ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

CORRELATES OF PREMARITAL SEXUAL PRACTICE AMONG HIGH SCHOOL FEMALE ADOLESCENTS IN MAICHEW TOWN, SOUTHERN TIGRAY, ETHIOPIA

BY

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Correlates of Premarital Sexual Practice Among High School Female Adolescents in Maichew Town, Southern Tigray, Ethiopia

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TABLE OF CONTENTS

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

CHAPTER THREE

DATA AND METHODOLOGY

CHAPTER FOUR
BACKGROUND CHARACHTERSTICS OF RESPONDENTS AND THEIR PARENTS

CHAPTER FIVE

BIVARIATE AND MULTIVARIATE ANALYSIS RESULTS

CHAPTER SIX

SUMMARY AND CONCLUSIONS

List of Figures

List of Graphs

List of Tables

List of acronyms and abbreviations

AIDS	Acquired Immune Deficiency Syndrome
CSA	Central Statistical Agency
EC	Ethiopian Calendar
FGAE	Family Guidance Association of Ethiopia
FHI	Family Health International
FLE	Family Life Education
IUD	Intrauterine Device
HIV	Human Immunodeficiency Virus
MOH	Ministry of Health
PATH	Program for Appropriate Technology in Health
PPS	Probability Proportional to Size
PS	Population Studies
RH	Reproductive Health
SPSS	Statistical Package for Social Sciences
STD	Sexually Transmitted Diseases
TFR	Total Fertility Rate
UN	United Nations
UNFPA	United Nations Population Fund
WHO	World Health Organization

Abstract

The main objective of this study is to investigate correlates of premarital sexual practice among high school female adolescents in Maichew town. The study was conducted during February to April, 2008 on 624 never married school female adolescents in the age group 15-20 years. Respondents were selected using stratified random sampling. Bivariate analysis was used to assess the relationship of the independent variables with the dependent variable by using chi-square test; and multivariate (logistic regression) analysis was carried out to explore the net effects independent variables by controlling possible intervening variables

The study findings shows that 29.3 percent of never married school female adolescents had experienced sexual intercourse with mean age at first sex 16.6 years. Among sexually experienced high school female adolescents, 43.2 percent have ever been pregnant, and 25.1 percent have ever given birth. The findings of the study also show that parent-adolescent discussion, mother's education, mother's occupation, parental residence, peer influence, siblings' influence, respondent's age and respondent's employment status are significantly associated with female adolescents' premarital sexual practice.

The likelihood of being sexually active for adolescents whose mothers' educational level was secondary or above decreased by 67 percent as compared to adolescents whose mothers had no formal education. Adolescents who didn't discuss sex-related matters with their parents were 1.6 times more likely to have had sex as compared with adolescents who discussed sex-related issues with their parents. Adolescents, who had sexually experienced intimate friend, were 4.8 times more likely to have had sex as compared to adolescents who had no sexually experienced intimate friends. Similarly, the relative risk of having sexual intercourse for adolescents who had sexually experienced elder sister was 3.2 times higher as compared to female adolescents who had no sexually experienced elder sisters. Living arrangement was found not to have significant effect on premarital sexual activities of adolescents.

It has been recommended that an appropriate intervention program is required to meet the special needs of female adolescents focusing on education and counseling in the areas of responsible sexual behavior, responsible family planning practice, reproductive health, and HIV/AIDS prevention. This is required to equip female adolescent with meaningful reproductive health knowledge so as to maximize their awareness about risky-sexual behavior and to help them make wise decision before the actual involvement into sexual activities.

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

World Health Organization (WHO) defines adolescent people as young person between the ages of 10 to 19 years; and adolescence as progression from appearance of secondary sexual characteristics to sexual and reproductive maturity, and transition from total socioeconomic dependence to relative independence (WHO, 1995).

Adolescents are the larger and growing segment of the population in many of the developing countries. Of an estimated, 1.2 billion young people live in the world, 85% live in developing countries ; and about 25% of persons in sub-Saharan Africa was 10 to 19 years old (UNFPA, 2005).

A significant number of adolescents in the world are sexually active and an increasing proportion of sexual activity is occurring outside marriage (PATH, 2004). In Jamaica, 38% of female adolescents (15-17 years) have had sexual intercourse (Egglestron et al., 1999). A study of unmarried teenage mothers in Chile showed that the proportion of births to unmarried teenage mothers rose sharply, from 29% in 1960, to 60% in 1989 (Buvinic, et al., 1992). Several studies in sub-Saharan Africa have also documented that high and increasing premarital sexual activity among adolescents (Sederowitz, 1999). For example, a study conducted in Nigeria revealed that one-third of adolescents who were participated in the study had already experienced sexual intercourse (Sunmala et al., 2003). Similarly, in Ethiopia adolescents involve themselves in sexual relationship before marriage or at earlier (Negussie, 1996). Studies conducted by Abebe (2007), and Simret (2007) had shown that 36.1 percent of in school female adolescents in Woreta town, and 12.6 percent of school female adolescents in Addis Ababa had experienced sexual intercourse, respectively.

The problems and risks of unprotected sex, unintended pregnancy, and sexually transmitted infections are inextricably linked. Moreover, women, particularly young women, are socially, economically and biologically more vulnerable than men. According to UNAIDS (2002) report an estimated total of 38.6 million adults, of whom, 11.8 million were adolescents aged 15-24, were living with HIV/AIDS. In parts of Africa, due to sexual networking patterns, more young girls than young boys are infected. In some cities, the infection rate among adolescent girls aged 15-19 years is two to eight times higher than among adolescent boys (Glynn et al., 2001). Similarly in Ethiopia, the prevalence of HIV among females was 2.6 where as it was 1.7 for males (MOH, 2007).

