transmission of STD.

More than three-fourths (79.7%) of the AFLE students knew the name of AIDS while there was none among the other two groups. While 12% of the AFLE students knew about the transmission of AIDS. Over two-thirds (67.6%) of the AFLE students said that AIDS had no cure compared to none among the other two groups.

About 95% of AFLE students had minimum overall knowledge on family planning-related issues compared to 79% of KKS students without AFLE and 81.8% never enrolled. A lower number of AFLE students (14%) than the KKS students without AFLE (20%) and never enrolled (22%) had correct knowledge on the minimum space in years between pregnancies.

A higher number of all AFLE students (52%) shared the sensitive RH issues or sexual matters with others. Most of them shared these with their friends, followed by sister-in-law (*bhabhi*) and elder sister. Almost 62% of all 444 respondents had exposure to TV. About half (46.4%) of them were found to have habit of watching movie on TV on week end (Friday) – which could be perfect time to give RH messages through that medium.

About 31% of all the study adolescents expressed their desire to know about all RH issues affecting their lives, while a few of them more specifically mentioned about menstruation (12%), AIDS (11%), and STDs (5%).

CONCLUSIONS

The study revealed that the AFLE played a positive role in improving the knowledge and attitudes of the rural adolescents in most aspects of RH issues addressed by the curriculum. Thus, the AFLE appeared to be

the strongest predictor of knowledge on RH. The other predictors were age of the respondents, exposure to TV and radio as well as sharing of RH lessons with the peers.

RECOMMENDATIONS

AFLE curriculum on STDs/AIDS needs to be further improved/developed with a special focus on their prevention.

Teaching approach should be more open and interactive to attract the learners' interest to learn and share freely.

Age of students should be reconsidered for providing RH education (i.e. over 12 years).

Involvement of friends, sister-in-law (*bhabhi*), and elder sister may be useful for RH lesson dissemination.

1. INTRODUCTION

1.1 THE GLOBAL STATUS OF ADOLESCENTS

Adolescents (10-19 years of age group) constitute about one-fifth of the global population¹. About 83% of them live in developing countries. They are generally vulnerable to sexual assault, rape and prostitution, too early pregnancy and childbearing, infertility, anemia, genital mutilation, malnutrition, unsafe abortion, and reproductive tract infections (RTIs) including STDs and HIV/AIDS. Despite the youths (10-24 years old) are facing considerable threats to their reproductive health², often they do not have access to reproductive health information, counseling, legal protection, and health and other services³.

Findings of 17 studies conducted in Africa, Asia and Pacific, Latin America, and the Caribbean show that adolescent sexual experiences are “driven by a wide range of factors that include not only romance and sexual desire, but also economic gain and sexual coercion”⁴.

Through the Cairo Program of Action at the International Conference on Population and Development (ICPD) and also the Beijing Platform at the Fourth International Conference on Women (ICW), the world community decided to “protect and promote the rights of adolescents to sexual and reproductive health information and services”^{5,6}. Representatives from more than 180 countries at the Cairo conference agreed to an idea of a comprehensive definition of Reproductive Health: *“a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity in all matters relating to the reproductive health system and to its functions and processes.”*⁵ The concerns voiced by the United Nations, 180 member countries, international organizations, and individual adolescents everywhere, the reproductive health (RH) concerns of young people are frequently neglected. “Although young people can make great use of knowledge and skills, they are often denied access to information and services for their health”⁷.

1.2 ADOLESCENTS AND REPRODUCTIVE HEALTH SITUATION IN BANGLADESH

The absolute size of adolescent population in Bangladesh is about 27 million (23% of the total population) which is projected to be about 30 million in 2000 AD. Currently, 50% of the female adolescents are illiterate. About 45% of adolescents have no access to mass media and nearly 50% of the adolescent girls between the ages of 15 and 19 years are married⁸. United Nations' (1989) estimate showed that Bangladesh had one of the highest proportions of women under age of 20 years giving birth every year and 21% of births to them can be considered unplanned. In 1997, 940,500 children were born to women aged 15-19 years; 14% of them give birth every year. Adolescent girls are less likely to know about the health care facilities existed in the country and evidently a vast majority of them never heard of STDs and AIDS. The current maternal mortality rate (MMR) in Bangladesh is 4.5 per 1000 live births, among the adolescents; MMR is 5.8 per 1000 live births⁸. Every year, 21.9 to 32.9% women develop reproductive tract infections. Syphilis, chancroid, chlamydia, gonorrhea, and other venereal disease-related complications account for 75,000 deaths (both male and female) each year and consequently lead to 425,000 stillborn babies⁹. Because of poor hygiene and care during menstruation, adolescent girls' health continues to decline. It is possible that RTIs are introduced through unsafe practices – an additional infection, which she may be too weak to overcome, eventually loss of health and infertility¹⁰. Moreover, STDs contribute largely to premature deaths and morbidity in Bangladesh¹.

Bangladesh Demography and Health Survey, 1996-1997 reveals that one-third of the adolescent girls of 13-19 years practiced family planning methods and they contributed one-fifth of the total births. Part of pregnancy outcome is live birth and the rest is aborted. They seek either MR services or resort to traditional abortion. UNICEF estimates that "...self-induced abortions account for almost a fifth of maternal deaths"¹¹.

Although adolescence is the age with full of curiosities, the adolescents get very little opportunity to share their feelings freely with other people about their physical and mental changes. Studies in many countries noted that the main source of information about sexuality was friends, peers, and often the media, but adolescents would also like to

share the issues with parents, teachers, and health workers⁴. But family members are frequently unable or reluctant to provide instructions on sexual matters. If any communication occurs between parents and children regarding reproductive health issues, it is usually limited to threats and warnings without explanation¹². Restrictions and conservatism in sharing of needful information on RH interfere the way of building awareness among the adolescents. As a result, serious diseases such as STDs often go uncured, and is kept secret leading to deadly consequences¹³.

1.3 BRAC's ADDOLESCENT FAMILY LIFE EDUCATION (AFLE) PROGRAM

By providing reproductive health (RH) information early, particularly before the start of sexual activity, it can be possible to encourage healthy reproductive attitude and practices¹⁴. Schools can promote healthy ideas and establish supportive norms regarding sexuality and reproductive health. Particularly primary schools have a great opportunity to reach the adolescents².

Thus, BRAC has targeted rural adolescents to educate them on reproductive health, so that they can become cautious in time and get rid of the adverse effects of irresponsible reproductive health behavior. To this end, BRAC launched Adolescent Family Life Education (AFLE) program through its Basic Education for Older Children (BEOC) which forms one of the components of BRAC Education Program (BEP). The BEOC component is for 30 students (70% girls) aged between 11 and 14 years. The three-year course is designed to provide basic education to students who already crossed the age for enrollment in primary schools. The AFLE is provided in the 3rd year of BEOC course known as *Kishore Kishori* School or KKS) on pilot basis⁸. Currently, AFLE covers 175 KK Schools, 365 *Kishori Pathagars*, 270 Secondary Schools, few Madrasas, and some community-based Adolescent Forums throughout the country¹⁵. This program has been evolved through two phases in 1995 and 1997. AFLE Phase-I was designed to provide information to the adolescents mostly on primary health care. Sensing the importance of risky reproductive health behavior during the period of adolescence and its detrimental consequences, the AFLE Phase-II curriculum has undergone a major change to include important aspects of adolescents' reproductive health such as common Reproductive

Tract Infections (RTIs), signs and symptoms of Sexually Transmitted Diseases (STDs) and HIV/AIDS, vis-a-vis their risks, transmission, complications and prevention; signs and symptoms of pregnancy/child birth with related complications, antenatal and postnatal care, menstrual hygiene and nutrition, marriage, and family planning methods. Other elements are gender issue, smoking, and substance abuse. In fact, BRAC AFLE curriculum is a blend of Family Life Education (FLE), sexuality education, and population education.

