Addis Ababa University
Faculty of Medicine
School of Public Health

Assessment of sexual risk behaviours of in-school youth: effect of living arrangement of students; West Gojam zone, Amhara regional state, Ethiopia.

By

Anemaw Asrat (Bsc.)

June, 2009

Addis Ababa, Ethiopia

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SCHOOL OF GRADUATE STUDIES

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Examiner

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Abstract

Background: Contemporary threats to adolescents' health are primarily the consequence of risk behaviors and their related adverse outcomes. Identifying factors associated with adolescents' risk behaviors is critical for developing effective prevention strategies. A number of risk factors have been identified, including familial environment; however, to the investigator's best knowledge, there have been only one previous study of possible differential vulnerabilities of in-school adolescents to risky sex in reference to parental influences and living arrangements in Ethiopia.

Objective: To assess and compare sexual risk behaviours of preparatory students in West Gojam zone, in reference to their living arrangements

Methodology: A comparative cross-sectional study was done in ten preparatory schools; West Gojam zone, Amhara National Regional State, Ethiopia. The study participants were selected based on probability proportional to size. A total of 314 students [104 living permanently in the corresponding towns and 210 not], were included in the study.

Result: Seventy three (23.2%) respondents had ever had sexual intercourse with an individual of the opposite sex. Disaggregated by sex, 55 (25.0%) of males had had sex compared to 18 (19.4%) of females. Twenty two students (33.3%) reported having had two or more sexual partners in their lifetime (range 1-7, average1.56).

In the logistic regression analyses, controlling for observed covariates, age more than 20 years [OR= 2.85; 95%CI= 1.07 to 7.59], having peer pressure to have sex [OR= 4.43; 95%CI= 2.02 to 9.69] and perceived family connectedness [OR= 0.96; 95%CI= 0.92 to 0.99] continued to be significantly and independently associated with sexual activity

Conclusion: A greater sense of connectedness to parents decreases the likelihood of sexual activity regardless of living arrangement, Parental monitoring, gender, khat and alcohol consumption, and parental education. Students with peer pressure to have sex are more likely to initiate sexual intercourse.

1. Background and statement of the problem

Adolescence is a phase of human development in which the impact of the biological processes of pubescence on behaviour is mediated by cognitive and emotional processes. These processes often reflect culturally specific beliefs, traditional practices, and contextual constraints arising from the socio-cultural and politico-economic macrosystem within which adolescent development is embedded.[1, 2]

According to the World Health Organisation (WHO), "adolescents" cover the age of 10 to 19 years; "youths" are defined as belonging to the age group of 15 to 24 years, while the terminology "young people" covers the age of 10 to 24 years. [2, 3]

Despite their numbers, adolescents have not traditionally been considered a health priority since they have lower morbidity and mortality than older and younger age groups. Nonetheless, in some areas such as mental and sexual health, adolescents suffer disproportionately. [4]

There is evidence to show that adolescents left in the care of siblings without consistent adult supervision, have increased opportunities for sexual activity. The effectiveness of traditional family expectations and structures in shaping sexual beliefs, expectations and behaviors may be substantially weakened by population movement. [5]

More than 500 factors have been identified that affect one or more sexual behaviors (the initiation of sex, frequency of sex, number of sexual partners, use of condoms, and use of other contraceptives) or consequences of those behaviors (pregnancy, childbearing or STD).[6]

Contemporary threats to adolescents' health are primarily the consequence of risk behaviors and their related adverse outcomes. Identifying factors associated with adolescents' risk behaviors is critical for developing effective prevention strategies.

Following the opening of technical and preparatory schools for grade 11 and 12 senior high school students in selected urban sites in Ethiopia, it has become necessary for rural students to live in the nearby towns temporarily to attend school. Research conducted among young people in Ethiopia indicates that an increasing number are involved in unsafe sexual practices and hence face undesired health outcomes such as unplanned pregnancy, early childbirth, unsafe abortion and sexually transmitted diseases.

To the investigator's best knowledge, there have been only one previous study of possible differential vulnerabilities of in-school adolescents to risky sex in reference to parental influences and living arrangements in Ethiopia.[7]

2. Literature review

Studies done in different corners of the world indicate that parent/child closeness is associated with reduced adolescent pregnancy risk through teens remaining sexually abstinent, postponing intercourse, having fewer sexual partners, or using contraception more consistently[8, 9]. They also revealed that teens who reported greater satisfaction in their relationships with their mothers were less likely to have sex and become pregnant (and were also more likely to use birth control during their most recent sexual experience) one year later than peers who felt less satisfied in their relationships with their parents. The evidence on parent-child communication, in general or specifically about sexual issues, is mixed. Here, the relationship may vary by the content and degree of discussion as well as other factors. [9]

Previous studies that focused on sexual debut consistently found that relationships characterized by high levels of closeness and connectedness between parents and adolescents are related to teens' virginity status and to delays in first sexual intercourse.[10-12]

Brent C. Miller and colleagues reported that in most studies, living in other than a two-parent home (e.g., single parent, step, divorced, or other nontraditional family setting) is associated with increased risk of adolescent sexual intercourse [13]. Miller and Benson reported that this trend was less evident among African-American and Latino samples. Also, having sexually active, pregnant, or parenting older siblings was found to be related to younger sibling's more risky sexual behavior, although this effect may be mediated by a positive sibling relationship.[13]

Several biological factors also predict adolescent sexual behavior, including young age of menarche, high androgen levels in males and females, early pubertal development, and higher free testosterone levels. Miller and colleagues (2001) synthesized research on family factors influencing teenage pregnancy. Across the various studies, parent/child closeness was remarkably consistent in its inverse relationship to adolescent sexual behavior. Measures of parent/child closeness were positively related to at least one of the following outcomes: increased probability of abstinence, later sexual debut, fewer sexual partners, or increased use of contraceptives[13].

Parental control and monitoring were generally found to be related to decreased probability of sexual intercourse among teenagers. Parental rules, monitoring and presence were related to decreased and more responsible sexual activity. Whitbeck and colleagues found a mixed outcome by age, with parental monitoring of younger adolescents leading to decreased sexual activity and among older adolescents leading to increased sexual activity. In another study, parental monitoring was associated with lower risk sexual behavior, but parent's psychological control was related to higher risk sexual behavior. [13-18]

A study entitled 'Perceived parental monitoring and health risk behavior among public secondary school students in El Salvador' revealed that students reporting low parental monitoring were between 2 to 3.5 times more likely to report risk behaviors examined. The promotion of specific parenting practices such as parental monitoring may hold promise for reducing adolescent risk behaviors in El Salvador. [15]

For males and females, increased negotiated unsupervised time was strongly associated with increased risk behavior (e.g., sexual activity alcohol and marijuana use) but also sex-related protective actions. In males, high parental monitoring was associated with less alcohol use and consistent condom use. Parental monitoring had no affect on female behaviour. Perceived parental trust served as a protective factor against sexual activity, tobacco, and marijuana use in females, and alcohol use in males. Although monitoring is an important practice for parents of older adolescents, managing their behaviour through negotiation of unsupervised time may have mixed results leading to increased experimentation with sexuality and substances, but perhaps in a more responsible way. Trust established between an adolescent female and her parents continues to be a strong deterrent for risky behaviors but appears to have little effect on behaviors of adolescent males. [19, 20]

The relationship between parent/child communication and adolescent sexual activity is less well understood. Although several studies report that frequent and positive parent/child communication about sex is related to less risky adolescent sexual behavior[21], others report no relationship, and a few even reported a positive association between parent/child communication and riskier sexual behavior in teenagers.[13]

The evidence on parent-child communication, particularly communication about sex and birth control, is more mixed. While some studies have reported an inverse correlation between communication and teen sexual activity—more communication, less teen sexual

activity—others have reported a positive association—more communication, more teen sexual activity. Teens who talked with their parents about sexual issues in the past year were more likely to engage in oral sex and sexual activity compared to peers who did not have such discussions[22]. A study of some 200 adolescents and young adults from Madison, Wisconsin, found that general parent-child communication appeared to delay sexual activity over time[23]

A study done to evaluate the impact of psychosocial and knowledge-related antecedent factors on adolescents' sexual, alcohol-use, and drug-use behaviors associated with the transmission of STDs, including HIV among 9th graders at 4 urban high schools indicated that perceived peer norms and strong peer affiliation served as predictors of alcohol and drug use, while lower levels of knowledge and perceived peer norms served as predictors for non-use of condoms. The findings of this study reveal several factors related to adolescents' risk of acquiring STDs: the connection between peer influence and adolescent risk behaviors, the relationship between the use of alcohol and drugs and sexual risk behaviour, and the role of knowledge in determining the specific risk behaviour of non-use of condoms. [24]

Sexual initiation was significantly related to parent factors such as parental monitoring, family rules , communication and family bond.[25]

Ethiopian context

A study conducted in 1999, to evaluation the impact of a Community Based Adolescent Reproductive Health Program in Ethiopia showed that 56.7% of in-school males had never had sex. The median age at first sex for both males and females was 17 years. The proportion that reported at least 2 sexual partners last year was 25% males and 10.9% for females. Having discussed HIV/AIDS with family members last year was 68.3% for in-school youth and 47.1% for out-of-school youth. [26]

The use of Khat and alcohol and other substances is significantly and independently associated with risky sexual behaviour among Ethiopian youths. Over 1.4% of in-school Ethiopian youth had unprotected sex during the 12-month period prior to the interview. The odds of unprotected sex were slightly higher among males compared to females. Daily Khat intake was also associated with unprotected sex. There was a significant and linear

association between alcohol intake and unprotected sex with those using alcohol daily having a three fold increased odds compared to those not using it. [27]
A thesis by Dessalegn sowed that 21.4% of high school students engaged in premarital sexual relation; Sex, living arrangement, and chat chewing are significantly associated with premarital sexual initiation. The median age of first sexual intercourse was 16.4 years. [28]

In 2000, the median age of first sexual intercourse of women aged 20-49 was 16.4 years and for men 20.3 years, indicating the relatively greater vulnerability of teenage girls to HIV infection. [29]

In Northwest Ethiopia, the seroprevalence of HIV infection among high school students was 1.9%. Over 21% of the students were sexually active, and the mean age of first sexual contact was 16.6 years. Sexual contact with a commercial sex worker or non-regular partner was reported by 16.5%. Only 33.2% of those who were sexually active used condoms; and 39.2% of these used a condom only sometimes. A history of STD was reported by 9.2% of the sexually active students. [30]