The early sexual activity of female adolescents can expose them to the risks of unintended pregnancy, unsafe abortion and sexually transmitted diseases including HIV/AIDS. Young women initiating sexual activity at earlier age based on cultural norms, peer pressure and economic pressure (Hallman, 2004). In Ethiopia, few studies in different parts of the country had shown the effects of socio-economic and cultural factors on sexual activities of female adolescents.

1.2 Statement of the research problem

Adolescence is a period of life that has come to be regarded as a period of intense sexual drive and drug experimentation (Evelyn and Osafu, 1999). There is widening gap between the age of sexual maturity and that at which sexual relations become legitimate. The combination of young peoples' relative inexperience in sexual matters and the social stigma attached to them being sexually active creates vulnerability (Dehne and Riedner, 2003). It is also apparent that women's reproductive decisions did not occur solely in private spheres, but were conditioned by a set of individuals and cultural factors that went beyond individual wishes and experiences (Riva et al., 2003).

Research evidence suggests that young women are increasingly becoming sexually active at an early age, increasing the risks of unplanned pregnancy and exposure to HIV/AIDS (Jackson and Harrison, 1999). This is particularly true with unprotected sexual activity which is often exacerbated by the fact that most young women are likely to have sex with men older than themselves, who have longer sexual histories and higher chance of being infected with HIV/AIDS (Radhakrishna et al., 2000).

Moreover, the consequence of unprotected sexual activity is greater for females than for males. For example, the transmission of HIV/AIDS is more effective from male to female than from female to male (Population Council, 1994). In addition to the relatively high level of pregnancy complications among young mothers because of physiological immaturity, an early start to childbearing greatly reduces the educational and employment opportunities of young women. The literature also suggests that teenage childbearing is most likely to be a problem among unmarried girls, especially when they are still in school (Cherlin & Rilley, 1986).

Young people need correct information and proper guidance about their sexuality and reproductive health. However, despite the growing needs, there is no adequate health service or counseling specifically suitable for this specific age group unlike children, mother or adults (Pathfinder International, 1999). On the other hand, as a result of cultural taboo, adolescents do not discuss issues of sexuality and reproduction with their parents. For example, a study conducted on high school students in a rural town of Ethiopia showed that more than half of the respondents believed that it is unacceptable to discuss growth changes and sexual issues with parents during adolescence (Negussie, 1999). Moreover in Ethiopia, public discussion of sexual information purposely to adolescents is uncomfortable idea to many people (FGAE, 1999).

This view left adolescents without adequate awareness about their sexuality and reproductive health. This situation may also be aggravated by poor socio-economic and harmful traditional practices in the country. It is, therefore, essential to have a better understanding of adolescents' sexual activities, particularly concerning on female adolescents, to guide appropriate social policies.

Having this, the present study was primarily intended to provide an understanding on association between the socio-economic, demographic and cultural factors; and premarital sexual activities of female adolescents in Maichew town.

1.3 Objective of the study

The general objective of the study was to critically investigate correlates of premarital sexual practice among high school female adolescents in Maichew town.

Based on the major objective stated above the following specific objectives were set:

i. To determine the prevalence of premarital sexual practice among high school female adolescents.
ii. To examine the effect of communication between parents and female adolescents on premarital sexual activities female adolescents.
iii. To assess the association between parental education and female adolescents premarital sexual practice.
iv. To look how living arrangement influence female adolescents premarital sexual practice.
v. To examine how peers and siblings influence sexual activities of adolescents.

1.4 Research hypotheses

To achieve the above stated objectives, the investigator formulated the following leading research hypotheses.

i. Mothers' education has a negative relationship with sexual experience of female adolescents
ii. Female adolescents who live with intact parents are less likely to have premarital sexual practice
iii. Female adolescents who had discussion with their parents about sex related issue are less likely to have premarital sexual practice.

iv. Female adolescents who had sexually experienced intimate friend (female) are high likely to have sex before marriage.

v. Female adolescents who had sexually experienced unmarried elder sister are high likely to have sex before marriage.

1.5 Significance of the study

The study site, Maichew, was selected as a study area due to the following main reasons. The town is the capital of southern Tigray administrative zone. Moreover, there is no relevant study especially concerning correlates of premarital sexual practice among adolescents that has been conducted yet in the town. Therefore, the study would serve as a baseline for further investigation in the areas of premarital sexual activities in the town or the region as a whole.

The study problem, premarital sexual practice of adolescents, was obviously selected because the sexual activities of young people today will have a profound effect on the population size, health and resources for years to come. This study mainly focuses on correlates of female adolescent's premarital sexual practice. This is because female adolescents for various reasons are more vulnerable to reproductive health problems than their male counterparts.

Thus the finding of this study will help organizations working on youth reproductive health, gender and education, in understanding the socio-economic and demographic factors that affect female adolescents' sexual activities; and hence it will be used for appropriate intervention programs.

1.6 Limitation of the study

Although efforts were done to minimize biases of respondents, through properly applying ethical issues such as anonymity and confidentiality and by using self-administered questionnaire for data collection, social desirability biases may not be totally avoided. This is because the study touches sensitive issues, sexual activity, which is taboo in the society. Thus respondents may prefer socially acceptable answers when replying to these questions which will introduce social desirability bias.