The BRAC trained Program Organizers (POs) teach the AFLE/ARHE curricula to the 11-14 years old adolescents of both sexes. The classes are held once a month for one hour. To win the active support of the community, meetings are held with different stakeholders including the guardians of the participants.

1.4 RATIONALE OF THE STUDY

BRAC conducted a comparative study in Mymensingh district of Bangladesh in 1998 on knowledge, attitude, and practice of the ninth grade students regarding reproductive health behavior¹⁶. The study did not address the issues of physical and mental changes during the period of adolescence nor focused on adolescents' knowledge and health care seeking attitude related to antenatal and postnatal complications and STD/AIDS. Moreover, it overlooked the issues of unmarried adolescents on the one hand, and did not assessed the level of sex differentials in knowledge and attitudes. Barkat et al. (1999) conducted a qualitative study on BRAC's AFLE program, but it neither quantified the level of knowledge on relevant issues nor address the care seeking attitude and behavior for sexuality/RH⁸.

The need for providing solid evidence of AFLE program's effects and setting ground for compelling argument to continue and expand AFLE efforts was essential. There is a paucity of convincing evidence on whether school-based programs are reaching equally to both boys and girls. Capacities of the students to understand the RH issues in AFLE curriculum was not evaluated before. Indeed, no quantitative study looking at the RH issues and/or sexuality of BRAC's KKS students and/or *Kishori Pathagar* (adolescent

girls' library) was done in the past. Thus, one may ask, "Has the infusion approach resulted in positive changes in students' knowledge, attitudes, and practices"? This study attempted to answer to these critical issues.

1.5 OBJECTIVES

▪ General objective:

To explore the effects of Adolescent Family Life Education (AFLE) program on *Kishore Kshori* School (adolescents' school) students' reproductive health (RH) knowledge and attitude.

▪ Specific Objectives:

1. To assess the level of adolescents' knowledge on the fundamental elements of reproductive health especially on puberty, menstruation, marriage and pregnancy, STD/AIDS, and family planning,
2. To understand their attitude regarding reproductive health behavior,
3. To identify the pattern of health care they choose for reproductive health problems,
4. To explore whether they share about reproductive health issues/sexual matters, and
5. To explore the information they need to know about reproductive health issues.

2. METHODS AND MATERIALS

2.1 STUDY DESIGN

This was a cross-sectional comparative study carried out on three groups of adolescents:

(i) KK School students with AFLE curriculum, (ii) KK School students without AFLE curriculum, and (iii) Adolescents who had never been in school.

2.2 STUDY AREA AND POPULATION

The study was conducted in five of the total six *upazilas*/subdistricts (Nilphamari Sadar, Kishorganj, Jaldhaka, Domar, and Saidpur) of Nilphamari district, Bangladesh. The reason for selecting the study sites was that the AFLE program have been implemented there and no such study was undertaken in that area before. The KK School going and never enrolled unmarried adolescents, both males and females, aged 11 to 17 years were the study population. In the study area, the total number of KK School students was

about 6,960 and out of them, 750 were having AFLE curriculum. The KKS students (both male and female), who completed AFLE curriculum were selected for interview and the other two groups (i.e., KKS students without AFLE and never enrolled adolescents) were taken as comparison groups.

2.3 SAMPLE SIZE

The total sample size was 444 adolescents (148 KKS students with AFLE, 148 KKS students without AFLE, and 148 never enrolled in school). The sample size was determined by using the formula below:

$$n = \frac{(u + v)^2 \{p_1(100 - p_1) + p_2(100 - p_2)\}}{(p_1 - p_2)^2}$$

= 74 in each group.

Where power is 90%, $u = 1.28$, At 5% level of significance, $v = 1.96$,

p_1 (percentage of KKS students with AFLE are expected to answer satisfactorily) = 75%

p_2 (percentage of KKS students without AFLE are expected to answer satisfactorily)=50%, p_2 (percentage of never enrolled adolescents are expected to answer satisfactorily) = 25%

By using the above formula, the maximum sample size for each group was calculated to be 74, i.e. $74 \times 3 = 222$. In order to minimize the design effect, and ensuring validity of the study, the sample size was made double, i.e. $74 \times 2 = 148$ for each group, giving a total $148 \times 3 = 444$. Sex ratio of the sample in each group was 50:50 (74 boys and 74 girls).

2.4 SAMPLING METHOD

A multi-stage sampling method was applied to select two groups of KKS students (i.e. with and without AFLE). First of all, out of 25 KK Schools with AFLE in the study area 12 were selected at random, followed by 12 out of 95 KK Schools without AFLE. Then 12 students (6 boys and 6 girls) were randomly selected from each school for each group (with and without AFLE). The rest 4 students for each group (with and without AFLE) were chosen from the 2 of already selected 12 KK Schools (1 boy and 1 girl from each

school) at random. The third group i.e. never enrolled adolescents were selected purposively from the three *upazillas*/subdistricts (Nilphamari Sadar, Kishorganj, and Saidpur) of Nilphamari district.

2.5 DATA COLLECTION TECHNIQUE

The data were collected from the study population through face to face interview.

2.6 DATA COLLECTION TOOL

Structured questionnaire containing pre-coded and open-ended questions was administered for data collection.

2.7 VARIABLES OF THE STUDY

- i) Independent Variables: Respondents' age, sex, religion, exposure to mass media, like TV, radio and newspaper/magazine, and household head's sex, occupation and education.
- ii) Dependent Variables: Level of knowledge and attitude on major reproductive health concerns, like puberty, menstruation, marriage and pregnancy, STD/AIDS, and family planning.

2.8 QUALITY CONTROL

The following measures were applied for quality control of overall research process:

- i) Pretesting: Before starting the actual study, the data collection tools and techniques were tested in Nokla *upazila* (subdistrict) of Sherpur district (outside of the actual study site) to assess their effectiveness and finalized.
- ii) Training of the Interviewers: They were trained by explaining the questionnaire, involving in pretesting, applying role-playing technique for practice, and solving problems when identified at that time.
- iii) Monitoring and Supervision: The principal investigator supervised and checked the data on spot in order to verify its internal consistency and completeness. Fifteen percent of all 444 questionnaires were randomly selected and checked in the field for the purpose.

- iv) Data Processing: All questionnaires were edited and data were entered in computer by using SPSS software under the direct supervision of principal investigator.

2.9 DATA ANALYSIS

Simple and cross-tables were made to see the frequency of the level of knowledge for each study group. The significance tests were done for each bivariate table. Finally, logistic regression analysis (Stepwise/Forward: Wald) was performed to assess relative importance of each of the selected independent variables as predictors of study outcome on a variety of dependent variables, such as puberty, menstruation, marriage and pregnancy, STD/AIDS, and family planning.

2.10 CONSTRAINTS ENCOUNTERED DURING DATA COLLECTION

Menstruation-related information could not be collected from the boys, because this lesson was not given to them in many KK Schools with AFLE curriculum. Moreover, local people objected in one locality (Jaldhaka proper), leaving us to spare the boys on that very RH issue (menstruation).

2.11 DEFINITION OF SOME VARIABLES

Minimum overall knowledge- The respondents could correctly answer to at least one indicator out of several of the specific variables of interest.

Ranking the level of knowledge:

Satisfactory- Three or more correct answers to a particular indicator.

Moderate- Two correct answers to a particular indicator.

Poor- One correct answer to a particular indicator.

No- No correct answer to a particular indicator.