In the second HIV/AIDS Behavioural Surveillance Survey (BSS) Ethiopia 2005, interviewees (in-school youth) were asked if they had ever had sexual intercourse with an individual of the opposite sex, and 9.9% were found to have had sexual experience. Disaggregated by sex, 14.6% of males had had sex compared to 5.3% of females. Amongst the regions, the percentage of in-school youth that had ever had sex was highest in the Gambela region (31.9%) and lowest in the Amhara (4.5%) region. [31]

Of those that had ever had sex, 40.6% had had sex at or before the age of 15. Amongst those who had ever had sex, more males than females (44.5% vs. 30%) were sexually active at or before the age of 15. The median age of sexual debut (first sex) among those who were sexually active was 16 years for both sexes. [31]

The commonest reasons for starting sex were personal desire (67.1%) and peer pressure (19.3%). A considerable proportion of females (15.3%) reported that they were forced into first sex. Forced sex was most commonly reported in the Amhara region (14.9%).[31]

Respondents who reported ever having had sex were asked if they had had sex during the past 12 months. 61.3% had had sex during the previous 12 months, and the proportion of females

was higher than that of males (64.7% vs. 60.1%). Within this group, commercial sex was reported by 4.2% and non-commercial sex by 94.9%. While more in school youths males than females (5.4% vs. 1.4%) were engaged in sex with commercial partners, sex with non-commercial partners was more common among females (96% vs. 94.5%). Among those who had had sex during the previous 12 months, 22.7% (31.2% of males and 2.7% of females) reported having had sex with more than one partner. Males were 12 times more likely to have had more than one sexual partner than females (95% CI 5.6, 24.7). [31]

In a study conducted in five urban schools (in Baher Dar, Dessie, Awassa, Jimma, and Dire Dawa) to explore the patterns and socio-demographic correlates of sexual initiation, subsequent risk behaviors, and condom use among secondary school youth across Ethiopia, one third (33.3%) of the youth reported having had sexual intercourse prior to the study. The mean age of sexual initiation was 15.3 (SD = 2.5) years. Two-thirds of the sexual initiations were unprotected and some occur with higher risk groups, including much older (15.5%) or casual/commercial sex partners (9.1%). Multi-partner sex (52.7%) and sex with casual (30.4%) or commercial (25.3%) partners were the most commonly reported lifetime risk behaviors. Although 56.7% of the youth ever used condoms, less than half of these used them regularly. On the positive side, 83.4% of the youth expressed intentions to use condoms in the future. Socio-demographic characteristics, particularly gender, location, and age, were significantly correlated with sexual and preventive behaviors. Implications of these findings to health education programs for youth are discussed.[32]

A study done in Dessie indicated that a substantial proportion of adolescents in preparatory school were sexually active. Parent-teen connectedness, parental monitoring and living arrangement were significant predictors of sexual activity. A greater sense of connectedness to and monitoring by parents decreased the likelihood of sexual activity regardless of living arrangement, age, gender, peer influence, khat and alcohol consumption, and parental education. Students with better family connectedness were more likely to use condom consistently. [7]

3. Objectives

3.1. General objective

To assess sexual risk behaviours of preparatory students in West Gojam zone, and compare them with reference to their living arrangements

3.2 Specific objectives

1. To measure the prevalence of unsafe sexual practices
2. To compare sexual risk behaviours between students living with their parents and those living away from their parents
3. To assess the level of peer influence on sexual practice
4. To assess the level of communication on sexuality and HIV/AIDS between adolescents and their parents, peers, and families.

4. Methodology

4.1 Study design and period

A comparative cross-sectional study was done from December, 2008 to March, 2009

4.2 Study Area

The study was done in preparatory schools in West Gojam zone, Amhara National Regional State, Ethiopia. Amhara national state is divided into eleven administrative zones, and West Gojam zone is in the South Western part of the state. In the zone there are ten preparatory schools.

4.3 Source population

Adolescents in the ten preparatory schools; West Gojam zone, Ethiopia. (See annex 2)

4.4 Study population

Adolescents in the ten preparatory schools enrolled in the year 2007/2008 and aged between 18 and 24 years.

Inclusion criteria

In-school youth fulfilling the following criteria were included in the study:

- Grade twelve student at the time of data collection

Exclusion criteria

- Students who are married

4.5 Sampling procedure

The study participants were selected based on probability proportional to size, size being the number of students in each preparatory schools. The sampling frames were obtained from the student registration books of the respective schools. Since the registration book includes information about where the students are from, we had two independent sampling frames for those living permanently in the town permanently and those not.

4.6 Sample size:

Sample size was calculated considering the "proportion of adolescents who are sexually experienced" as a key variable. Epi Info version 3.3, sample size and power calculation for cross-sectional studies was used to calculate the sample size needed.

P1 = Proportion of in-school adolescents living with their parents who are sexually active = 16%; taken from previous studies;

P2 = Proportion of in-school adolescents living away from families who are sexually active = 34%; taken from previous studies;[7]

-Probability that if the two samples differ this reflects a true difference in the two populations (Confidence level or 1- α) = 95%

-Probability that if the two populations differ, the two samples will show a significant difference (Power or 1-β) = 90%

Population allocation ratio: n2:n1 = 2:1

Where, n2 = Students living away from home and families and n1 = Students living at home with their families.

A ratio of 2:1 was used to allow a further stratification of students living away from families as those who frequently visit their families (at least once in two months) and those who visit their families only for vacations (more than two months between visits on average). This strategy was also used to increase the power of the study and enable subgroup analysis to be conducted based on the frequency of visits to families.

Hence, Sample size: n1 = 99 and n2 = 198; Total sample size = 297.

To allow for possible non-response during the actual survey, we increased the sample size by 10% to get a final sample size of 327. [109 for n1 and 218 for n2].

4.7 Data collection

The data from participants were collected using a self-administered questionnaire. The questionnaire was originally developed in English and then translated into Amharic. It was then back translated to English by another person. Most of the items were adapted from existing surveys[7, 33]. The Amharic language questionnaire was used to collect data after being pre-tested in schools outside the study area. The questionnaire included questions on socio-demographic characteristics, sexual and reproductive health knowledge, family connectedness, communication about sexuality and HIV/AIDS, social norms and gender roles, parental monitoring, peer influence and behaviour, sexual behaviour, and coercion.

The wording and sequence of questions was designed in such a way that the logical flow of ideas (from general to specific, from impersonal to personal, and from easy to difficult questions) was maintained. Data were collected by trained data collectors. Ten data collectors, who are all teachers, were participated in the data collection after being given an intensive two days training on the data collection tools and collection procedures by the principal investigator.

4.8 Independent variables

- Living arrangement (relationship with guardians) at the time of the survey.
- Socio-demographic factors like age, gender, residence, religious affiliation and attachment, level of parental education, academic achievement etc.
- Perceived family connectedness.
- Perceived parental monitoring.
- Communication with parents and peers about sexuality.
- HIV/AIDS/ Sexual health knowledge.
- Social norms and gender roles.
- Khat and alcohol use.

4.9 Outcome variables

- Whether students had ever had sex.
- Risky sexual practices.(such as having multiple sexual partner, inconsistent use of condoms)

Operational definitions

Family connectedness

Parent-child relationship or connectedness is often measured by the level of satisfaction teens and their parents experience in their relationships with one another; the amount of warmth, love, affection, and communication teens report receiving from their parents; and the level of parental involvement in their children's lives. In this paper the term 'connectedness' is used interchangeably with 'attachment'.

Consistent condom use – use of a condom during every sexual encounter

4.10 Data Analysis and Processing

The quantitative data were checked for completeness and consistency. Data entry and analyses were performed using SPSS statistical packages (version 15 for Windows). First, descriptive analyses were carried out to explore the socio-demographic characteristics of the respondents. Bivariate analyses were carried out to examine the relationship between the outcome variables and selected determinant factors. Chi-square and t-tests was also used as appropriate. Factors for which significant bivariate association was observed were retained

for subsequent multivariate analyses using multiple logistic regression. Odds ratios were used to assess the effect of living arrangement.

4.11 Data quality management

To assure quality of the data the following measures were undertaken: A brief orientation session about the whole purpose of the research project was arranged for all students. The questionnaire was translated to Amharic and back translated to English by a translator who was blind to the original questionnaire. Pre-testing of the questionnaire was undertaken in 5 percent of the sample size in similar areas before the actual data collection took place and corrections on the instruments was, made accordingly. A total of two days' intensive training was given for all supervisors and data collectors. Overall activity was controlled by the principal investigator, who supervised carefully during data collection. One trained data clerk entered and cleaned the data.

4.12 Ethical Considerations

The study protocol was approved by the School of Public Health and then by the IRB of the Medical Faculty of Addis Ababa University. Permission was obtained from the Amhara Education Bureau. An official letter of co-operation was written to respective schools. Information on the studies was given to the participants, including purpose and procedures, potential risk and benefits so encourage provision of accurate and honest responses. Potential participants were told that participation was voluntary and that confidential and private information would be protected. Written informed consent was obtained from each participant. In order to protect confidentiality, names or school IDs were not included on the written questionnaires. Identification of an informant was only possible through numerical codes. At the end of the data collection all students were given information about sexuality to enable them to decrease risky sexual behaviours.

5. Results

5.1. Socio-demographic characteristics

The socio-demographic characteristics of respondents are shown in Table 1. Overall 314 students (96.3% of estimated sample size) responded to the questionnaire completely. Of these, 104 (33.1%) were permanent urban residents; 220 (70.3) males.

The mean age of respondents was 19.4 (± 1.1) years. 246 (79.1%) mothers and 185 (61.5%) of fathers of respondents were illiterate. Parents of rural students were significantly more likely to be illiterate (p-value<0.0001).

When we see the living arrangement of respondents in general, the majority (31.2%) were living with friends followed by with relatives (20.7%) and both biological parents (20.4%).
For urban students, the most common living arrangements were living with both parents (52.9%) or with one biological parent only (27.9%), while a significant share of rural students lived with their friends (45.7%) or relatives (31.9%) [P-value<0.0001] (Figure1).

Three hundred three students (96.5%) identified themselves as orthodox Christian, 9 (2.9%) as Muslim and the rest other religion.

Table 1. Percentage distribution of students by selected socio-demographic characteristics and residence, West Gojam zone, 2009.