Moreover, the study reflected only the experience of female adolescents who were attending class at the time when the survey data was collected. Thus, the other limitation of this study is the exclusion school drop-out female students, which is likely to affect the result of this study to some extent. This is because female students may be dropped out of the school as a result of pregnancy or its outcomes.

1.7 Operational definitions

Adolescent: WHO (1995) defines adolescent people as young person between the ages of 10 and 19 years. For the purpose of this study, adolescent refers to high school female adolescents in the age group of 15 to 20 years.

Sexual initiation: refers to the commencement of sexual intercourse.

Religiosity: frequency of attending religious services.

Knowledge: awareness of adolescents about HIV/AIDS, STDs or contraception.

Better knowledge about HIV/AIDS: Female adolescents who know two or more correct mode of HIV transmission and reject the two misconceptions that HIV can be transmitted through mosquito bites and by sharing food.

Poor knowledge about HIV/AIDS: Adolescents who identifies less than correct mode of HIV transmission or do not reject the two misconceptions that HIV can be transmitted through mosquito bites and by sharing food.

Parent-adolescent discussion: The discussion between parents and adolescents about sex-related issues.

Elder sister: a sister who is older than a given adolescent.

1.8 Research variables

1.8.1. Dependent variable

The dependent variable is premarital sexual practice. The data on premarital sexual practice was measured by asking respondents whether they ever had sex or not.

1.8.2. Independent variables

Independent variables are selected based on review of the literature. The following independent variables are included in this study.

Parental characteristics: father's education, mother's education, mother's occupation, living arrangement, household income and parental residence.

Individual characteristics: age, education, religion, religiosity, and employment.

Exposure Related Factors: mass media, siblings influence, peer influence and parent-adolescent discussion.

1.8.3. Intermediate variables

The following intermediate variables are also considered in this study: knowledge about HIV/AIDS, knowledge about contraception and attitudes towards premarital sex.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

Several research evidence showed that the sexual activity of female adolescents have been influenced by socio-economic, demographic, cultural and parental characteristics. In this section, the relationship between the above mentioned variables and female adolescents' premarital sexual activity are reviewed.

2.1 Family background characteristics

The relationship between family background characteristics and female adolescents' sexual activities had been studied by different scholars. In this section, parental characteristics such as household income, education, living arrangement, occupation and parent-adolescent communication regarding sexual issues and the resulting effects on female adolescent sexual activity were reviewed.

2.1.1Household income

Erickson (1998) and Bogenshneider et al. (1996) generalized that adolescents from families with lower income had sex four to six months earlier than those from higher income families. Similarly in Nigeria, adolescents who reported to have low parental income were more sexually active than those reported to have high or medium parental income (Odimegmu et al., 2002).

A study conducted on female adolescents sexual behavior in Addis Ababa (Simret, 2007) showed that the relative risk of involving in to sexual initiation decreases as household income increases.

2.1.2Parental education and employment

Parental education predicts the sexual behavior of female adolescents. Research studies strongly support to the hypothesis that parental education and adolescent sexual activity are inversely associated. A study conducted by Martison and Bumpass (1990) in United States, revealed that having a mother with less than a high school education increases the risk of having premarital birth by about 107 percent for white and 46 percent for black women under age 30.

Similarly, Sileshi (2005) and Simret (2007) showed that adolescents' sexual activity reduced as the level of mother's education rises.

Hanson et al. (1989) proposed that having a working mother may lead to less supervision of adolescents which implies that having mother who worked may increase the risk of premarital sexual activities.

2.1.3 Living arrangement

Study showed that young adolescents from intact families are less likely to have premarital sexual practice. Bogenshneider et al. (1996) revealed that unmarried daughters of single parents were three times more likely to have a child than unmarried girls in stable families. Martinson and Bumpass (1990) showed that the effects of age at separation of family on premarital birth. The effect of separation from a parent on premarital fertility appears to be highest among those for whom this separation occurred at ages 6-11.

Studies conducted in Ethiopia, have also supported the negative relationship between living with both biological parents and the risk of involvement into sexual intercourse of adolescents. For example, Abebe (2007) showed that adolescents who lived with single parent was 52.7 percent more likely ever having had sex compared with adolescents who lived with both biological parents. Similarly, Simret (2007) revealed that adolescents with intact parents are less likely to involve into sexual activities. She explained the negative relationship of intact family and sexual activity is due to adolescents from intact parents received focused attention and was coached properly about their sexual behavior. Another study also explained that the risk of premarital sexual intercourse among female adolescents not living with both biological parents was 10.31 times higher as compared to adolescents living with both biological parents (Desta, 2007).

However, Karim et al. (2003) failed to produce evidence of strong effects of living arrangement on sexual and contraceptive behavior. Karim et al. (2003) explained the possible reason for this finding is that in the sub-Saharan Africa context, where extended families and 'fostering' are common, family members other than biological parents play the greatest role in supervision and mentoring in matters related to sexual relations and contraception.

2.1.4 Parent- adolescent discussion

Family communication on sex-related issues is a powerful predictor of adolescents' sexual activity. Good communication delays sexual debut and promotes the use of contraceptives, especially among daughters (Holftzman and Rubinson, 1995). Karim et al. (2003) revealed that communication with family members about avoiding sex associated with a lower probability of ever having had sex among male youth where as communication with family members regarding contraceptive use associated with higher likelihood of being sexually experienced among youth of both genders.