3. FINDINGS

3.1 BACKGROUND CHARACTERISTICS

3.1.1 Respondents' Age

All the respondents were unmarried between 11-17 years of age, with a mean of 12.6 years (SD 1.4). The boys' mean age was 12.7 years (SD 1.5) and that for girls was 12.5 (SD 1.3). Adolescents of 11-13 and 14-17 years, irrespective of sex, accounted for 77.3% and 22.7% respectively. The mean age of male KKS students with AFLE was 12.2 years (SD 1.1), as opposed to 11.8 years for those who were without AFLE (SD 0.8), and 14.1 years (SD 1.5) for never enrolled ones. On the other hand, the mean age of girl KKS students with AFLE was 12.4 years (SD 1.2), followed by 12.1 years (SD 0.8) for those who were without AFLE, and 13.1 years (SD 1.3) for never enrolled. Table 1 shows that most (86.5%) KKS students with AFLE curriculum were of younger (11-13 years) group.

Table 1: Respondents by age

Group		Age	
		11-13 Years	14-17 Years
KKS Students with AFLE	(n = 148)	86.5%	13.5%
KKS Students without AFLE	(n = 148)	95.9%	4.1%
Never enrolled Adolescents	(n = 148)	49.3%	50.7%

3.1.2 Respondents' Religion

Out of 444 respondents, 11.5% was Hindus and the rest (88.5%) was Muslims with same pattern of distribution among three groups.

3.1.3 Household Heads' Characteristics

3.1.3.1 Household Heads' Sex

The data revealed that only 3.4% household heads was female. Of them, 93.3% belonged to never enrolled category of adolescents implying that adolescents of the female-headed households are more likely to be never enrolled in school.

3.1.3.2 Household Heads' Occupation

Most (45%) household heads were 'farmers'. The other major occupations were: 'small business' (22.5%) and 'day laborer' (21.2%). About 38% of the never enrolled adolescents' household heads were day laborers followed by farmers (33%).

3.1.3.3 Household Heads' Education

Overall, most (65.8%) household heads were illiterate, 25.5% studied between class I to class V. Only 8.6% crossed the primary school and studied in secondary school. The findings also showed that most (85.1%) of the never enrolled adolescents' household heads were illiterate. Moreover, a significant proportion (77.9%) of female adolescents' household heads were illiterate compared to males (53.6%).

3.2 ADOLESCENTS' KNOWLEDGE ON PUBERTY

3.2.1 Knowledge on Age of Attaining Puberty of A Boy

About 34% of KKS students with AFLE curriculum knew the correct age (13 years) of attaining puberty of a boy (Table 2) compared to the KKS students without AFLE (4.1%) and never enrolled (0.7%).

Table 2: Respondents by status of knowledge on age of attaining puberty of a boy

Group	Knowledge		
	No	Incorrect	Correct
KKS Students with AFLE (n = 148)	2.0%	64.2%	33.8%
KKS Students without AFLE (n = 148)	25.7%	70.3%	4.1%
Never enrolled Adolescents (n = 148)	45.9%	53.4%	0.7%

3.2.2 Knowledge on Attaining Puberty of A Girl

Only 29.7% of students with AFLE, 2.7% without AFLE, and none (0%) of never enrolled adolescents knew the correct age of attaining puberty of a girl (Table 3).

Table 3: Respondents by status of knowledge on age of attaining puberty of a girl

Group		Knowledge		
		No	Incorrect	Correct
KKS Students with AFLE	(n = 148)	2.7%	67.6%	29.7%
KKS Students without AFLE	(n = 148)	24.3%	73.0%	2.7%
Never enrolled Adolescents	(n = 148)	45.3%	54.7%	0.0%

3.2.3 Level of Knowledge on Physical Changes of A Boy During Puberty

Most (79.9%) AFLE students had satisfactory knowledge on the physical changes take place during adolescence of the boys compared to only 2.7% without AFLE and none (0%) of never enrolled adolescents (Table 4).

Table 4: Respondents by level of knowledge on physical changes of a boy during puberty

Group		Level of Knowledge			
		No	Poor	Moderate	Satisfactory
KKS Students with AFLE	(n = 148)	7.4%	2.0%	10.8%	79.7%
KKS Students without AFLE	(n = 148)	75.0%	10.8%	11.5%	2.7%
Never enrolled Adolescents	(n = 148)	86.5%	10.8%	2.7%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.2.4 Level of Knowledge on Physical Changes of A Girl During Puberty

Nearly two-thirds (62.8%) of KKS students with AFLE curriculum had satisfactory knowledge on the physical changes of girl adolescents as opposed to only 2.7% of KKS students without AFLE and none of never enrolled (Table 5).

Table 5: Respondents by level of knowledge on physical changes of a girl during puberty

Group		Level of Knowledge			
		No	Poor	Moderate	Satisfactory
KKS Students with AFLE	(n = 148)	9.5%	8.8%	18.9%	62.8%
KKS Students without AFLE	(n = 148)	72.3%	14.2%	10.8%	2.7%
Never enrolled Adolescents	(n = 148)	74.3%	16.9%	8.8%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.2.5 Level of Knowledge on Mental Changes of A Boy During Puberty

Less than half (40.5%) of AFLE students had satisfactory knowledge on this particular mental changes compared to only one respondents (0.7%) of students without AFLE and none of never enrolled (Table 6).

Table 6: Respondents by level of knowledge on mental changes of a boy during puberty

Group	Level of Knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	28.4%	8.8%	22.3%	40.5%
KKS Students without AFLE (n = 148)	88.5%	4.1%	6.8%	0.7%
Never enrolled Adolescents (n = 148)	95.9%	3.4%	0.7%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.2.6 Level of Knowledge on Mental Changes of A Girl during Puberty

More of the AFLE students (39.2%) had satisfactory knowledge on mental changes of a girl during puberty than other two groups (Table 7).

Table 7: Respondents by level of knowledge on mental changes of a girl during puberty

Group	Level of Knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	33.8%	4.7%	22.3%	39.2%
KKS Students without AFLE (n = 148)	87.7%	6.2%	4.8%	1.4%
Never enrolled Adolescents (n = 148)	97.3%	2.7%	0.0%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.2.7 Adolescents' Overall Knowledge on Puberty

A significantly greater number of the KKS students (95.3%) with AFLE curriculum had a minimum correct knowledge on all the components of puberty than the KKS students without AFLE (34.9%) and never enrolled (28.4%) (Table 8).

Table 8: Respondents by their minimum overall knowledge on puberty

Group	Knowledge (No)	Knowledge (Yes)	Level of Significance (p)
(1) KKS Students with AFLE (n=148)	4.7%	95.3%	1 vs 2 : 0.000 1 vs 3 : 0.000 2 vs 3 : ns
(2) KKS Students without AFLE (n=148)	65.1%	34.9%	
(3) Never enrolled Adolescents (n=148)	71.6%	28.4%	

Note: ns = not significant at $p = 0.05$

3.2.8 Regression Analysis on Puberty

To understand the impact of BRAC's AFLE curriculum in raising the knowledge of puberty-related issues, stepwise logistic regression (forward: Wald) was performed. The odds ratio of the logistic regression coefficients of different predictors were calculated after controlling respondents' age, sex, religion, AFLE-exposure, sharing of RH-related lessons with others, TV-exposure, radio-exposure, and newspaper/magazine-exposure and household heads' sex, occupation, and education.

The KKS students with AFLE curriculum had 34.3 times higher chance of having minimum overall correct knowledge on puberty than those without AFLE. This was even higher (80.9 times) when compared with those who had never been enrolled in school. The older age group (14-17 years) had overall correct knowledge (10.2 times) than the younger (11-13 years). The adolescents with exposure to electronic media had higher chance of having overall correct knowledge on it (TV-exposure 2.0 times and radio-exposure 1.9 times respectively) (Table 9).