Variable	Urban (N =104)	Rural (N =210)	Total	P-value (Urban vs rural)
	No (%)	No (%)	No (%)	
Age				0.14
18-20	96 (92.3)	182 (86.7)	278 (88.5)	
21-24	8 (7.7)	28 (13.3)	36 (11.5)	
Sex				0.493
Male	75 (72.8)	145 (69.0)	220 (70.3)	
Female	28 (27.2)	65 (31.0)	93 (29.7)	
Religion				0.014*
Orthodox Christian	97 (93.3)	206(98.6)	303(96.8)	
Muslim	7 (6.7)	2 (1.0)	9(2.9)	
Protestant Christian	0(0)	1(0.5)	1(0.3)	
Living arrangement				<0.001*
Both biological parents	54 (51.9)	7 (3.6)	61 (20.4)	
One biological parent only	35 (33.7)	5 (2.6)	40 (13.4)	
Friends	0 (0)	98 (50.3)	98 (32.8)	
Alone	1 (1.0)	37 (19.0)	38 (12.7)	
Relatives	14 (13.5)	48 (24.6)	62 (20.7)	
Attachment to religious institutions				0.034*
Attends frequently	65 (63.7)	152 (73.4)	217 (70.2)	
Seldom attends	35 (34.3)	55 (26.6)	90 (29.1)	
Not religious	2 (2.0)	0 (0)	2(.6)	
Educational status of mother				<0.001*
Illiterate	66 (64.1)	180 (86.5)	246 (79.1)	
Literate	37 (35.9)	28 (13.5)	65(20.9)	
Educational status of father				<0.001*
Illiterate	47 (46.1)	138 (69.3)	185 (61.5)	
Literate	55 (53.9)	61 (30.7)	116(38.5)	

NB: total numbers in each variable may not be the same and add up to 314 due to missed values

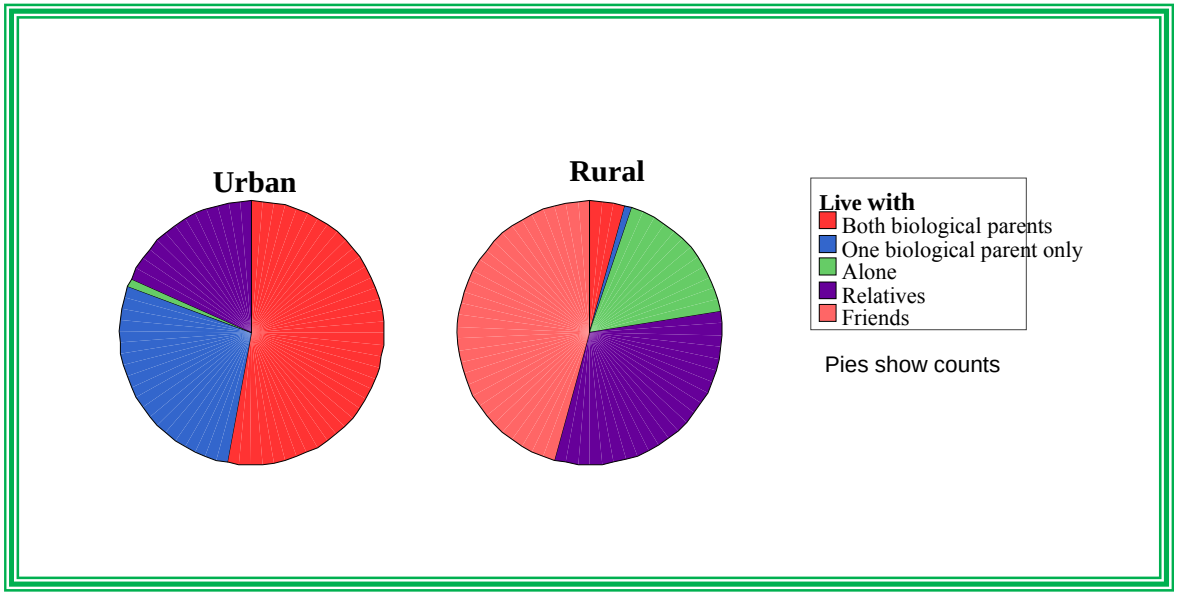

Fig.1 Distribution of students by residence and living arrangement, West Gojam zone, 2009.

5.2. Sexual Behaviour

Interviewees were asked if they had ever had sexual intercourse with an individual of the opposite sex, and 73 (23.2%) said they had. Disaggregated by sex, 55 (25.0%) of males had had sex compared to 18 (19.4%) of females. Amongst the schools, the percentage of students that had ever had sex was highest in the Kuarit (42.1%) and lowest in Merawy (3.3%) preparatory school.

Thirty six (53.7%) of sexually experienced students reported that their first sexual partner was a boy/girl friend, 15 (22.4%) a family member, 13 (19.4%) a stranger, and 3 (4.5%) a teacher. More boys (25.0%) than girls (19.4%) and more rural (27.6%) than urban students (14.4%) reported having had sex [OR = 1.38, 95% CI 0.76 to 2.53, and OR = 2.26, 95% CI 1.12 to 4.23, respectively]. The proportion of sexually active adolescents rose from 19.4 % (54/278) among the age group 18-20 to 52.8% (19/36) in the age group 21-24 years [OR= 4.64; 95%CI 2.26 to 9.51]

Most students (69.1%) reported attending religious institutions frequently; however, the proportion of students reporting sexual activity didn't differ significantly with respect to religious attachment.

Students who lived with their relatives, with friends, or alone were significantly more likely to report sexual activity than those who lived with both biological parents [OR=2.68; 95%CI 1.02 to 7.09, OR=3.09; 95%CI 1.25 to 7.60 and OR=3.14; 95%CI 1.10 to 9.02 respectively].

Table 2. Bivariate and multiple logistic regression analyses for sexual activity according to selected determinants, West Gojam zone, 2009.

Characteristics	*Sexual intercourse*		*Crude OR[95%CI]*	*Adjusted ++ OR[95%CI]*
	Yes (n, %)	*No (n, %)*		
Total	73 (23.2)	241 (76.8)		
Residence				
Urban	15 (14.4)	89 (85.6)	1.00	
Rural	58 (27.6)	152 (72.4)	2.26 91.21, 4.23)*	2.96 (0.83, 10.54)
Living arrangement				
Both biological parents	7 (11.5)	54 (88.5)	1.00	
One biological parent	9 (22.5)	31 (77.5)	2.24 (0.76, 6.61)	1.33 (0.37, 4.79)
Relatives	16 (25.8)	46 (74.2)	2.68 (1.02, 7.09)*	0.98 (0.24, 3.99)
Friends	28 (28.6)	70 (74.2)	3.09 (1.25, 7.60)*	1.04 (0.24, 4.58)
Alone	11 (28.9)	27 (71.1)	3.14 (1.10, 9.02)*	0.78 (0.15, 4.17)
Age				
18-20	54 (19.4)	224 (80.6)	1.00	
21-24	19 (52.8)	17 (47.2)	4.64 (2.26, 9.51)*	**3.84 (1.40, 8.69)***
Parental monitoring				
Lower	39 (29.3)	94 (70.7)	1.97 (1.15, 3.37)*	1.63 (0.83, 3.18)
More	31 (17.4)	147 (82.6)	1.00	
Peer pressure to have sex				
Yes	41 (40.6)	60 (59.4)	3.97 (2.29, 6.88)*	**3.71 (1.84, 7.50)***
No	31 (14.7)	180 (85.3)	1.00	
Best Friend experienced sex				
No	36 (20.2)	142 (79.8)	1.00	
Yes	29 (47.5)	32 (52.5)	3.57 (1.92, 6.66)**	**3.73 (1.57, 8.85)***
Don't Know	8 (10.7)	67 (89.3)	0.47 (0.21, 1.07)	0.40 (0.15, 1.06)
How many of your friends have had sex?				
None of them	18 (15.8)	96 (84.2)	1.00	
Few of them	37 (28.0)	95 (72.0)	2.08 (1.1,3.9)*	1.48 (0.65, 10.81)
Half of them	9 (23.7)	29 (76.3)	1.66 (0.67, 4.1)	0.68 (0.16, 2.27)
Most of them	9 (33.3)	18 (66.7)	2.67 (1.1, 6.9)*	0.33 (0.08, 1.34)
Perceived family connectedness score			0.946 (0.92, 0.98)*	**0.95 (0.92, 0.99)***

++ OR adjusted for residence, living arrangement, age, parental monitoring, and parent-teen connectedness, number of friends who had sexual intercourse, best fiend sexual experience and peer pressure. (NB: total numbers in each variable may not be the same and add up to 314 due to missed values)

Age at first sexual intercourse varied and was inconsistent, with the highest percentage having sex at age 18 years. The mean age of sexual initiation was 18(±2.27) years overall: 17.73(±2.9) for urban and 18.06(±2.12) for rural [p-value = 0.664]; 17.9(±2.3) for males and 18.6(±2.2) years for female students [p-value=0.33].

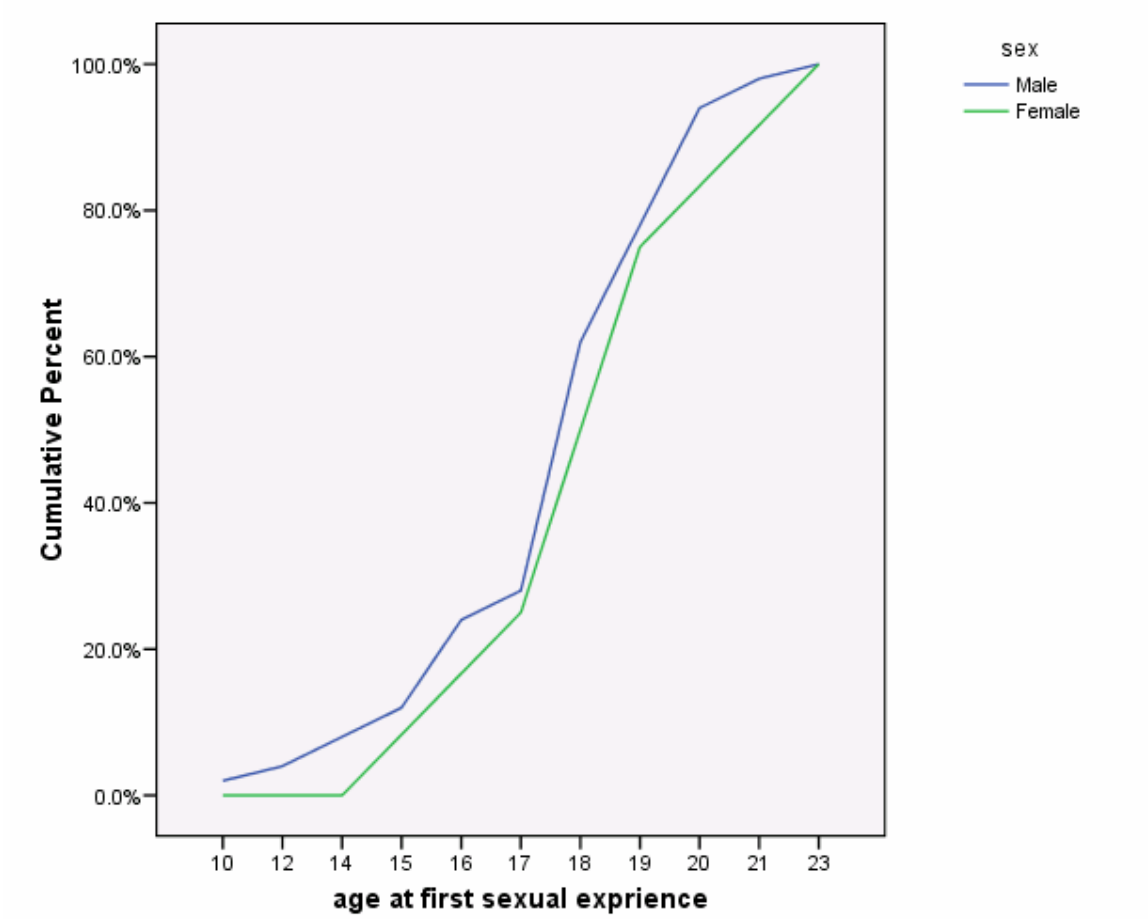

Figure 2. Cumulative percentage of students who were sexually active at various ages, by sex, West Gojam zone, 2009