A study carried out in Ethiopia revealed that when communication at family level takes place the message on sexually is ambiguous (Negussie et al., 1999). For example, statements such as 'do not play with boys' are given by mothers when advising their teenage girls on sexuality. When young people raise the question of sexuality for discussion, their parents would interpret it as actual evidence of sexual involvement; and parents also feared that if they talked about sex they might make their adolescent more interested in exploring and practicing sex.

Studies conducted in different regions of Ethiopia showed the negative relationship between parent-adolescent discussion and adolescents sexual activities. For example, Simret (2007) revealed parent-adolescent discussion about sex diminishes adolescent girls' involvement into sexual activity.

2.2 Socio-cultural and psychological factors

2.2.1 Educational level

Many studies have documented significance difference in the involvement of sexual activity with education level. A study conducted in Ghana (Karim et al., 2003) indicated that youth who are currently attending school were less likely than others to have ever had sex, and the effect was considerably larger for females than for males. Bauni (1990) explained that modern education exposes adolescents to different value systems, and the school environment enables them to interact more with partners of opposite sex. In Ethiopia, Dejene (2005) found that with an increase of educational level, there is an increase in sexual activity.

2.2.2 Religion/ Religiosity

Religious affiliation and religiosity, which reflect the societal values and norms, are expected to have an influence on premarital sexual activities. Research evidence has shown that religion and frequency of attending religious services have influence on sexual behavior and attitudes of adolescents. A study conducted by Meekers (1993) in sub-Saharan Africa revealed that consistent with the strong emphasis on premarital virginity in Islamic societies; Muslim women in Ghana, Liberia, and Togo were much less likely to have had sexual intercourse before marriage than women who adhere to traditional religions. A study conducted by Desta (2007) in Dire Dawa town has shown that the risk of having premarital sex among unmarried Muslim adolescents 5.5 times higher with reference to those Christian; while another study in Bahir Dar town has shown that Muslims were less likely than Christian to have had premarital sexual intercourse (Berhanu, 1998).

With regard to religiosity, Abebe (2007) showed that the involvement of female adolescents into sexual intercourse who attended religious institution occasionally was 3.477 times more likely compared with those who attended daily.

2.2.3 Peer and siblings' influence

Peer behavior and influence emerged as strong predictor of sexual behavior. According to Karim et al. (2003) youth who perceived that their friends were sexually active were more likely to be sexually experienced than were youth who thought that their friends had not yet initiated intercourse; the effect was larger for female than for males.

For many children, the family is the primary environment where they learn how to socialize and behave. Research generally revealed that siblings influence each other in many areas; including sexuality and reproduction. In many families around the world, according to Diop (2005), an older children particularly sister look after their younger siblings to help their parents, who may be busy with household chores or outside work, in such families an older child can be an important role model for younger siblings during their early years of life and thus influence their behavior.

Karim et al. (2003) have also shown that having a sister who had become pregnant before marriage was associated with an increased likelihood of being sexually initiated and with a greater number of life time sexual partners among males. By contrast, U.S evidence suggests that females were more susceptible to peer influence than males (Philliber, 1999).

2.3 Attitudes towards premarital sex

Attitudes towards sexual activity before marriage are generally shaped by societal norms and values. A study conducted in Jamaica (Egglestron et al., 1999) revealed that the sexual attitudes and behavior of adolescents had been significantly shaped by socio-cultural and gender norms. The study had also indicated that boys perceive social encouragement and pressure to be sexually active, while girls, who had sex, particularly if pregnancy followed after their sexual activity, are labeled as having poor moral character. Given the social rewards bestowed on sexually active boys and the stigma attached to sexual activity among girls, it is high likely that socio-cultural factors affect female adolescents' premarital sexual activity. A recent study which was conducted in Woreta town revealed that female adolescents who had agreed towards premarital sex were 31.2% high likely to have had sexual intercourse compared with those who have disagreed toward premarital sex (Abele, 2007).

2.4 Theoretical background

In this section the three theoretical perspectives on female sexual Behavior in Africa which was developed by Djamba (1997) is used to develop the relationship between family background characteristics, socio-economic and demographic characteristics of respondents and female adolescents' sexual activity. These theoretical approaches can be divided in to three broad categories.

2.4.1Rational adaptation/ Economic hypotheses

Advocates of the rational adaptation theory argued that early sexual initiation of female adolescents for economic reason is rational. Accordingly sexual activity of female adolescents has a negative relation with adolescents' income. Under the rational adaptation assumption, sexual relations are viewed as a means by which young women get economic benefits (Meekers, 1994). In this theory, it is suggested that female sexual behavior can be considered as a function of kinship system, individual characteristics, economic resources, and biological factors. A proxy measure for the latter could be age. In the absence of detailed data on sexual relations, as Djamba (1997) suggested, financial capital measured through family wealth can be used to empirically test the validity of rational adaptation theory.

2.4.2 Social disorganization theory

This theory assumes that premarital sexual activity is the result of the breakdown of traditional social controls that older persons have over the younger ones (Bleek and Cherlin, 1986). Factors usually associated with traditional social controls are education, urbanization, and mass media (Meekes, 1994). Bauni (1990) revealed that the removal of sexuality from the control of the community resulted in individual decisions about when, where, with whom and for what purpose to have sexual intercourse. This change can be attributed at least in part to the fact that educated youths now obtain knowledge from books which can be used to challenge the wisdom of the older generation. Furthermore, individual decision making has become more important because individuals are no longer accountable for their behavior directly to the elders but rather to the judges in the court (Bauni, 1990).