Table 9: Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on puberty

Predictor	Odds Ratio (OR)	Level of Significance (p)
AFLE vs Non-AFLE KKS	34.3 vs 1.0	0.000
AFLE vs Never enrolled	80.9 vs. 1.0	0.000
Non-AFLE KKS vs Never enrolled	2.3 vs. 1.0	0.01
14-17 years vs 11-13 years	10.2 vs 1.0	0.03
Watch TV vs Don't watch TV	2.0 vs 1.0	0.03
Listen Radio vs Don't listen Radio	1.9 vs 1.0	0.01

3.3 GIRL ADOLESCENTS' KNOWLEDGE ON MENSTRUATION

3.3.1 Girls' Knowledge on Age of Onset of Menstruation

Over three-fourths (85.1%) of KKS girls with AFLE curriculum had correct knowledge on the age of start of menstruation (menarche: 12-14 years). Conversely, nearly half of the other two groups did not have any idea about it. However, more of the never enrolled girls (43.2%) had correct knowledge than KKS girls without AFLE curriculum (35.1%) (Table 10).

Table 10: Respondents by status of knowledge on age of onset of menstruation

Group		Knowledge		
		No	Incorrect	Correct
KKS Students with AFLE	(n = 74)	1.3%	13.6%	85.1%
KKS Students without AFLE	(n = 74)	43.3%	21.6%	35.1%
Never enrolled Adolescents	(n = 74)	46.0%	10.8%	43.2%

3.3.2 Girls' Knowledge on Usual Interval Between Menstrual Episodes

Around 90.5% KKS girls with AFLE curriculum had correct knowledge on usual interval between two successive menstrual episodes (30 days) followed by 60.8% of never enrolled and 44.6% of KKS girls without AFLE (Table 11).

Table 11: Respondents by status of knowledge on usual interval between menstrual episodes

Group		Knowledge		
		No	Incorrect	Correct
KKS Students with AFLE	(n = 74)	1.4%	8.1%	90.5%
KKS Students without AFLE	(n = 74)	50.0%	5.4%	44.6%
Never enrolled Adolescents	(n = 74)	36.5%	2.7%	60.8%

3.3.3 Girls' Perception about Monthly Menstruation: Disease or Normal

None of the study adolescents said that monthly menstruation was a disease rather a normal phenomenon of females' life. But varying proportions of the girls across all the three groups had no idea about it (1.4% KKS girls with AFLE, 44.6% without AFLE and 36.5% never enrolled) (Table 12).

Table 12: Distribution of girl respondents by response on "Q: Is monthly a Disease?"

GROUP		RESPONSE (Disease?)		
		No	Yes	No Idea
KKS Students with AFLE	(n = 74)	98.6%	0.0%	1.4%
KKS Students without AFLE	(n = 74)	55.4%	0.0%	44.6%
Never enrolled Adolescents	(n = 74)	63.5%	0.0%	36.5%

3.3.4 Girls' knowledge on Usual Days of Menstrual Bleeding

Almost 95% of KKS girls with AFLE curriculum had correct knowledge on usual days of menstrual bleeding (3-7 days) compared to 40.5% of KKS girls without AFLE curriculum and 59.5% of never enrolled girls (Table 13).

Table 13: Respondents by status of knowledge on usual days of menstrual bleeding

Group		Knowledge		
		No	Incorrect	Correct
KKS Students with AFLE	(n = 74)	2.7%	2.7%	94.6%
KKS Students without AFLE	(n = 74)	52.7%	6.8%	40.5%
Never enrolled Adolescents	(n = 74)	40.5%	0.0%	59.5%

3.3.5 Girls Who Already Experienced Menstruation and Who Did not

Only 32% of all girls already experienced menstruation and their mean age was 13.8 years (SD 1.1). The mean age of all the girls who did not experience menstruation yet, was 11.9 years (SD 0.8). From this evidence, it can be assumed that the age of onset of menstruation (menarche) of those girls would be somewhere between 11.9 years to 13.8 years. However, 64.9% of KKS girls without AFLE did not experience menstruation yet.

3.3.6 Girls Feared Menstruation Who Already Experienced It

It was found satisfactory that nobody feared menstruation except two (8.0%) of the AFLE girls, even though, they learned about it from school.

3.3.7 Girls' Level of Knowledge on Taking Care During Menstruation

About one-third of the KKS girls with AFLE curriculum had satisfactory knowledge on it while there were none from other two groups (Table 14).

Table 14: Respondents by level of knowledge on taking care during menstruation

Group		Level of Knowledge			
		No	Poor	Moderate	Satisfactory
KKS Students with AFLE	(n = 74)	9.5%	6.8%	52.7%	31.1%
KKS Students without AFLE	(n = 74)	71.6%	16.2%	12.2%	0.0%
Never enrolled Adolescents	(n = 74)	45.9%	37.8%	16.2%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.3.8 Girls' Ideas About Prohibition During Menstruation

Among all girls, regardless of schooling category, about half (52.7%) believed that religious practice is prohibited during menstruation. Because they believe that during this period a woman become impure, and an impure person is not permitted to perform religious rituals. Some (27.4%) also held the idea of not touching food and/or other things during that period. A few (18%) expressed the view of not going outside home at that time. Many (39.6%) had no idea of any prohibition. Other ideas of prohibition expressed by a very few were: eating meat/fish, oiling hair, entering cattle-shed, smearing mud-floor. Only 2 (0.9%) of all 222 girls had idea of nothing prohibited.

3.3.9 Girls' Level of Knowledge on Abnormal Menstruation

About 30% of the KKS girls with AFLE had satisfactory knowledge on abnormal menstruation while there were none in the other two groups (Table 15).

Table 15: Respondents by level of knowledge on abnormal menstruation

Group	Level of Knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 74)	50.0%	4.1%	16.2%	29.7%
KKS Students without AFLE (n = 74)	98.6%	1.4%	0.0%	0.0%
Never enrolled Adolescents (n = 74)	100.0%	0.0%	0.0%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.3.10 Girls' First Choice of Seeking Health Care for Menstruation-Related Problems

About half (48.6%) of KKS girls with AFLE chose hospital for getting treatment for abnormal menstruation. Most (83.3%) girls, irrespective of school category, did not have any idea of seeking health care for the purpose.

3.3.11 Girls' Reasoning for Seeking Health Care from Hospital

Most (70.2%) of the girls, who intended to seek health care from hospital, said that quality treatment was available there. A few (13.5%) gave reason of rapid recovery of complications related to it.

3.3.12 Girls' Overall Knowledge on Menstruation

Nearly all (98.6%) girls of KKS with AFLE curriculum have had minimum correct knowledge on all the aspects of menstruation (Table 16).

Table 16: Respondents by their minimum overall knowledge on menstruation

Group	Knowledge (No)	Knowledge (Yes)	Level of Significance (p)
(1) KKS Students with AFLE (n=74)	1.4%	98.6%	1 vs 2 : 0.000
(2) KKS Students without AFLE n=74)	43.2%	56.8%	1 vs 3 : 0.000
(3) Never enrolled Adolescents (n=74)	36.5%	63.5%	2 vs 3 : ns

Note: ns = not significant at $p = 0.05$

3.3.13 Regression Analysis on Menstruation

Stepwise logistic regression (forward: Wald) was performed to see the influence of different predictors, particularly AFLE on girls' minimum overall correct knowledge on menstruation. After controlling girls' age, religion, AFLE-exposure, sharing of RH related lessons with others, TV-exposure, radio-exposure and newspaper/magazine-exposure, and their household heads' sex, occupation and education, the odds ratio of KKS girls with AFLE was found to be highly significant than the other two comparison groups.

The AFLE girls had 55.6 and 72.0 times higher chance of having minimum overall correct knowledge on menstruation than those KKS girls without AFLE and never enrolled adolescent girls respectively. Analysis also showed that older age group (14-17 years) had 22.7 times higher chance of having minimum overall correct knowledge on menstruation. Radio-exposure was also found to have influence (OR 1.9) on that particular RH issue. KKS girls without AFLE also had 1.4 times higher chance of having that knowledge than those never enrolled (Table 17).