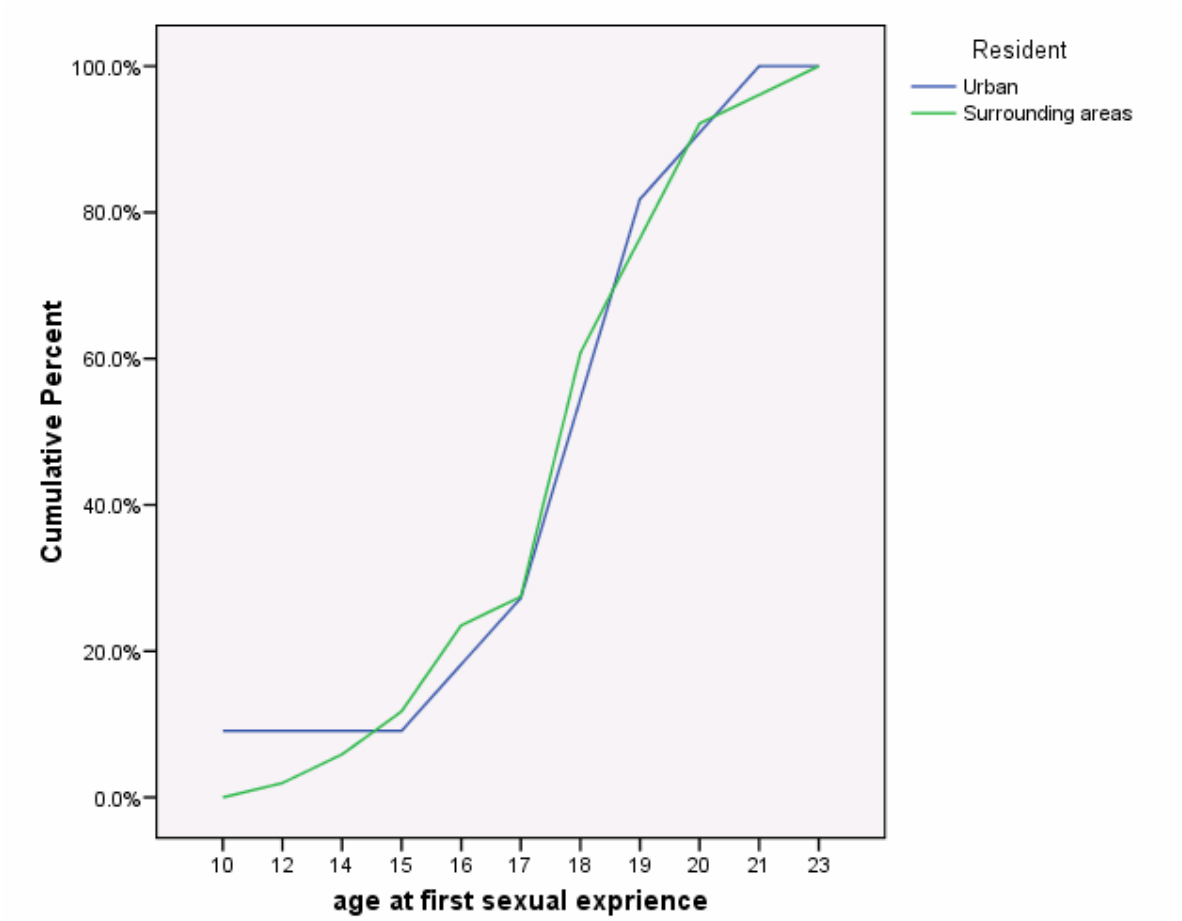

Figure 3. Cumulative percentage of students who were sexually active at various ages, by residence, West Gojam zone, 2009.

Of those that had ever had sex, 11.3% had had sex at or before the age of 15 years, and 59.7% at or before the age of 18. More males than females (12.0% vs. 8.3%) were sexually active at or before the age of 15.

Mean age of first sexual partner was 17.73 (±3.4) overall: 16.51 (±1.9) for males and 23.2 (±3.1) years for females [p-value<0.001]. No significant difference was found by residence or living arrangement.

Twenty two students (33.3%) reported having had two or more sexual partners in their lifetime (range 1-7, average1.56). No significant difference was found according to gender, residence or living arrangement.

Of those who reported having had sexual intercourse, forty eight (66.7%) students had been sexually active in the past twelve months. There was no statistically significant difference with regard to gender, residence or living arrangement.

Of the sexually active students, 50 (71.4%) reported contraceptive use at first intercourse. There was no statistically significant difference according to gender, residence or living arrangement. Of those using contraceptives, 25 (51.0%) students reported condom use. Overall, 72.1% (49/68) students reported contraceptive use at their most recent sexual intercourse and of these, 37% (17/46) used a condom.

Consistent condom use was reported by 6 (12.2%) males and no female and did not differ significantly by gender. Figures 2 and 3 depict the different contraceptive methods used at first and most recent sexual intercourse.

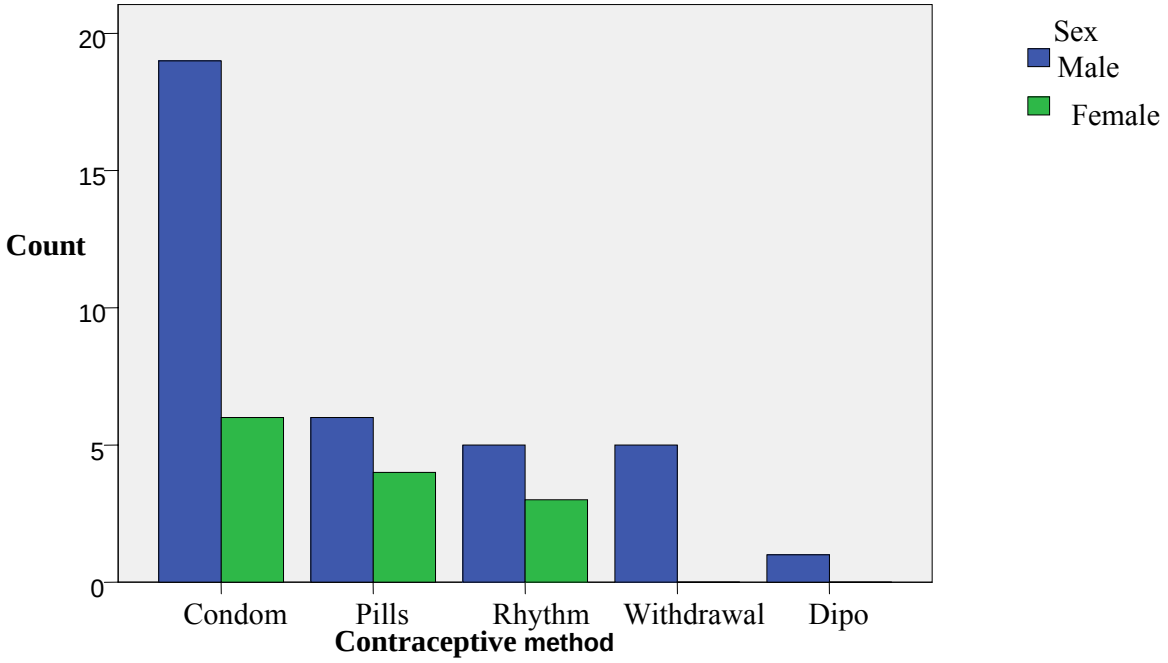

Figure 4. Contraceptive methods used at sexual debut, West Gojam zone, 2009.

With regard to the different contraceptive methods used at sexual debut, no significant difference was found in terms of gender, residence or living arrangement.

In contrast, at most recent sexual intercourse, more rural (43.2%) than urban (11.1%) students reported condom use, while more urban than rural students reported having used pills (55.6% versus 27.0%). Contraceptive use at sexual debut and most recent sex did not differ significantly by gender or living arrangement.

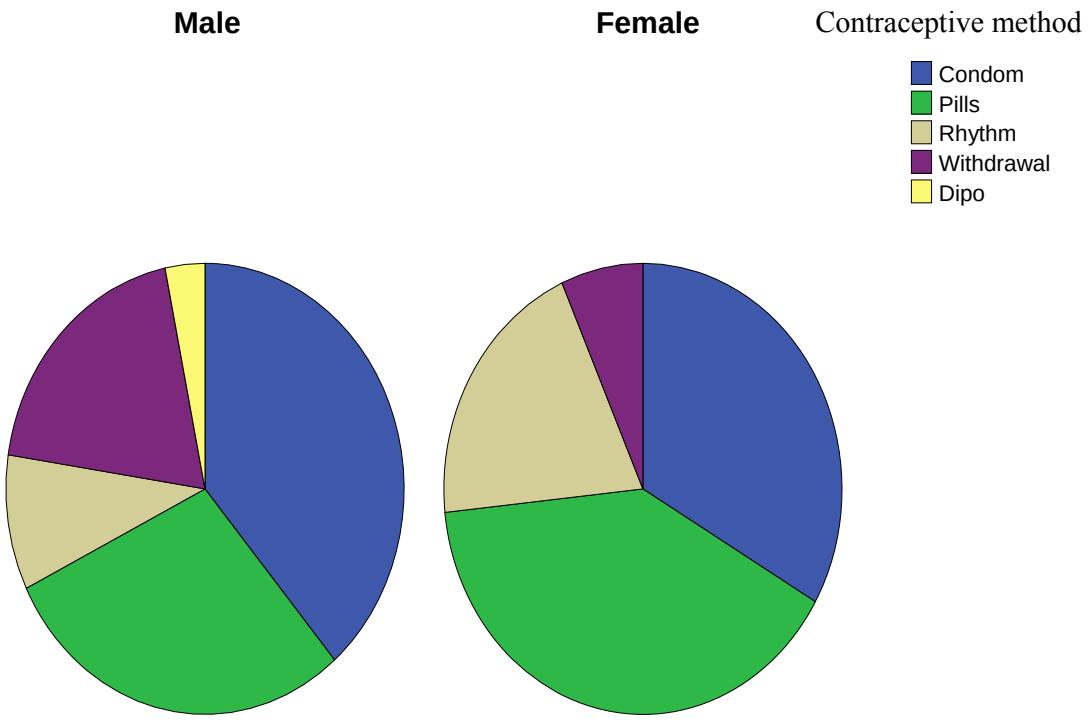

Figure 5.Contraceptive methods used at most recent intercourse West Gojam zone, 2009.