Parents are, therefore, in capable to guide and control their children in accordance with the traditional social settings. The powerlessness of parents is aggravated if they have low education, not in an intact family, and poor communication with their children (Cherlin and Rilley, 1986).

2.4.3 Anthropological perspectives

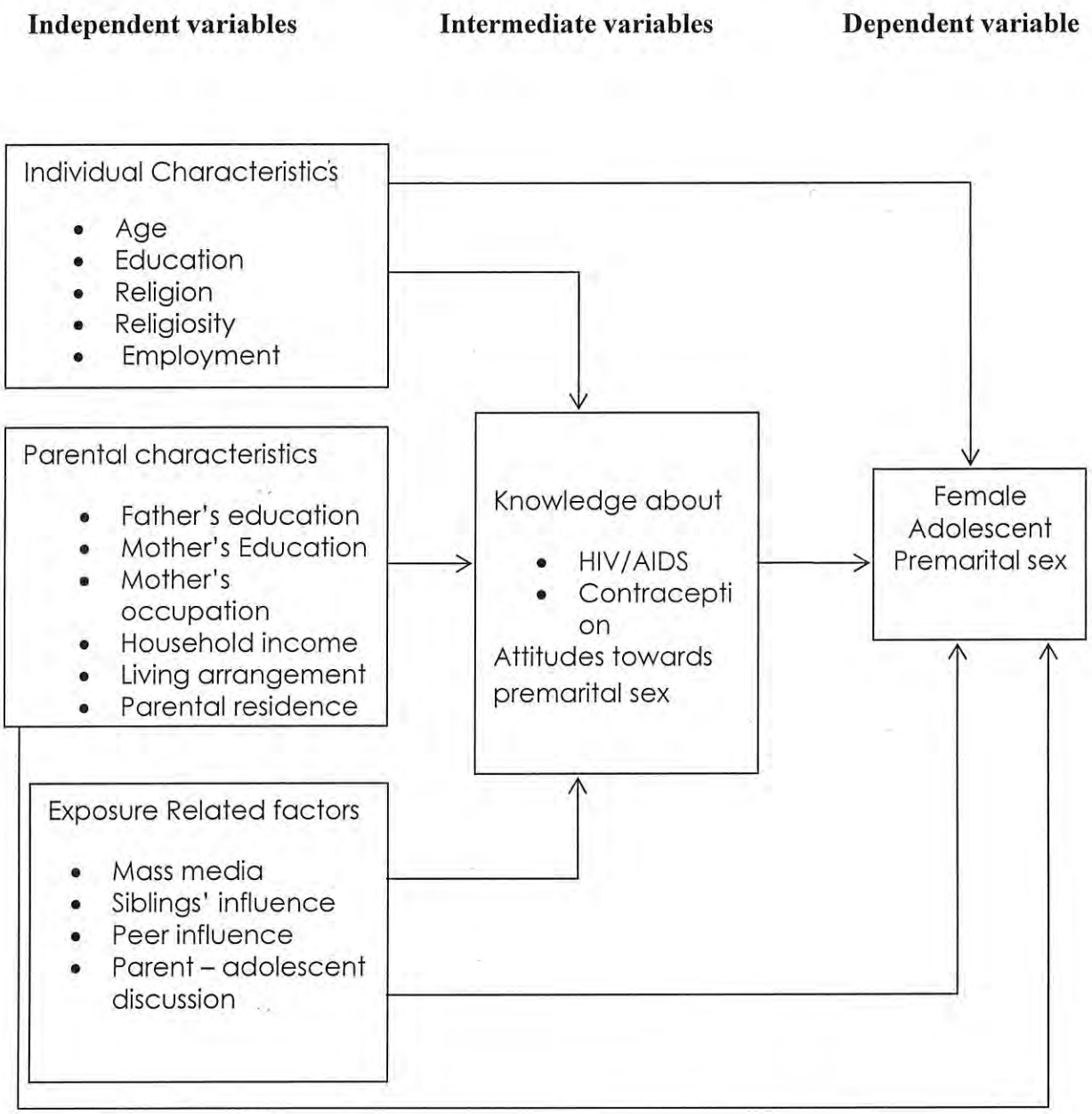
Anthropologists emphasize that influence of social structure in shaping female sexual behavior. Schlegel and Barry (1986) argued that female social role is positively associated with sexual permissiveness. According to these authors, attitude towards sexual intercourse is related to female contribution to subsistence. Therefore, sexual permissiveness would characterize societies with a high female contribution to subsistence. Thus assuming women's contribution to subsistence is high in rural areas than in cities, then it is expected that women who live in rural areas would be more permissive than their urban counterparts. Another important factor that affects female sexual behavior, according to Goody (1976), is religion. A better measure for religious effect is religiosity.

2.5 Conceptual framework

The conceptual frame work of this study is modified from Djamba (1997). He developed the model based on the aforementioned theoretical perspectives. The frame work explains the relationship by taking into account individual characteristics, parental characteristics, exposure related factors, knowledge about HIV/AIDS and contraception in explaining female sexual behavior. From this the researcher modified concepts like, human capital, social capital, financial capital and kinship system. New variables included in the model are peer influence, employment, siblings influence, attitudes towards premarital sex, parent-adolescent discussion, mother's occupation, parental residence and living arrangement.

Thus, the dependent, independent and intervening variables are organized based on the relation ship of these variables on the basis of reviewed literature and work of Djamba (1997) by the following conceptual framework.