Table 17: Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on menstruation

Predictor	Odds Ratio (OR)	Level of Significance (p)
AFLE vs Non-AFLE KKS	55.6 vs 1.0	0.000
AFLE vs Never enrolled	72.0 vs. 1.0	0.000
Non-AFLE KKS vs Never enrolled	1.4 vs. 1.0	ns
14-17 years vs 11-13 years	22.7 vs 1.0	0.000
Listen Radio vs Don't listen Radio	1.9 vs 1.0	0.01

Note: ns: not significant at $p = 0.05$

3.4 ADOLESCENTS' KNOWLEDGE ON MARRIAGE AND PREGNANCY

3.4.1 Knowledge on Age of First Marriage of A Girl

Only 20.3% of KKS students with AFLE curriculum had correct idea of appropriate age of first marriage (≥ 19 years) of a girl. This was lower than the KKS students without AFLE (53.4%) and never enrolled group (42.6%) (Table 18).

Table 18: Respondents by status of knowledge on appropriate age of first marriage of a girl

Group		Knowledge		
		No	Incorrect	Correct
KKS Students with AFLE	(n = 148)	0.0%	79.7%	20.3%
KKS Students without AFLE	(n = 148)	4.1%	42.6%	53.4%
Never enrolled Adolescents	(n = 148)	2.7%	53.4%	42.6%

3.4.2 Level of Knowledge on Demerits of Early Pregnancy

Three-fourths (75.0%) of adolescents of AFLE group had satisfactory knowledge on demerits of early pregnancy compared to the KKS girls without AFLE (8.1%) and none (0%) of never enrolled group (Table 19).

Table 23: Respondents by level of knowledge on taking care after delivery

Group	Level of knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	9.5%	8.8%	37.2%	44.6%
KKS Students without AFLE(n = 148)	45.9%	21.6%	20.3%	12.2%
Never enrolled Adolescents(n = 148)	53.4%	21.6%	24.3%	0.7%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.4.9 Level of Knowledge on 5-Dose TT Vaccination

About 92% of all the 444 respondents had no idea of 5-dose TT vaccination (79.1% AFLE group, 97.3% without AFLE, and 99.3% never enrolled adolescents). Only 1 (0.5%) out of all 222 boys and only 35 (15.8%) out of 222 girls had minimum knowledge on it.

3.4.10 Knowledge on Complications During Pregnancy

Most of the respondents (64.2% AFLE students, 98% without AFLE, and 100% never enrolled) had no knowledge on complications that might occur during pregnancy. However, 54% of 74 AFLE girls of KKS had minimum correct knowledge on it.

3.4.11 Knowledge on Complications During Delivery

Over 33% of AFLE students were able to say something about the complications that might occur during delivery. Whereas, 96.6% of all KKS without AFLE and all (100%) of the never enrolled adolescents had no idea about it. However, 60.8% of AFLE girls had minimum correct knowledge on it, but 93.2% of AFLE boys knew nothing about it.

3.4.12 Knowledge on Complications After Delivery

None of the study groups had satisfactory knowledge on complications that might occur after delivery. Again, 71.6% of all KKS with AFLE did not have any knowledge on it. Almost 100% of the other two groups lacked in it. Moreover, 99.1% of all boys and 80.2% of all girls were turned out to be ignorant about it. However, more KKS girls knew something about it than the KKS boys (54.1% vs. 2.7%).

3.4.13 Adolescents' First Choice of Seeking Health Care for Pregnancy-Related Problems

Over half (52.9%) of all the 444 respondents preferred 'hospital' as their first choice of seeking health care for pregnancy-related problems. The next choice was 'private qualified allopathic doctor' (14.2%). Other choices were 'village quack' (3.6%) and 'government/NGO health-care worker' (1.6%). It should be noted that 45.9% of all 222 girls had no idea about where to seek health care for the purpose.

3.4.14 Reason for Seeking Health Care from Hospital and Village Quacks

The main reasons for choosing hospital were: 'availability of free/cheap good medicine/treatment' (49.7%), and 'good/big doctor' (21.2%). The other reasons mentioned by a few of them were 'safe delivery', 'good behavior of doctor', 'good medical instruments', 'indoor facility', 'male doctor', and 'good nurse'. Only 3.6% of respondents chose village quacks as they were 'easily available and accessible' to them in villages.

3.4.15 Adolescents' Overall Knowledge on Marriage and Pregnancy

A higher number of AFLE students (99.3%), irrespective of gender, had minimum correct knowledge on all the aspects of marriage and pregnancy than the KKS students without AFLE (86.5%) and never enrolled (75.7%) (Table 24). Boys and girls of AFLE group did not differ significantly of having minimum overall correct knowledge on those RH issues. Moreover, all the study boys and girls did not differ significantly in overall minimum correct knowledge on the issue.

Table 24: Respondents by their minimum overall knowledge on marriage and pregnancy with their level of significance

Group	Knowledge (No)	Knowledge (Yes)	Level of Significance (p)
(1) KKS Students with AFLE (n=148)	0.7%	99.3%	1 vs 2 : 0.000
(2) KKS Students without AFLE (n=148)	13.5%	86.5%	1 vs 3 : 0.000
(3) Never enrolled Adolescents (n=148)	24.3%	75.7%	2 vs 3 : 0.018

3.4.16 Regression Analysis on Marriage and Pregnancy

To see the influence of different predictors, AFLE in particular, on adolescents' knowledge related to marriage and pregnancy, stepwise logistic regression (forward: Wald) was performed. After controlling respondents' gender, religion, age, sharing of RH lessons with others, TV-exposure, radio-exposure, and newspaper/magazine-exposure, and household heads' gender, occupation and education, the odds ratio of AFLE group were found to be highly significant than the other two groups.

The AFLE students were likely to have 23.7 times and 47.1 times higher chance of having minimum overall correct knowledge on marriage and pregnancy than the student without AFLE and never enrolled adolescents respectively. It was also found that children from households with literate heads were less likely (OR 0.3) to have that level of knowledge on it. KKS students without AFLE were also 2.0 times more likely to have that knowledge than those never enrolled adolescents (Table 25).

Table 25: Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on marriage and pregnancy

Predictor	Odds Ratio (OR)	Level of knowledge (p)
AFLE vs Non-AFLE KKS	23.7 vs 1.0	0.002
AFLE vs Never enrolled	47.1 vs. 1.0	0.000
Non-AFLE KKS vs Never enrolled	2.0 vs. 1.0	0.019
Literate vs Illiterate Household Head	0.3 vs 1.0	0.029

3.5 ADOLESCENTS' KNOWLEDGE ON STD/AIDS

3.5.1 Level of Knowledge on Common Symptoms of STDs in Women

Most (87.8%) of the 444 adolescents were ignorant about the common symptoms of STDs in women. Only 10.8% of AFLE students had satisfactory knowledge on it. The other two groups did not have much idea about it (Table 26). Study showed that girls had higher knowledge than their counterparts (18.0% vs. 6.3%).

Table 26: Respondents by level of knowledge on common symptoms of STDs in women

Group	Level of Knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	64.2%	2.0%	23.0%	10.8%
KKS Students without AFLE(n = 148)	99.3%	0.7%	0.0%	0.0%
Never enrolled Adolescents(n = 148)	100.0%	0.0%	0.0%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.5.2 Level of Knowledge on Common Symptoms of STDs in Men

Only 11.5% of AFLE group as opposed to none of KKS students without AFLE and never enrolled had satisfactory knowledge on common symptoms of STDs in men (Table 27). About 18.9% boys and 45.9% girls with AFLE had minimum correct knowledge on that particular issue.