Sixty one sexually active students (88.4%) reported that they were using some method to prevent HIV infection; 8 (12.9%) condoms, 23 (37.1) abstinence, and 31 (50%) faithful one to one relationship.

Among the sexually active males, 3 (6.3%) reported having had sexual intercourse with commercial sex workers of which only one had used a condom consistently.

Of those who were sexually active, 58 (85.3%) reported that they were willing the first time they had sex. Forced sexual intercourse was reported by only one individual. One (1.5%) claimed to have been given drugs and alcohol, 4 (5.9%) felt threatened, 4 (5.9%) had been persuaded with money or gifts.

Khat and alcohol use

Overall, nine (2.9%) and two hundred twenty one (73.6%) students reported consumption of khat and alcohol respectively. There was no statistically significant difference according to residence. Males were more likely to drink alcohol [$p<0.001$], but no significant gender difference was found in chewing khat . Regular consumption of alcohol (consumption at least 2-4 times a month) was reported by 50 (22.8%) males and 8 (8.6%) females.

Among the 'ever khat users', 1 (0.5%) males and no female students reported consuming khat regularly (consumption at least 2-4 times a month). Seven sexually active students (9.9%) reported that they had consumed khat and/or alcohol at sexual debut. Students who had high perceived family connectedness were less likely to report history of Khat consumption (p-value<0.05).

Knowledge of selected sexual and reproductive health issues

Only 159 (50.6%) and 106 (34.4%) students knew the fertile period in the menstrual cycle and the possibility of pregnancy before menarche, respectively. There was no statistically significant difference according to living arrangement, residence or gender for any of the knowledge questions.

Overall knowledge about AIDS prevention was high: 93.5% rated being faithful to one's sexual partner as effective AIDS prevention; 75.1% believed abstinence was very effective; 47.9% avoiding sex with prostitutes was effective.

Communication and discussion regarding sexuality and HIV/AIDS

Overall, 283 (90.1%) students reported that they had ever discussed sexuality or HIV/AIDS, mostly (65.1%) with their same sex peers. Compared to urban students, rural ones were significantly more likely to discuss with teachers (p-value<0.05). More males than females reported discussion with friends of the same sex [OR=1.76, 95%CI 1.04 to 2.98].

Health practitioners and mass media were the dominant sources of information regarding sexuality and HIV/AIDS, mentioned by 196 (68.8 %) and 169 (59.3%) of students respectively. There was no significant gender difference with regard to the dominant source of information regarding sexuality and HIV/AIDS. A significantly higher proportion of rural students mentioned health practitioners (70.8% versus 47.1%; p- value<0.001), as the most important source of information.

Overall, 249 (79.8%) reported that they relied on health practitioners and 71 (22.8%) on teachers to get information and guidance about HIV/AIDS. There was no significant difference by gender or place of residence concerning source of information.

Table 3: Communication and discussion regarding sexuality and HIV/AIDS (multiple responses possible), West Gojam zone, 2009.

Discus with	Responses	
	N	Percent
Mother	110	11.0
Father	94	9.4
Brother/sister	131	13.1
Family member	73	7.3
Same sex friend	185	18.5
Opposite sex friend	81	8.1
Boy/girl friend	39	3.9
Health practitioners	155	15.5
Teacher	132	13.2
Total		100.0

Peer influence and behaviour

One hundred one (32.2%) respondents indicated that they were under pressure from friends to engage in pre-marital sex, and 19.9% indicated that the pressure was moderate or high. As presented in table 4, there was no significant difference by residence or gender in reported

peer pressure and behaviour. Students who had peer pressure to have sexual intercourse and those who had friends already engaging in sexual intercourse were more likely to have sexual experience.(p= 0.004 and p< .001respectively)

One hundred four (47.9%) boys claimed that few of their peers have started sexual intercourse, while 23 (10.6%) claimed that most of their peers had started sexual intercourse; boys being more likely to report that most of their peers had started sex (p-value< 0.001).

Regarding peer behaviour, 28 (30.1%) female students reported that few of their peers had started sexual intercourse, while 4 (8.6%) believed that most of their peers had started sexual intercourse. Rural girls were significantly more likely to report that few/most of their peers had started sex (p-value = 0.002).

Table 4. Reported peer pressure and peer behavior of preparatory school students by sex and residence, West Gojam zone, 2009.

Variable	*Urban(n=104)*		*Rural(n=210)*	
	Male	*Female*	*Male*	*Female*
Peer pressure to have sex				
Yes	25 (33.8)	6 (21.4)	54 (37.5)	16 (24.6)
No	49 (66.2)	22 (78.6)	90 (62.5)	49 (75.4)
X^2(p-value)	1.47 (0.27)		3.34 (0.68)	
How many of your friends have had sex				
None of them	18 (24.3)	15 (53.6)	42 (29.4)	38 (58.5)
Few of them	41 (55.4)	10 (35.7)	63 (44.1)	18 (27.7)
Half of them	7 (9.5)	3 (10.7)	23 (16.1)	5 (7.7)
Most of them	8 (10.8)	0 (0.0)	15 (10.5)	4 (6.2)
X^2 (p-value)	10.00 (0.019)*		16.16 (0.001)*	
Any sexual intercourse with CSWs among your male friends				
Yes	8 (11.7)	0 (0)	21 (15.7)	4 (6.9)
No	35 (50.7)	8 (30.8)	64 (47.8)	21 (36.2)
Don't know	26 (37.7)	18 (69.2)	49 (36.6)	33 (56.9)
X^2 (p-value)	8.73 (0.013)*		7.53 (0.023)*	
Has your best friend ever played sex				
Yes	17 (22.7)	3 (10.7)	32 (22.1)	9 (13.8)
No	42 (56.0)	17 (60.7)	79 (54.3)	40 (61.5)
Don't know	16 (21.3)	8 (28.6)	34 (23.4)	16 (24.6)
X^2 (p-value)	2.04 (0.36)		1.97 (0.37)	

Perceived family connectedness

Parent-teen connectedness was measured using a 10-item scale ((Cronbach's α = 0.954 overall, 0.947 for mother score and 0.964 for father score) based on adolescent report. Questions ask teens how close they feel to their mothers/father, how much they believe their mothers/fathers care about them, how warm and loving they perceive their mothers/fathers to be, and how satisfied they are with their relationship with their mothers/fathers. Students who answered 'don't know' or 'not applicable' were assigned the student's mean score for the set excluded from the analyses for family connectedness. Family connectedness scores were analyzed as a continuous variable with possible values ranging from 10 to 50.

The perceived family connectedness scale ranged from 10 to 50. Nine (3.4%) scored 20 or lower, 54 (20.4%) scored 21-40 and 202 (76.2%) scored 41-50. Sexually active students had a significantly lower level of perceived family connectedness. There was no statistically significant difference in mean family connectedness score by gender, residence (urban versus rural) or living arrangement

Table 5. Family connectedness score among youth attending preparatory school, West Gojam zone, 2009.

Characteristics	Mean (SD)	P-value
Residence		
Urban	43.0 (7.8)	0.12
Rural	44.8 (9.1)	
Sex		
Male	43.7 (9.1)	0.11
Female	45.5 (7.6)	
Living arrangement		
Both biological parents	45.8 (4.1)	0.16
One biological parent only	41.6 (8.7)	
Friends	45.2 (8.4)	
Alone	43.5 (9.8)	
Relatives	42.9 (12.0)	
Ever had sex		
Yes	40.4 (10.8)	<0.001*
No	45.3 (7.7)	
Ever consumed alcohol		
Yes	44.4 (7.9)	0.59
No	43.7 (10.7)	

Perceived parental monitoring

Parental monitoring was assessed using 2 questions that asked adolescents whether their parents knew where they were and who they were with when not at school and away from home. The scale had a reliability coefficient (Cronbach's α) of 0.70. Adolescents were categorized into 2 groups: those responding most of the times (4) and almost always (5) to each of the items, were classified as exposed to more parental monitoring; the rest were categorized as having less parental monitoring.

Of the 314 students participating in the study, 133 (42.8%) were categorized as having less perceived parental monitoring. In the bivariate analysis, less perceived parental monitoring was associated with male sex, being a rural student, living alone or with friends, and sexual activity.

Perception of selected social norms and gender roles

From table 6, it can be seen that females were significantly more likely to believe that contraceptive knowledge encourages sex (29.3% versus 21.8%; p-value=0.001) A significantly higher proportion of females believed that having a child while in a high school is a problem for the mother and baby but not for the father (22.6% versus 6.4%; p- value= 0.001).

Table 6. Perception of selected social norms and gender roles, West Gojam zone, 2009.

Variables	*Male n=220 %*	*Female n=93 %*	X^2	*p-value*
Social norms				
-Knowledge of contraceptives encourages sex				
Agree	21.8	29.3	20.29	0.001*
Disagree	78.2	73.7		
No idea	0	7.6		
-Having a baby while in a high school				
Is not a problem at all	0.5	1.1	18.64	0.001*
Is not a problem because family helps	1.4	1.1		
Is a problem but it is okay	9.1	9.6		
Is a problem for mother & baby but not father	6.4	22.6		
Is a problem for mother, baby & father of baby	82.6	64.5		
Sexual values				
-It is against my values to have sex while I am a teenager			1.76	0.42
Agree	69.3	69.2		
Disagree	22.5	26.4		
Not sure	8.3	4.4		
-Sex while I am a teenager would make me feel more important			4.74	0.09
Agree	15.3	6.7		
Disagree	77.7	87.8		
Not sure	7.0	5.6		
Gender roles				
-Who should handle family expenditures			1.29	0.53
Father/husband	2.3	1.1		
Mother/wife	2.8	1.1		
Both (husband & wife) together	95.0	97.8		
-Virginity for a woman until she gets married			3.26	0.20
Very important	94.5	98.9		
Important	4.1	1.1		
Not important	1.4	0.0		
-Virginity for a man until he gets married			3.72	0.29
Very important	89.5	87.6		
Important	6.4	11.2		
Not important	0.5	1.1		

6. Discussion

Nearly a quarter of preparatory school students in west Gojam zone have had sexual intercourse. This demonstrates that many adolescents are confronted at some point during their teen years with choices about whether or not to have sex and, if they do, whether or not to use condoms and/or other contraceptives. Many factors affect those choices. This sexual initiation prevalence is higher than that found from the BSS 2005 [31], which revealed 9.9% of in school adolescents were sexually active and lower than others[28, 32] which were around 33% but almost consistent with a study by Dessalegn which was 21.4%[28]. This discrepancy may be due to that there is a difference among study participants of the different studies.