Figure 2.5 Conceptual framework for the study



Source: Modified from Djamba (1997)

CHAPTER THREE
DATA AND METHODOLOGY

3.1 Profile of the study area

The study area, Maichew, is the capital of Southern Tigray administrative zone, Tigray Region. It is found 662 km north of Addis Ababa along the main highway to Mekelle. Maichew is renowned for its historical significance as the site of the battle between Ethiopia and Italy in 1935/36. Geographically, the town is located at of $12^{0}47^{1}$ N latitude and $39^{0}32^{1}$E longitude. It has '*Dega*' climate with cold air condition.

The population of Maichew town, numbered 13,996 in 1984 has increased to 19,757 in 1994 growing at an average rate of 3.5 percent (CSA, 1995). According to the recent survey conducted in the town, the population of Maichew was estimated to be 35,463 at the end of 2007 in the case of medium variant (Mathewos consult, 2008). According to 1994 census data, total fertility rate(TFR) in the town was 3.2, which was lower than the TFR for urban centers of the Tigray Region(TFR=4.2).The expectation of life at birth on the other hand was estimated to be 48 years for males and 58 years for females in 1994.

At present the town is divided in to four *Kebeles* and is administered by a town's council. In the town there are six primary schools (Grade 1-8), one **Comprehensive Secondary School**, four colleges including the two private colleges. With respect to health institutions, the town has one referral hospital and one health center.

According to the recent survey analysis results, the major social problems in the town were mainly caused by poverty emanated from unemployment and low level of income. The great majority about 80 percent of the residents of the Maichew town depends on meager monthly income of Birr 750 per month, and only 6.2 percent of residents earn Birr 2500 and more per month. The other types of social problems were prostitution, HIV/AIDS, needy elderly, street children and orphans (Mathewos consult, 2008).

Concerning HIV/AIDS, the prevalence, in Maichew town and its surroundings, was the highest (16.5% in 1999 E.C) as compared to other urban centers in Tigray region (the average for urban centers in the region in the same period was 13%)(Mathewos consult, 2008).

The residents of Maichew town in both religious and ethnic background could be almost said homogenous type. In the town 88 percent are Orthodox Christians, and 96 percent of the total populations are Tigraway (Mathewos consult, 2008).

Figure 3.1 Location of Maichew within Ethiopia

Source: The Nordic Africa Institute website

3.2 Data source

Quantitative data was used for the materialization of this study. The source of quantitative data was a survey which was conducted on unmarried female adolescents in Tilahun Yigzaw Comprehensive Secondary School.

3.3 Study population

The study populations for this study were unmarried female adolescents that are between the ages 15-20 years in Tilahun Yigzaw Comprehensive Secondary School.

3.4 Study design

A cross-sectional study design method was employed to undertake this investigation because it is important for collections of information from the respondents and to look the problem at specific time.

3.5 Sample size determination

The sample size of the study was determined based on standard statistical procedures and assumption.

The sample size is determined by the formula proposed by Gordon and Gordon (1994).

$$n = \frac{p[1-p]Z^2}{E^2}$$

Were n is sample size

P is proportion of female adolescents who had sex before marriage. It was assumed to be 50% as the researcher does not have information regarding the extent of the problem.

Z is the number of standard error units that are found to be corresponding to 95% confidence level, which is given to be 1.96.

E is margin of error or limit of accuracy to be tolerated in estimating the proportion of female adolescent's sexual experience, which was taken to be 0.04.

Therefore the required sample size was:

$$n = \frac{p[1-p]Z^2}{E^2} = \frac{0.5[1-0.5]1.96^2}{0.04^2} = 600$$

Five percent of contingency was added, i.e. 600+0.05(600) = 630

Thus the over all sample size was 630

3.6 Sampling technique/procedure

A probability sampling method was used for the selection of the study subjects from Tilahun Yigzaw Comprehensive Secondary School female students.

To ensure that each grade level (Grade 9, Grade 10, Grade 11 and Grade 12) female students are adequately represented in the sample, proportionate stratified random sampling method was employed. Accordingly, in the school the total female students were initially stratified in to four groups (strata): Grade 9, Grade 10, Grade 11 and Grade 12 female students. Then the total sample size of the study subjects was distributed to each strata using probability proportional to their size (PPS).

Subsequently a sampling frame, list of female students, was prepared from enrolment list of students which was obtained from school records. Finally, systematic random sampling method was used to select respondents with a sampling interval of three from the list of female students in each stratum.

Thus, as shown in the Table3.6, 259 unmarried female students from Grade 9, 183 from Grade 10, 67 from Grade 11 and 121 from Grade 12 were randomly selected from Tilahun Yigzaw Comprehensive Secondary School female students.

However, six respondents did not completely fill the questionnaire and hence were excluded from this study.

Table3.6 Percentage of eligible female students by educational level, Tilahun Yigzaw Comprehensive Secondary School, 2008

Educational level	All female students (N)	*Percentage of eligible respondents (p)	*Sample size (n)
Grade 9	706	41.1	259
Grade 10	498	29.0	183
Grade 11	183	10.6	67
Grade12	332	19.3	121
Total	1719	100	630

P= (N/1719) *100 n = (p/100) * 630

Source: Tilahun Yigzaw Comprehensive Secondary School and survey result, 2008

*Author's calculation

3.7 Data collection

3.7.1 Data collection instrument

After reviewing of relevant literatures, many that could address the objective of the study was gathered and adopted from previous similar studies and other materials. The questions and statements was grouped and arranged according to the particular that they can address. After extensive revision, the final version of the English questionnaire was developed.