Table 27: Respondents by level of knowledge on common symptoms of STDs in men

Group	Level of knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	67.6%	2.0%	18.9%	11.5%
KKS Students without AFLE(n = 148)	100.0%	0.0%	0.0%	0.0%
Never enrolled Adolescents(n = 148)	100.0%	0.0%	0.0%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.5.3 Knowledge on Usual Way of Getting STDs

Only 12.2% of AFLE group knew the correct answer of usual way of getting STDs (i.e. unsafe sexual contact with infected persons) compared to none of the other two groups. Only 10.8% of boys and 13.5% of girls with AFLE knew the real answer to it.

3.5.4 Adolescents' Attitude of Dealing with STDs

Out of 444 respondents, 12.2% preferred to go to 'hospital', 2.7% wanted to talk to 'private allopathic doctor', and the rest 85.1% had no idea of how to deal with it. None of the rural adolescents wanted to approach 'traditional' or 'religious healer' and 'village quack' either.

3.5.5 Level of Knowledge on Prevention of STDs

Only 7.4%, 12.8% and 20.9% of all KKS students with AFLE curriculum respectively had satisfactory, moderate and poor knowledge on STD prevention while none of the KKS students without AFLE and never enrolled groups had the same (Table 28).

Table 28: Respondents by level of knowledge on prevention of STDs

Group	Level of knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	58.8%	20.9%	12.8%	7.4%
KKS Students without AFLE(n = 148)	100.0%	0.0%	0.0%	0.0%
Never enrolled Adolescents(n = 148)	100.0%	0.0%	0.0%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.5.6 Was AIDS Known to Adolescents

More than three-fourths (79.7%) of KKS students with AFLE curriculum knew the name of AIDS. On the contrary, 99.3% of the other two groups never heard of AIDS. On aggregate, only 27% heard of AIDS. About 31.1% of the boys with AFLE did not hear about it, even though they were taught in the school. On the other hand, most (90.5%) of girls with AFLE knew about the name of AIDS.

3.5.7 Level of Knowledge on Ways of Getting AIDS

Only 12.2% and 34.5% of AFLE adolescents had satisfactory and moderate knowledge on ways of getting AIDS respectively. Whereas, none (100%) of the KKS students without AFLE and never enrolled groups had any knowledge on it (Table 29). Girl AFLE students consistently showed higher knowledge than their male counterparts (81.1% vs. 47.3%). Overall, a higher number of girls (27%) had minimum correct idea about it than the boys (15.8%).

Table 29: Respondents by level of knowledge on ways of getting AIDS

Group	Level of Knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	35.8%	17.6%	34.5%	12.2%
KKS Students without AFLE(n = 148)	100.0%	0.0%	0.0%	0.0%
Never enrolled Adolescents(n = 148)	100.0%	0.0%	0.0%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.5.8 Knowledge on Whether AIDS has Cure or Not

More than two-thirds (67.6%) of AFLE students correctly said that AIDS did not have cure so far. In contrast, almost all of the other two groups held incorrect/no idea about it. Again a higher proportion (90.5%) of the AFLE girls compared to the boys (44.6%) had correct knowledge in this regard.

3.5.9 Level of Knowledge on High Risk Persons of Getting AIDS

About 18% of all AFLE students had both moderate and satisfactory knowledge on persons who were at high risk of getting AIDS. None of the other two groups knew about it (Table 30). About 60% of AFLE girls had minimum correct knowledge on it, whereas, 67.6% of boys of the same group had no idea about it.

Table 30: Respondents by level of knowledge on persons at a high risk of AIDS

Group	Level of knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	54.1%	8.8%	18.9%	18.2%
KKS Students without AFLE(n = 148)	100.0%	0.0%	0.0%	0.0%
Never enrolled Adolescents(n = 148)	100.0%	0.0%	0.0%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.5.10 Level of Knowledge on Prevention of AIDS

Only 13.5% of KKS students with AFLE had satisfactory correct knowledge about the prevention of AIDS while none of the KKS students without AFLE and never enrolled groups knew about the fact (Table 31). Among AFLE KKS boys and girls, once again, more girls (60.8%) than the boys (24.3%) had minimum correct idea about its prevention.

Table 31: Respondents by level of knowledge on prevention of AIDS

Group	Level of knowledge			
	No	Poor	Moderate	Satisfactory
KKS Students with AFLE (n = 148)	57.4%	12.2%	16.9%	13.5%
KKS Students without AFLE(n = 148)	100.0%	0.0%	0.0%	0.0%
Never enrolled Adolescents(n = 148)	100.0%	0.0%	0.0%	0.0%

Note: Number of correct answers: 0 = No, 1 = Poor, 2 = Moderate, and ≥ 3 = Satisfactory

3.5.11 Adolescents' Overall Knowledge on STD/AIDS

More than three-quarters (78.4%) of all AFLE adolescents held minimum correct idea about all aspects of STD/AIDS compared to 1.4% of the KKS students without AFLE and none of the never enrolled groups (Table 32). More girls (93.2%) of AFLE group than the boys (63.5%) of the same group had overall minimum correct knowledge on the issue.

Table 32: Respondents by their minimum overall knowledge on STD/AIDS with their level of significance

Group	Knowledge (No)	Knowledge (Yes)	Level of Significance (p)
(1) KKS Students with AFLE (n=148)	21.6%	78.4%	1 vs 2 : 0.000
(2) KKS Students without AFLE (n=148)	98.6%	1.4%	1 vs 3 : 0.000
(3) Never enrolled Adolescents (n=148)	100.0%	0.0%	2 vs 3 : ns

Note: ns = not significant at $p = 0.05$

3.5.12 Regression Analysis on STD/AIDS

Huge knowledge gap was found in cross-tabulation between AFLE group and especially never enrolled adolescents regarding holding correct knowledge on various aspects of STD/AIDS. So, the never enrolled group was excluded from the regression analysis. Stepwise logistic regression (forward: Wald) was performed to see the influence of different predictors on knowledge related to STD/AIDS. After controlling respondents' gender, religion, age, AFLE-exposure, sharing of RH lessons with others, TV-exposure, radio-exposure, and newspaper/magazine-exposure and household heads' gender, occupation, and education, the odds ratio of KKS students with AFLE was found to be highly significant than the KKS student without AFLE.

The KKS students with AFLE curriculum were 550.1 times more likely to have minimum overall correct knowledge on STD/AIDS. It was also found that girl adolescents had 8.7 times higher chance of having minimum overall correct knowledge on STD/AIDS. Habit of watching TV also had significant positive influence (OR 2.9) on that particular study outcome (Table 33).

Table 33: Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on STD/AIDS

Predictor	Odds Ratio (OR)	Level of Significance (p)
AFLE vs Non-AFLE KKS	550.1 vs 1.0	0.000
Girls vs Boys	8.7 vs 1.0	0.000
Watch TV vs Don't watch TV	2.9 vs 1.0	0.025

3.6 ADOLESCENTS' KNOWLEDGE ON FAMILY PLANNING

3.6.1 Adolescents' Opinion on Expected Number of Children in A Family

A majority (86.5%) of the KKS students having AFLE lesson preferred one or two children in a family as opposed to only 13.5% who mentioned to have three or more children. On the other hand, 70.3% of KKS students without AFLE and 61.5% of never enrolled group held the same view as well ($p=0.000$). Within the AFLE group, 85.1% of boys and 87.8% of girls had the same idea of having one/two children in a family. However, overall 72.7% of all the 444 adolescents opined for one/two children in a family.

3.6.2 Knowledge on Minimum Years of Gap Between Two Pregnancies

More of the never enrolled adolescents (22.3%) than the KKS students without AFLE (20.3%) and with AFLE (14.2%) had correct idea about the space (i.e., 2 years) between two pregnancies (Table 34). A lower number of AFLE girls (6.8%) correctly knew this particular RH issue, than the boys in the group (21.6%).