The majority (59.7%) of sexually active in school adolescents engaged in premarital sexual relationship before celebrating their 18th birthday. Many studies also indicated that secondary school students are becoming sexually active at an increasing earlier age [28-30]. This early initiation of sexual activity prolongs the period of exposure to risk of pregnancy and risk of contacting STDs, including HIV infection during the reproductive span. Mean age of sexual initiation was not found significantly associated with sex or residence. But when we see the mean age of students` sexual partners age at sexual debut, female students were more likely to have older partner who are more likely to have HIV infection, consistent with previous study done in Dessie[7].

Twenty two students (33.3%) reported having had two or more sexual partners in their lifetime. This figure is higher than a finding in Nekemte (20.2%)[28] and a study conducted in 1999, to evaluation the impact of a Community Based Adolescent Reproductive Health Program in Ethiopia (25% males and 10.9% for females) [26]. One encouraging finding is that lesser proportion of the sexually active students (6.3%) in this particular study than in a study done in Nekemte (13.3%) [28] had sexual contact with commercial sex workers.

The commonest reasons for starting sex were personal desire (85.3%). BSS II finding revealed that a considerable proportion of females (15.3%) reported that they were forced into first sex. Forced sex was most commonly reported in the Amhara region (14.9%).[31] But this particular study contradicted the above finding by showing insignificant number (1.5%) of female students reported forced sexual initiation.

Generally students' knowledge about sexual and reproductive health issues is unsatisfactory regardless of their sex or residence and was not found to be associated with sexual activity. This may indicate that, even though knowledge is important predisposing factor to adopt healthy sexual behaviour, focusing only on acquisition of knowledge will not bring about the intended out comes. Adolescent related intervention on health information dissemination should be tailored or targeted.

Adolescents believed health practitioners and teachers were a more trustworthy source of knowledge about sex than their peer group. This is consistent with a study done in Dessie [7] but not with some of the previous studies which cited peers as the most reliable source of information by adolescents. It is obvious that health practitioners and teachers could give more accurate information as compared to peers who themselves are likely to have inadequate knowledge.

As is commonly recognized, youth are influenced by their peers and peers influence teens' sexual behavior. Peer pressure and sexual behaviour is another environmental variable that believed to have effect on adolescents' sexual activity. This particular study proved that students claimed having had peer pressure to engage in premarital sex were more likely to report sexual activity. This is consistent with some previous studies [7]. There was no statistically significant difference peer pressure in relation to sex or residency.

Findings related to parent-teen connectedness did not differ related to residence, living arrangement or sex. Generally high levels of parent-teen connectedness were independently related to delays in sexual debut. Parent-teen connectedness has emerged in recent research as a compelling "super- protector"- a feature of family life that may buffer young people from the many challenges and risks facing them in today's world. There is a marked consistency in this body of about two dozen studies; all but a few indicate that parent-child closeness acts as a protective factor for the prevention of a variety of health and social problems (whether the outcome of interest is overall adjustment and functioning, substance use, sexual behavior, STI/HIV, suicide, conduct disorder or violence). Parent-teen connectedness is associated with reduced adolescent pregnancy risk through teens remaining sexually abstinent, postponing intercourse, having fewer sexual partners, or using contraception more consistently.[13-15, 19-21]

Social science research has demonstrated that parental involvement affects adolescent behavior, primarily through monitoring behavior on the part of parents. Parents who spend more time supervising their children have children who engage in fewer risky behaviors. We have also tried to see the relationship between perceived parental monitoring and sexual behaviors of the students, but unlike to many other studies [7, 13, 14, 19-21] we did not get significant association. This inconsistency may be due to the fact that the type of monitoring differs across different settings needed to be addressed in detail in this particular study area. If the monitoring is coercive types it may not bring abut positive behavioural changes, even sometimes results in negative outcomes.

Significant number (90.1%) of students reported that they had ever discussed sexuality or HIV/AIDS. We have tried to investigate parent-teen communication as another dimension in family relationship and found not to be significantly associated with sexual activity. This is also consistent with previous studies [13, 21] and unlike to other studies which showed significant association with sexual activity[23]. Here, the relationship may vary by the content and degree of discussion as well as other factors.

Condom utilization is generally low regardless of living arrangement, residence and gender in this particular study. Even though it is known that adolescents are the portion of the population that are highly affected by HIV infection, the magnitude of unsafe sexual behavior is particularly worrisome.

In the multivariate logistic regression analyses, age of more than 20 years, having peer pressure to have sex and lower perceived family connectedness continued to be associated with sexual activity.

7. Strengths and limitations of the study

7.1. Strengths

- The questionnaire was adapted from validated instruments and pretested in the local context.
- There was a high response rate.

7.2. Limitations of the study

Even though the response rate was high, this in-school survey, by definition, excluded the population that had dropped out of school. The fact the data are self-reported might also limit the results, despite the attention paid to ethical concerns during the survey. One limitation is the cross-sectional nature of the data, which makes it impossible to draw inferences about the direction of relations among study variables. Moreover, the data are retrospective and thus are subjected to recall bias.

8. Conclusion

This particular study indicates that a substantial proportion of adolescents in preparatory school in general and those who came from the surrounding in particular are sexually active.

Perceived parent-teen relationships characterized by high levels of warmth and closeness, is important protective factors related to delay in adolescents' first sexual intercourse

Students experiencing peer pressure to have sex are more likely to engage in premarital sexual activities.

The level of sexual and reproductive health knowledge that students have is generally unsatisfactory and has not been associated with being sexually abstinent and condom use.

Communication on sexual issues is not associated with safe sexual behavior. Mass media was the dominant source of information regarding issues related to sexuality and HIV/AIDS.

Most adolescents rely on health practitioners and teachers to get information and guidance on issues related to sexuality and HIV/AIDS.

Students who had high perceived family connectedness were less likely to report history of Khat consumption

Sexual activity among rural students is particularly high and most of them use condoms inconsistently despite better reproductive health knowledge.

The most commonly used contraceptive used both at sexual debut and last intercourse is the condom but consistent use is generally low.

9. Recommendations

The evidence from this and other recent studies suggest that parents and peers should be targeted more frequently in reproductive health intervention for adolescents.

Parents need to recognize the continued importance of their relationship with their adolescent for adjustment, despite their child's increased interest in and time spent with peers. Parents need to be aware of their adolescents' involvement with various peer groups and their activities in school.

Family interventions must provide parents with guidance in how to balance adolescents' autonomy with their obligation to protect them from harm.

Government should support the following initiatives in its health programming:

- Public education initiatives that enhance recognition and understanding of the importance of parent-teen relationship. Strategies to achieve this goal include media advertising campaigns and provision of information brochures through government agencies, public health offices and schools

- Youth-serving agencies, churches, community organizations, and schools must develop strategies that promote high levels of parent-teen-connectedness

- Development and evaluation of targeted programs that focus on attachment issues and effective parenting strategies for high-risk adolescents and their families.

- Future research must address the impact of familial influences specifically parent-teen connectedness, parental monitoring and communication as one point of intervention to reduce adolescents' risk behaviors.

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11. Annexes

Annexe-1: Survey Instruments

Questionnaire on Adolescents' sexual risk behaviour; West Gojam Zone Preparatory School, Ethiopia.

Consent Form

Dear respondent,

We are interested in learning more about your psychosocial concerns, perceptions, feelings and practices related to your sexual and reproductive health.

This questionnaire is designed for a research work approved by Addis Ababa University (School of Public Health) to be conducted in partial fulfilment of a masters degree in public health.

We hope you will help us by completing this survey. None of your answers will be available to anyone at anytime. All the information you give us will be kept private. Do not put your name anywhere on this questionnaire. If you decide not to participate or complete the form, you may end filling the questionnaire anytime you want to.

However, we really need your honest response to better understand the impact of parental attachment and rural-urban migration on sexual risk behaviors of youth in preparatory schools in Ethiopia.

The results of the study would hopefully serve as an important input to intervention programs that aim at improving adolescent health in general and students in preparatory school in particular.

It will take you 30-40 minutes to complete the whole questionnaire.

We thank you in advance for taking your time to respond to our questions!

Would you be willing to participate in the study? ☐ Agree ☐ Disagree

If you decide not to participate in the study, please return the questionnaire to the supervisor/investigator.

Part 1.Background Characteristics

1.1. Age (in years) _____ **(write the number in the space provided)**

Please check one.

1.2. Sex:	01	Male
	02	Female
1.3. Religion:	01	Orthodox
	02	Muslim
	03	Protestant
	04	Catholic
	11	Others (specify) ____
1.4. Are you permanent resident in this town?	01	Yes **[Go to 1.7]**
	02	No, I came from surrounding areas.
1.5. Just before you moved here, where did you live?		_____Town (Around _____Kms from this town)
1.6. How frequently do you visit your Parents/families?	01	Not at all
	02	Only during vacations (i.e. every 6 months)
	03	Often, once every 2-4 months
	04	Very often (at least once every month.)
1.7. With whom do you live now?	01	I live with both of my parents
	02	I live with my mother only
	03	I live with my father only
	04	I live with brothers/sisters
	05	I live with grandparents
	06	I live with cousins

	07	I live with mother/father and a stepfather or stepmother
	08	I live with my friends
	09	I live alone
	11	Others(specify)_____
1.8. Attachment to religious institutions	01	Attends frequently (more than twice a month)
	02	Seldom attends (less than or equal to twice a month)
	03	Not religious
1.9. Are you married?	01	Yes
	O2	No
1.10. Educational status of your mother:	01	Illiterate (can't read or write) **[Go to 1.12]**
	02	Literate
1.11. If literate, specify level of her education		_____
1.12. Educational status of your father:	01	Illiterate (can't read or write)**[Go to 1.14]**
	02	Literate
1.13. If literate, specify level of his education		_____
1.14. What was your last year's rank in the class ?		_____
1.15. What was your grade in the E.G.S.L.C.E?		_____
1.16. Have you ever consumed 'Khat'?	01	No
	02	Occasionally
	03	Regularly, 2-4 times per month on average
	04	Regularly, 5 times per month or more on the average
1. 17. Have you ever consumed alcohol?	01	No
	02	Occasionally

	03	Regularly, 2-4 times per month on Average
	04	Regularly, 5 times per month or more on the average

Part 2. Sexual and Reproductive health knowledge

Circle all that are possible.