The questionnaire was translated from English to Amharic for the respondent easy understanding. Then the questionnaire was used to gather information from the respondents. So as to minimize the potential complexities and data defects, most of the items were pre-coded with a great deal of precautions.

3.7.2 Pre-testing the instrument

Prior to the start of the field work, the questionnaire was pre-tested among 20 respondents who were not in the main study area (Tilahun Yigzaw Comprehensive Secondary School), to make sure that the questions are clear and understandable by the respondents.

These 20 students were selected from Hashenge College, which is found in Maichew town. After pre-testing of the questionnaire was completed, the researcher modified some questions (clarity, and wording of items) based on the feedback which was obtained from the respondents.

3.7.3 Data collection process

1. **Recruiting and training**

Ten female data collectors who completed Grade 10; and who could speak both Amharic and Tigrigna fluently were hired. Data collectors were given two days training before the actual work about the aim of the study, research procedures, data collection technique, content of the questionnaire (by going through each questions of the questionnaire) and clarification was given on each questions of the data collectors.

2. **Criteria for selection of data collectors**

- Females in the age group of 15 to 20 years who are fluent in Tigrigna and Amharic
- Know the study area very well, preferably a student in Tilahun Yigzaw Comprehensive Secondary School.
- Better academic performance.

3.7.4 Data collecting management

Before the inception of the main data collection, the data collector's proficiency was examined and for those who were found to be less competent extended training was given and close follow up was made during the data collection process by the researcher. The refined and finalized data gathering instrument was administered to Tilahun Yigzaw Comprehensive Secondary School female students.

The administration of the questionnaire was done with the help of ten data collectors. Before distribution of the questionnaire the objective of the study was explained clearly for the respondents. The consent of each respondent was asked by the data collectors and sufficient time was given to contemplate on the implication of the item and provide accurate information. The respondents were congregate in different classrooms of the school to fill the questionnaire Moreover, conducive situation and enough time was arranged for participants in order to avoid hurried responses.

During the actual data collection, the researcher checked the activities of each data collectors in the school. The necessary feedback was also offered to the data collectors.

3.8 Data processing and data analysis

3.8.1. Data processing

After data collection, each questionnaire was checked visually for completeness. The corresponding code number was written carefully at each margin. After this, the investigator entered the data using Statistical Package for Social Sciences (SPSS) software version 15.0 for data cleaning and analysis. During data entry values out of range and consistency of values for inter-related fields was checked and edited.

3.8.2. Method of analysis

The data colleted was analyzed using univariate, bivariate and multivariate techniques. Univariate analysis was used to describe the profile of the respondents parental characteristics, individual characteristics, exposure related factors, and sexual activities of the respondents. Bivariate analysis was used to assess the relationship of several independent variables with the dependent variable by using chi-square test. The chi-square test was used to identify the independent variables that explain the dependent variable which was retained for further analysis at the multivariate stage. Multivariate analysis was used to measure the degree of the risk of attributes to each factor. Thus multivariate analysis was carried out to explore the net effects of independent variables by controlling possible intervening variables. To do multivariate analysis, a binary logistic regression model was used.

The general form of logistic model is:

$$\ln\left[\frac{p_i}{1-p_i}\right] = B_0 + B_1X_{i1} + B_2X_{i2} + \cdots + B_kX_{ik}$$

Where p_i is the probability of experiencing premarital sex for an i^{th} individual ;
B_i is the parameter coefficient B_0 is a constant and
X is the value of an independent variable

Binary logistic regression is a form of regression, which is used when the dependent variable is dichotomous and the independent variables are of any type. The dependent variable for this study, sexual activity, is binary or dichotomous variable (with two outcomes). The value label of the variable is "1" if the respondent ever had sexual intercourse and "0" if the respondent never had sexual intercourse.

Binary logistic regression predicts the log of odds of the dependent variable as a linear function of the independent variables. For the dichotomies case, if the logit for a given independent variable is B, then a unit increase in the independent variable is associated with a B change in the log adds of the dependent variable.

A relative risk, Exp(B), estimate greater than one signifies an increased likelihood for the outcome, while a value less than one indicates a decreased likelihood for the given outcome. In addition, the sign of B (logistic coefficient) indicate the direction of the change.

3.9 Ethical considerations

This study was conducted in conformity with the ethical guidelines approval of the Institute of Population Studies. By explaining the objective of the study and its significance, relevant permission was obtained from the responsible bodies of the educational department, at 'Wereda' level before the commencement of this study. At individual level, after explaining the purpose of the study, verbal consent was asked from all participants prior to their participation in this study. Furthermore, the respondents were informed that their participation in the study is on a voluntary basis and they would not be obligated to provide answers to any question (s) with which they are uncomfortable. They would also be free to withdraw their participation form the study at any time they want. Participants were also assured that confidentiality would be maintained; and respondents name would not be included in the questionnaire.