Table 34: Respondents by their status of knowledge on minimum years of gap between two pregnancies

Group		Knowledge	
		Correct	Incorrect/No Idea
KKS Students with AFLE	(n = 148)	14.2%	85.8%
KKS Students without AFLE	(n = 148)	20.3%	79.7%
Never enrolled Adolescents	(n = 148)	22.3%	77.7%

3.6.3 Knowledge on Temporary Methods of Contraception

Much higher number of the AFLE group (75.7%) than the never enrolled group (49.3%), and KKS student without AFLE (27%) had knowledge on temporary methods of contraception. Nearly all the AFLE girls (98.6%) had minimum correct knowledge about it compared to 52.7% of AFLE boys.

3.6.4 Knowledge on Permanent Methods of Contraception

Over half (54.7%) of AFLE group had knowledge on the permanent methods of contraception compared to 29.1% of never enrolled adolescents, and 12.2% of the KKS students without AFLE. Within the AFLE group, higher number (93.2%) of the girls had knowledge on it than the boys (83.8%). Ignoring the school status and/or AFLE curriculum, out of 222 boys, 94.6% did not have any knowledge on it, while more than half (58.6%) of 222 girls knew about it.

3.6.5 Adolescents' Overall Knowledge on Family Planning

A very higher proportion (95.3%) of KKS students with AFLE curriculum had minimum right idea about all the aspects of family planning issues investigated than the KKS students without AFLE (79.1%) and never enrolled group (81.8%) (Table 35). Once again, all (100%) of AFLE girls and 90.5% of AFLE boys had minimum overall correct idea about family planning.

Table 35: Respondents by their minimum overall knowledge on family planning with their level of significance

Group	Knowledge (No)	Knowledge (Yes)	Level of Significance (p)
(1) KKS Students with AFLE (n=148)	4.7%	95.3%	1 vs 2 : 0.000
(2) KKS Students without AFLE (n=148)	20.9%	79.1%	1 vs 3 : 0.000
(3) Never enrolled Adolescents (n=148)	18.2%	81.8%	2 vs 3 : ns

Note: ns = not significant at $p = 0.05$

3.6.6 Regression Analysis on Family Planning

To assess the influence of different predictors on minimum overall correct knowledge on family planning, stepwise logistic regression (forward: Wald) was performed. After controlling respondents' gender, religion, age, AFLE-exposure, sharing of RH related lessons with others, TV-exposure, radio-exposure, and newspaper/magazine-exposure and household heads' gender, occupation, and education, the odds ratio of sharing RH related lessons with others was found almost double than that of AFLE exposure and was highly significant.

The adolescents who shared RH/sexual matters with others had 7.2 times higher chance of knowing family planning facts than those did not share. This predictor was found to be more influential than the AFLE, which had almost half the influence (OR 3.9) of sharing RH matters with others. Once again, girls were found to have 6.6 times higher potential to know about it than their male counterparts. However, KKS students without AFLE were less likely (OR 0.7) to have knowledge than the never enrolled ones on this particular issue (Table 36).

Table 36: Odds ratio of the logistic regression coefficients of different predictors with their level of significance, predicting chance of having minimum overall knowledge on family planning

Predictor	Odds Ratio (OR)	Level of knowledge (p)
AFLE vs Non-AFLE KKS	3.9 vs 1.0	0.002
AFLE vs Never enrolled	3.1 vs. 1.0	0.013
Non-AFLE KKS vs Never enrolled	0.7 vs. 1.0	ns
Girls vs. Boys	6.6 vs 1.0	0.000
Communicate vs Don't communicate	7.2 vs 1.0	0.001

Note: ns = not significant at $p = 0.05$

3.7 ADOLESCENTS' COMMUNICATION NETWORK

3.7.1 Did Adolescents Share with Others on RH Issues/Sexual Matters

Out of 444 rural adolescents, only 27.5% replied positively. However, 52% of all AFLE students shared with others on those sensitive issues — it could be an effect of “AFLE” in breaking the silence of discussing RH issues/sexual matters. More boys (37.8%) than the girls (17.1%) shared the issues. Both the boys and girls with AFLE showed the same evidence (56.8% vs. 47.3%). The older age group (14-17 years) had more sharing than the younger age group (11-13 years) (35.6% vs. 25.1%) and this finding was more pronounced within AFLE group (90% vs. 46.1%).

3.7.2 Adolescents Share with Whom on RH Issues/Sexual Matters

Out of 444 rural adolescents, 18.7% shared with their friends (peers). Others were (in order of frequency) sister-in-law/bhabhi (4.1%), elder sister (3.6%), elder brother (0.7%), and mother (0.5%). The rest (72.5%) said that they did not share with others. In addition, some of the respondents shared with a multiple persons. Only one boy (AFLE student) shared with his father. Two girls of AFLE group shared with their elder brothers. Moreover, 95.5% of KKS girl students without AFLE and 100% of never enrolled girls did not share with others on RH/sexual matters. The study also found that girls were less likely to share with others than their male counterparts (82.9% vs. 62.2%). It can be noted that girls shared more with their elder sister (7.2%), followed by sister-in-law/bhabhi (5.9%), friends/peers (2.7%).

3.7.3 Exposure to TV

The result revealed that 61.9% of all the 444 adolescents had habit of watching TV. More AFLE boys were exposed to watching TV than the AFLE girls (81.1% vs. 62.2%). On the whole, there was no gender differential in having habit of watching TV (boys 61.7% vs. girls 62.2%). Most of the respondents (46.4%) reported to have watched TV on Friday only especially during the “movie hours”, which could be the right time to reach adolescents for giving RH and /or other health messages.

3.7.4 Exposure to Radio

Out of 444 adolescents, only 38.3% reported to have habit of listening to radio. KKS students, especially AFLE group (56.1%) had habit in it, while 80.4% of never enrolled adolescents had no exposure to radio. Again, boys were more exposed to radio than the girls (47.7% vs. 28.8%). Younger age group (11-13 years) had more exposure to radio than the older age group (14-17 years) (41.4% vs. 27.7%).

About 24% of the listeners had habit of listening on radio 7 days a week. However, nothing was asked if they had any radio-program of special interest. It can be noted that more girls (27.9%) than the boys (20.7%) were found to have listened on radio 7 days a week.

3.7.5 Exposure to Newspaper/Magazine

Only 11.5% of all 444 respondents were found to be exposed to newspaper/magazine. More AFLE adolescents (19.6%) have had habit of reading newspaper/magazine than the adolescents without AFLE (14.9%). More boys had exposure to newspaper/magazine than girls (21.2% vs. 1.8%). About 7% had a reading habit for 1 day a week followed by 2% for 2 days and 1.1% for 3 days.

3.8 ADOLESCENTS' INFORMATION NEED ON RH ISSUES

More than quarter (30.6%) of all the adolescents showed interest of knowing everything of RH issues (such as puberty, menstruation, marriage and pregnancy, STD/AIDS, and family planning). Many of them suggested more specific issues such as menstruation (11.9%), AIDS (11.5%), and STDs (5.2%). However, 27% had nothing to know about RH issues.

Among the three groups of study adolescents, 32.4% of KKS students without AFLE, and 14.2% of KKS students with AFLE expressed their desire to know everything about RH issues. About 20.9% of never enrolled adolescents, 8.1% of KKS students without AFLE, and 6.8% of KKS students with AFLE were in need of more information on menstruation. While the individual groups were considered, varying information needs on

different issues came up. For instance, STDs (8.1% KKS students with AFLE, 1.4% KKS students without AFLE, and 6.1% never enrolled); and AIDS (16.9% KKS students with AFLE, 14.9% KKS students without AFLE and 2.7% never enrolled).

Gender specific analysis showed that 21.2% of all the 222 girls wanted to know more information on menstruation. Only 2.7% and 8.6% of all the 222 boys needed to know about STDs and AIDS respectively. Whereas, 7.7% and 14.4% of all the 222 girls have had a desire to be acquainted with the issues of STDs and AIDS respectively.