2.1. During which times of the monthly cycle does a woman have the greatest chance of becoming pregnant?

	Yes	No
During her period	01	02
In the middle of her cycle	01	02
Right after her period has ended	01	02
Just before her period begins	01	02
Other (Specify _____)	22	
Don't know/don't remember	23	

2.2. How can people protect themselves from getting AIDS?

Avoid sexual intercourse (don't play sex)	01
Have faithful one-to-one relationship with uninfected partner	02
Use condoms during sex	03
Sterilize syringes/needles	04
Avoid sexual contact with sex workers (prostitutes)	05
Avoid sharing cutting & piercing materials	06
Take antibiotics prior to sexual intercourse	07
I don't know	22
Other (please specify)	23

Please check only one.

	Agree	Disagree	Don't know
	01	02	23
2.3. A woman who has HIV can give birth to a child with HIV.			
2.4. A girl Can get pregnant before she experiences her first menstruation			
2.5. A person can have a sexually transmitted disease (STD) with out knowing it			

PART 3. PERCEIVED CONNECTEDNESS TO FAMILIES

Below are some questions about your perceived closeness to parents/families.
Please check only one box that best describes your feeling.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know	Not applicable
	1	2	3	4	5	6	7
3.1. I feel close to my mother							
3.2. My mother cares about me							
3.3. My mother is warm and loving towards me							
3.4. I am happy with my relationship with my mother							
3.5. My mother and I are close to each other							
3.6. I feel close to my father							
3.7. My father cares about me							
3.8. My father is warm and loving towards me							
3.9. I am happy with my relationship with my father							
3.10. My father and I are close to each other							

Part 4. COMMUNICATION ON SEXUALITY AND HIV/AIDS

Please check one below.

4.1. Have you ever discussed about sexuality and/or HIV/AIDS with other people?

Yes____01 No____02 **(go to 4.3)**

Circle all that are possible.

4.2. Whom do you discuss with?	01	Mother
	02	Father
	03	Brother/Sister
	04	Other family member
	05	Friend of the same sex
	06	Friend of the opposite sex
	07	boy/girl friend
	08	Teacher
	09	Health practitioner
	44	Other (specify)
4.3. In general, what has been your most important source of information about AIDS or HIV? (Where or from who have you learned the most about AIDS?)	01	Teacher/school AIDS clubs
	02	Friends____02
	03	Mass media (radio, TV, newspapers)
	04	Family
	05	Health practitioner
	06	Books/films
	07	other (specify)
	08	don't know

4.4. Whom do you rely to get information and guidance about sexuality and HIV/AIDS?	01	Mother
	02	Father
	03	Brother/Sister
	04	Other family member
	05	Friend of the same sex
	06	Friend of the opposite sex
	07	Teacher/school AIDS clubs
	08	Health practitioner
	09	Books/films
	44	Other (specify)

Part 5. SOCIAL NORMS and GENDER ROLES

A. Social Norms

Please check one.

5.1. The knowledge of contraceptives by young people encourages them to have sex with many people.	
01	Agree
02	Disagree
03	Don't know
5.2. Having a baby when you are in high school	
01.	Is not a problem at all
02.	Is not a problem because your family helps
03.	Is a problem, but it's okay
04.	Is a problem for the mother and the baby but not for the father of the baby
05.	Is a problem for the mother, the baby, and the father of the baby

B. Sexual Values and Choices

	Strongly Agree	Agree	Not	Disagree	Strongly Disagree
	5	4	3	2	1
5.3. It is against my values for me to have sex while I am a teenager.					
5.4. If I have sex while I'm a teenager, it would make me feel sort of important.					

C. Gender Roles

5.5. Who do you think should handle family expenditures, husband or wife?	
01	Father/husband____01
02	Mother/wife____02
03	Both (husband and wife) together____03
5.6. How important is it for a woman to be a virgin until she gets married? Would you say it is:	
01.	Very important
02.	Important
03.	Not important
5.7. How important is it for a man to be a virgin until he gets married? Would you say it is:	
01.	Very important
02.	Important
03.	Not important

PART 6. PERCEIVED PARENTAL MONITORING

	Never	Rarely	Some of the times	Most of the times	Almost always
	01	02	03	04	05
6.1. Your parents know **where you are** when not at school and away from home					
6.2. Your parents know **who you were with** when not at school and away from home					

PART 7. Peer Influence and peer behaviour

Please check one.

7.1. Is there pressure from your friends for you to have sexual intercourse?	01	No pressure at all
	02	A little pressure
	03	A moderate amount of pressure
	04	A lot of pressure
7.2. About how many of your friends have had sexual intercourse?	01	None of them
	02	A few of them
	03	About half of them
	04	Most of them
7.3. Now think of your best friend. Has he/she ever played sex?	01	Yes
	02	No
	03	Don't Know
7.4. Do you know of any sexual intercourse with prostitutes among your male close friends?	01	Yes
	02	No
	03	Don't Know

Part 8. SEXUAL BEHAVIOR AND PRACTICES

Sometimes young people play sex. They play sex for different reasons - for love, for urges, or because they are convinced, forced or tricked. Please check one below.

8.1. Have you ever had sexual intercourse?	01	Yes
	02	No (**Go to Part 10**)
8.2. How old were you when you first had sexual intercourse?	01	___ Age (write the number in the space provided)
	02	Doesn't know age
8.3. How old was the person with whom you first played sex?	01	___ Age (write the number in the space provided)
	02	Doesn't know age

8.4. Was this person a husband, a boy/girlfriend, a family member, a teacher, a stranger, or someone else?	01	Husband
	02	Boy/girlfriend
	03	Family member
	04	Teacher
	05	Stranger
	88	Other person (specify) ____
8.5. When you played sex the first time, had you/your partner consumed any alcohol or used 'khat', or any other drug beforehand?	01	Yes
	02	No
	03	Don't Know
8.6. Thinking back over your lifetime until now, with how many people have you ever played sex?	01	____ Number of partner (write the number in the space provided)
	02	Do not remember
8.7. How many different partners have you had sexual intercourse with in the last 12 months?	00	Zero
	01	One
	02	Two
	03	Three
	04	more than three
8.8. The first time you had sex before marriage; did you or your partner use any contraceptives?	01	Yes
	02	No **(go to 8.10)**
8.9. What method did you use at the first sexual intercourse?	01	Condom
	02	Pills
	03	Rhythm
	04	Withdrawal
	05	Foam (tablets, aerosol)

	88	Other (specify)
8.10. The last time you had sex with your partner; did you or your partner use any contraceptives?	01	Yes
	02	No **(go to 8.12)**
	03	Don't know
8.11. What method did you use at the last sexual intercourse?	01	Condom
	02	Pills
	03	Rhythm
	04	Withdrawal
	05	Foam (tablets, aerosol)
	88	Other (specify)
8.12. Are you currently using any method to prevent AIDS or STDs?	01	Yes
	02	No **(go to part 9)**
8.13. Which method or methods are you currently using to prevent AIDS or STDs?	01	Condoms
	02	Abstinence
	03	Faithful one-to-one relationship
	04	Don't know
	05	Other (specify)
8.14. How often do you use a condom with your partner	01	Sometimes
	02	Most of the time
	03	Always
	04	Don't know
8.15. **[For males only]** Have you ever had sexual intercourse with a female commercial sex worker	01	Yes
	02	No____02 **[Go to Part 9]**

8.16. If the answer is yes, how often did you use condom?	01	Not at all
	02	Sometimes
	03	Most of the
	04	Always
	05	Don't know

PART 9. COERCION

Please check one below.

9.1. The first time you had sexual intercourse, did you agree willingly, did it just happen, or were you tricked, threatened or forced?	01	Played sex willingly (wanted)
	02	Forced
	03	Convinced with money or gifts
	04	Given drugs and alcohol
	05	Felt threatened
	99	Other (please specify)
9.2. **[For females only]** Thinking back over your lifetime how many coercive sex partners have you ever had?	01	Zero
	02	One
	03	Don't remember
	04	Two
	05	Three or more
9.3. **[For females only]** Have you ever received anything in exchange for sex?	01	No
	02	Yes
	03	Don't remember

9.4. **[For females only]** What did you receive?	Yes	No
Money	01	02
School fee	01	02
Shelter/rent	01	02
Gifts (specify)	01	22
Other (specify)	01	99

Thank you !

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የመጠይቁ መለያ ቁጥር፡----------

ፈቃደኝነትና ሚስጥርን ስለመጠየቅ

ውድ ተጠያቂ

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ክፍል 2 ስነ ተዋልዶ ጤና ዕውቀት/ግንዛቤ

መልስ ሊሆኑ የሚችሉ አማራጮችን በሙሉ አክብብ/ቢ፡፡

2.1 አንድ ሴት የማርገዝ እድሏ በጣም ከፍጠኛ የሚሆነው በየትኛው የወር አበባ ዑደት ጊዜ ነው?

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<u>ለሚከተሉት ጥየቄዎች መልስ የሚሆነውን አንድ ሳጥን ብቻ ምልክት (√)አድርግ/ጊ፡፡</u>

		እስማማለሁ	አልስማም	አላውቅም
		01	02	23
2.3	አንድ ኤች አይቪ የተያዘች እናት በኤች አይ ቪ የተያዘ ህጻን ልትወልድ ትችላለች			
2.4	አንድ ልጃገረድ መጀመሪያውን የወር አበባ ከማየቷ በፊት ልታረግዝ ትችላለች			
2.5	አንድ ሰው ሳያውቀው በግብረ-ስጋ ግንኙነት በሚተላለፈው በሽታ ተተቂ ሊሆን ይችላል			

ክፍል፡3 ከቤተሰብ ጋር ያለ ቅርበት

ከዚህ በታች ከቤተሰብዎ ጋር ያለህን/ሽን ቅርበት የሚመለከት ጥየቄዎች አሉ፡፡ ስሜቴን በጠም ይገልጻዋል የምትለው/ይውን አንዱን ሳጥን ብቻ ምልክት (√) አድረግ/ጊ፡፡

		በጣም አልስማም	አልስማም	አልወግንም	እስማለሁ	በጣም እስማለሁ	አላውም	አይመለከተኝም
3.1	ከእናቴጋር ቅርበር አለኝ ብዬ አስባለሁ							
3.2	እናቴ ትንክባከበኛለች							
3.3	እናቴ ትወደኛለች							
3.4	ከእናቴ ጋር ባለኝ ግንኙነት ደስተኛ ነኝ							
3.5	እናቴ እና እኔ እንቀራረበለን							
3.6	ከአባቴ ጋር ቅርበት አለኝ ብዬ አስባለሁ							

3.7	**አባቴ ይንከባከበኛል**							
3.8	**አባቴ ይወደኛል**							
3.9	**ከአባቴ ጋር ባለኝ ግንኙት ደስተኛ ነኝ**							
3.10	**አባቴ እና እኔ እንቀራረበለን**							

ክፍል 4 ስለ ስነ ወሲብና ኤች አይ ቪ/ ኤድስ ውይይት

4.1. ከዚህ በፊት ስለ ወሲብ ወይም ኤች አይ ቪ/ኤድስ ውይይት አድረገህ/ሽ ታውቃለህ/ ታውቂያለሽ? **(አንዱን መልስ ብቻ አክብብ/ቢ፡፡)**

አዎ------01 የለም-----02 (**መልሱን የለም ከሆነ ወደ 4.3 እለፍ/ፊ)**

መልስ ሊሆኑ የሚችሉ አማራጮችን በሙሉ አክብብ/ቢ፡፡

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ክፍል 5. ማህበራዊ ልማዶችና ጾታዊ ሚና

5ሀ. ማኅበራዊ ልማዶችና ጾታዊ ሚና

<u>ለሚከተሉት ጥያቄዎች አንዱን ምርጫ ብቻ አክብብ/ቢ፡፡</u>

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5ለ. የስነ ወሲብ እሴቶችን ምርጫዎች

<u>ለሚከተሉት ጥያቄዎች መልስ የሚሆነውን አንድ ሳጥን ብቻ ምልክት(√) አድርግ/ጊ፡፡</u>

		በጣም እስማማለሁ	እስማማለሁ	እርግጠኛ አይደለሁም	አልስማማም	በጣም አልስማማም
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5.3.	በአፍላ ወጣትነት ጊዜ ወሲብ መፈፀም ለራሴ ከምሰጠው ዋጋ/ግምት ጋር ይቃረናል?					
5.4.	በአፍላ ወጣትነት ጊዜዬ ወሲብ ብፈፅም ጠቃሚ (ትልቅ) ሰው የሆንኩ ያህል ይሰማኛል፡፡					

5ሐ. ፆታዊ ሚና

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ክፍል 6. የቤተሰብ ቁጥጥር ግንዛቤ

<u>ለሚከተሉት ጥያቄዎች መልስ ሚሆነውን አንድ ሳጥን ብቻ ምልክት (√) አድርግ/ጊ፡፡</u>

		በፍጹም	በጣም አልፎ አልፎ	ጥቂት ጊዜ	ብዙ ጊዜ	ከሞላ ጎደል ሁል ጊዜ
		01	02	03	04	05
6.1.	ከትምህርት ቤትና ከቤት ርቀህ/ሽ ስትገኝ/ኝ. የት እንደሆንክ/ሽ ወላጆችህ/ሽ የውቃሉ?					

6.2.	ከትምህርት ቤትና ከቤት ርቀህ/ሽ ስትገኝ/ኝ. ከማን ጋር እንደነበርክ/ሽ ቤተሰቦችህ/ሽ ያውቃሉ?					

ክፍል 7 የጓደኛ ተፅዕኖ እና የጓደኛ ባህሪ

ለሚከተሉት ጥያቄዎች መልስ የሚሆነውን አንዱን ምርጫ አክብብ/ቢ

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ክፍ 8 የስነ ወሲብ ባህሪና ተግባራት

አንዳንድ ጊዜ ወጣቶች የግብረ-ስጋ ግንኙነት ያደርጋሉ፡፡ ይህም የሚሆነው በተለያዩ ምክንያቶች ሊሆን ይችላል፤ ለፍቅር፣ ለስሜት፣ ወይም እምነውበት፣ ተገድደው፣ ወይም ተታልለው፡፡

<u>ለሚከተሉት ጥያቄዎች መልስ የሆነውን አንዱን ብቻ አክብብ/ቢ፡፡</u>

8.1. □□□ □□□ □□□□-□□ □□□□ □□□□□/□ □/□□□□□?	01	□□
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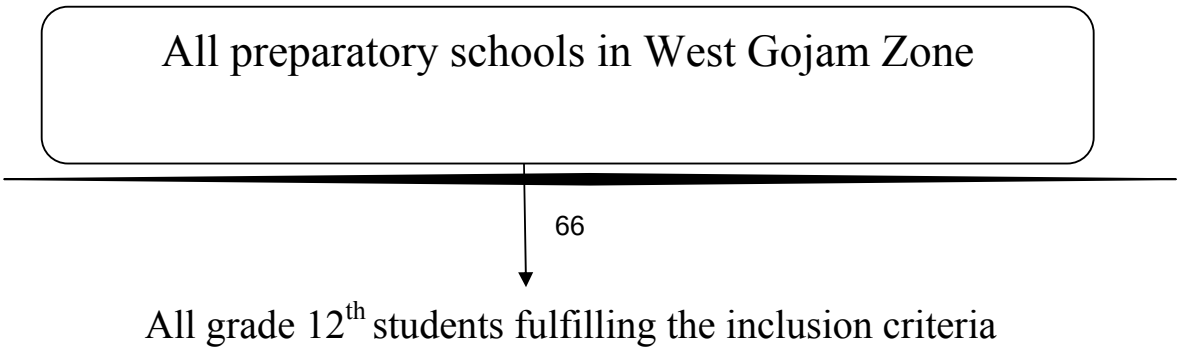
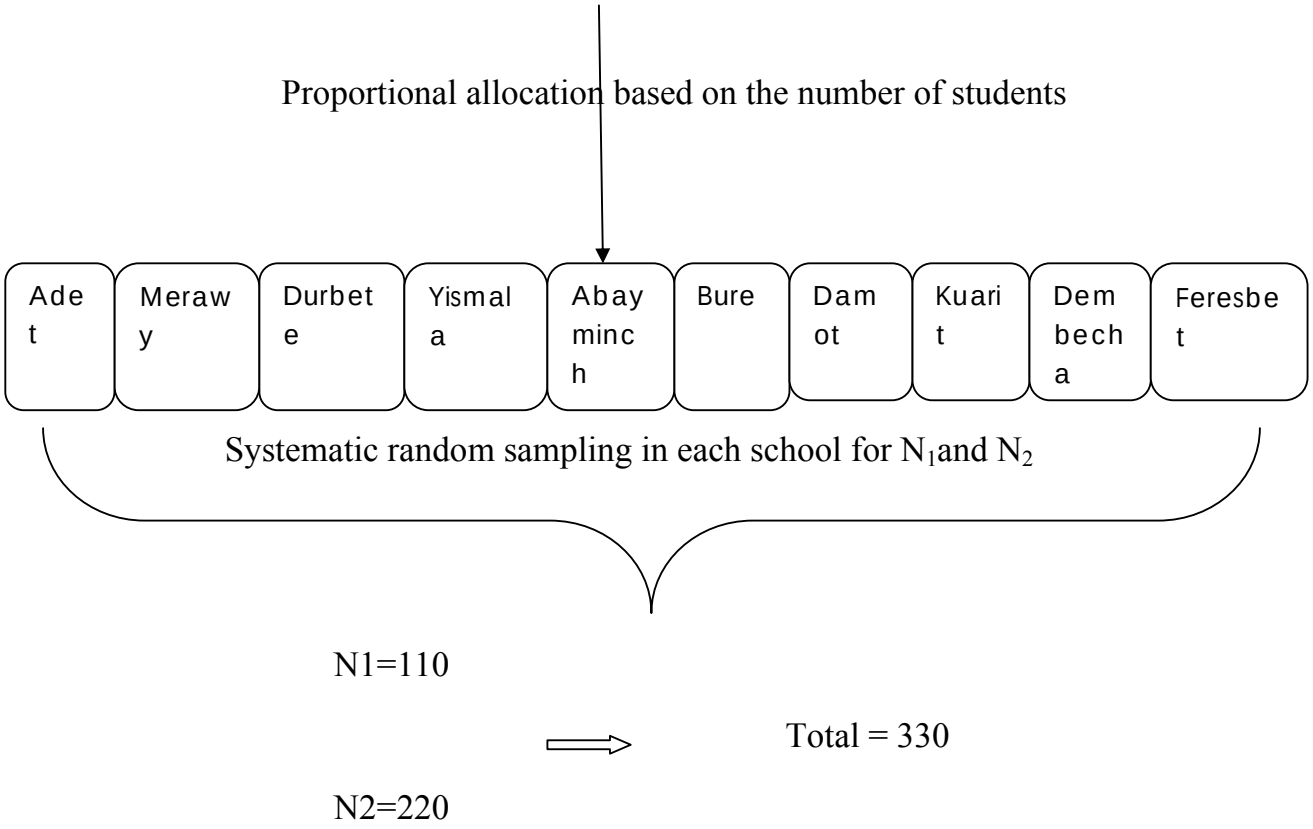
Annex-2: Response rates per division for the secondary schools

School	Allocation	Collected	Response rates (%)	Percent (Response)
Adet	33	30	90.9	9.6
Merawy	56	53	94.6	16.9

Durbete	26	26	100.0	8.3
Yismala	27	27	100.0	8.6
Abayminch	30	27	90.0	8.6
Bure-Shikudad	40	38	95.0	12.1
Damot	40	37	92.5	11.8
Kuarit	19	19	100.0	6.1
Dembecha	45	42	93.3	13.4
Feresbet	16	15	93.8	4.8
Total	330	314	95.2	100.0

Annex 3: Schematic presentation of the sampling procedure




Proportional allocation based on the number of students
Adet
Merawy
Durbete
Yismala
Abayminch
Bure
Damot
Kuarit
Dembecha
Feresbet
Systematic random sampling in each school for N1and N2
N1=110
Total = 330
N2=220

Declaration

I, the undersigned, declare that this thesis is my original work in partial fulfillment of the requirement for the Degree of Masters of Public Health and has not been presented for a degree in this or any other university. All source of materials used for this thesis have been duly acknowledged.

Name: Anemaw Asrat

Signature: _____

Place: school of public health, Addis Ababa University

Date of submission: 22, June, 2009

This thesis has been submitted for examination with our approval as the university advisors.

Name of the advisor	Signature
Dr. Gail Davey	_____