4. DISCUSSION AND CONCLUSIONS

The mean age of graduating AFLE students of KKS was 12 years. AFLE lesson was started one year back — probably, it was the high time for them to receive such information, though their intellectual receptive capability was questionable.

Around 95% of KKS students with AFLE had minimum overall correct knowledge on puberty, and the knowledge gap between other two comparison groups was highly significant ($p = 0.000$). This implies that the AFLE/ARHE is instrumental to significantly improve the knowledge of the participating adolescents. In contrast, many AFLE students did not have the correct knowledge on age of attaining puberty of boys (34%) and girls (30%). Therefore, it is imperative to emphasize the issue during teaching session.

The mean age of who experienced menstruation was 13.8 years, while it was 11.9 years for those who did not yet experience it. So, the age of menarche lies between 12 and 14 years — one of the most important moments of females' life, when RH facts should reach them somehow, preferably through school and/or mass media, especially rapidly growing electronic media. The peer education could, however, be another effective means of imparting education on the issue. Though most of the girls did not fear menstruation, 8% of girls with AFLE did panic that might cause anxiety or other psychological problems. The program should take appropriate measures to dispel the panic arising out menstruation. Exactly half of girls with AFLE had no idea of taking care of her while menstruating, which indicated a gap existed somewhere. For bridging the gaps, some

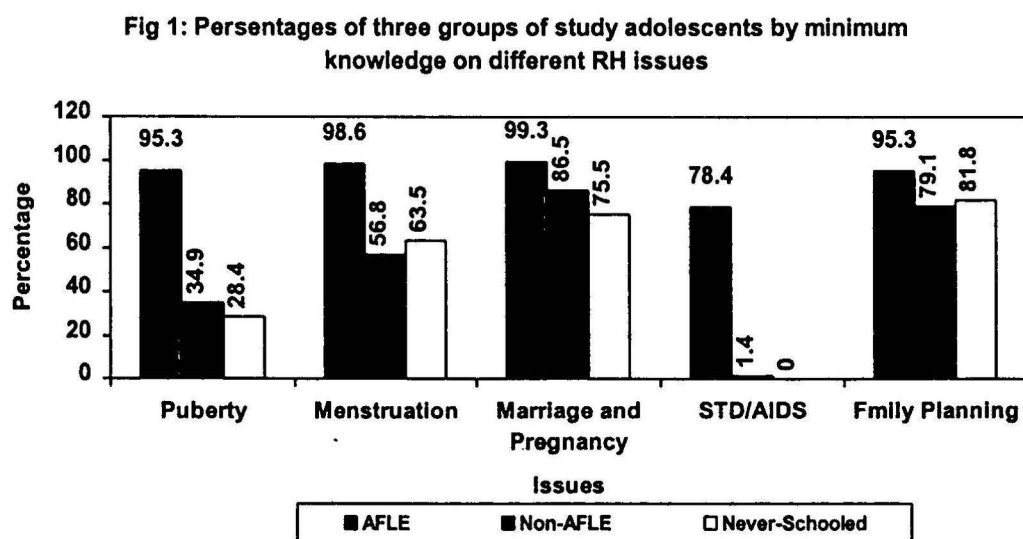
focused issues on the modalities of hygienic care for menstruation. A half of girls with AFLE and all (100%) of other girls had no idea of abnormal menstruation. The consequences of such ignorance may be grave leading to permanent sterility, if not treated early.

Nearly 80% of all 148 AFLE students held incorrect knowledge on proper age of first marriage of a girl though the curriculum taught it above 18-year was the appropriate age. This indicates that there is a possibility of being improperly informed on the issue. Despite it, three-fourths of AFLE adolescents were aware of demerits of early pregnancy, showing the positive effect of the curriculum. Only 3 girls among those who underwent (74) AFLE knew about the optimum time of conception in a menstrual cycle while other adolescents regardless of their exposure to AFLE (441), had no idea about the issue. This indicates a huge knowledge deficiency, despite its tremendous importance on RH outcome. The program should teach it with a special importance to avert the risks of early motherhood that is one of the major causes of maternal mortality in Bangladesh. Only about 36% of AFLE students had satisfactory knowledge on demerits of too frequent pregnancy/childbirth. The impact of spacing between births on maternal and child health needs to be given due emphasis during imparting education. This will help improve maternal and child health including nutrition. Around 45% of AFLE adolescents knew satisfactorily about taking care after delivery. However, about 92% of all 444 respondents did not hear about 5-dose TT vaccination for woman in reproductive age, despite existence of a nationwide campaign for it. this implies that the national EPI campaign should also reach the adolescents.

A majority of all the three groups of adolescents had no idea of common symptoms of STDs in women, but 23% of AFLE students had moderate knowledge on it. STDs have a serious impact on the adolescents' life. The situation is worsen compounded with the pandemic of HIV/AIDS. The adolescents are very high-risk groups of STDs/AIDS. Special focus may be given in teaching AFLE/ARHE so that they become aware of the issue, and can prevent the problems.

A very high proportion (95%) of AFLE students had minimum overall correct knowledge on family planning. AFLE students had much better knowledge on temporary contraceptive methods. Most (93%) of AFLE girls knew about the permanent methods of contraception, which was higher than the boys (84%) were. Now the challenge is to help the adolescents to translate the knowledge into practice throughout their life cycle.

The figure below depicts the percentage of three groups of study adolescents having minimum overall correct knowledge on five RH issues included: puberty, menstruation, marriage and pregnancy, STD/AIDS, and family planning.



About half (52%) of the AFLE students shared with others on these sensitive issues implying that discussion on RH issues were being flown from schools to the community. Most of them shared these issues mainly with their friends/peers, followed by sister-in-law (bhabhi), and elder sister. These people, however, could be one of the media to reach adolescents. Almost 62% of all the study adolescents reported to have watched TV mainly on Friday especially during “movie hours”, which could be the high time to reach rural adolescents for giving RH messages through the electronic media including radio. A substantial number of the adolescents (31%) wanted to know everything of RH that severely affect their lives such as menstruation, AIDS, and STDs. The program, therefore, should emphasize on these issues in the curriculum.

LIMITATIONS OF THE STUDY

Since menstruation-related lesson was not provided to boys in many KK schools, boys were excluded from this part of study.

The study took place in different villages of only one district of Bangladesh, so it may not be representative for entire adolescent population of the country.

The study focussed solely on unmarried adolescents, because KK schools did not have provision for the married ones.

5. CONCLUSION AND RECOMMENDATIONS

The study provided sufficient indications of success of BRAC AFLE in improving the knowledge and attitude of the participating rural adolescents on many crucial aspects of reproductive/sexual matters compared to the non-participants. Sex differential in retaining RH knowledge was not uncommon. The girls undergoing AFLE curricula had much higher knowledge on all aspects of RH issues than the boys. One of the observable explanatory factors for such a variation could be that due to social and cultural construction and concern, most of the female teachers perhaps felt discomfort in teaching the sensitive issues of RH to the boys. STD-related knowledge was very poor among AFLE students needing further study to explore the causal-factors. Furthermore, younger

adolescents appeared to be less cognitive than the older ones. However, for further improvement of the program, the following recommendations may be considered:

- (1) Curriculum on STD/AIDS needs to be revised/reshaped in terms of contents, text language, and techniques of teaching.
- (2) Many AFLE students seemed to be too young to understand the RH issues. AFLE curricula, therefore, should be introduced for the middle aged (i.e.13-15 years), adolescents, preferably in high school.
- (3) To improve the knowledge of male students on sensitive RH issues, male teachers can be involved in teaching.
- (4) Short movies can be aired especially on TV on Friday. This will help to reach a large number of adolescents easily.
- (5) The social networks such as friends/peers, sister-in-law (*bhabhi*), and elder sister can be an effective way to reach adolescents as well as the community.
- (6) Quality RH services should be made easily available and accessible to the adolescents to avert negative consequences of adolescent reproductive health.

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