CHAPTER FOUR

BACKGROUND CHARACHTERSTICS OF RESPONDENTS AND THEIR PARENTS

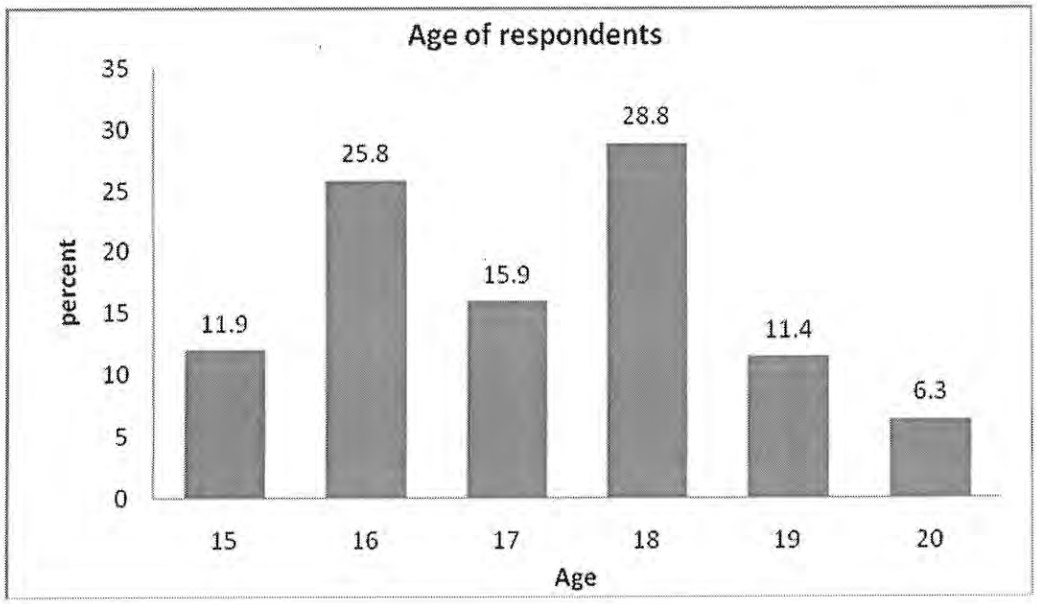
This chapter deals with the socio-economic and demographic characteristics of the respondents and their parents, sexual activities of female adolescents and knowledge about HIV/AIDS, STDs, contraception, and attitudes towards premarital sex.

4.1 Respondents background characteristics

4.1.1 Demographic characteristics

A total of 624 secondary and preparatory school never married female adolescents were included in this study. All female adolescents were in the age group of 15 to 20 years. Female adolescents in the age group of 15-19 accounted for 93.8%. The mean and median of the respondents were 17.2 and 17 years, respectively. The youngest respondent was 15 years old and the oldest one was 20 years old. Percentage distribution of respondents by single age is depicted by the graph given below.

Graph 4.1.1 Percentage distribution of respondents by single age.

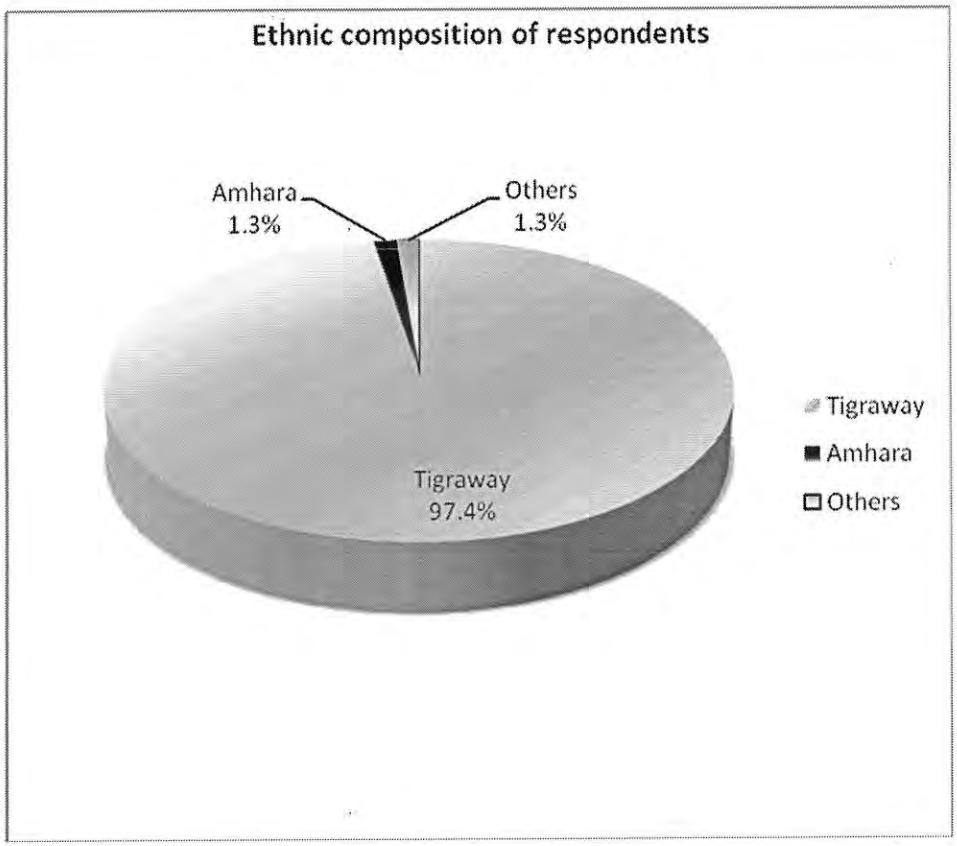


Source: Computed from the primary data of this study.

4.1.2 Social characteristics of respondents

The distribution of respondents by ethnic group is presented by the graph 4.1.2.1. The pattern showed that almost all respondents (97.4%) belong to Tigraway ethnic group.

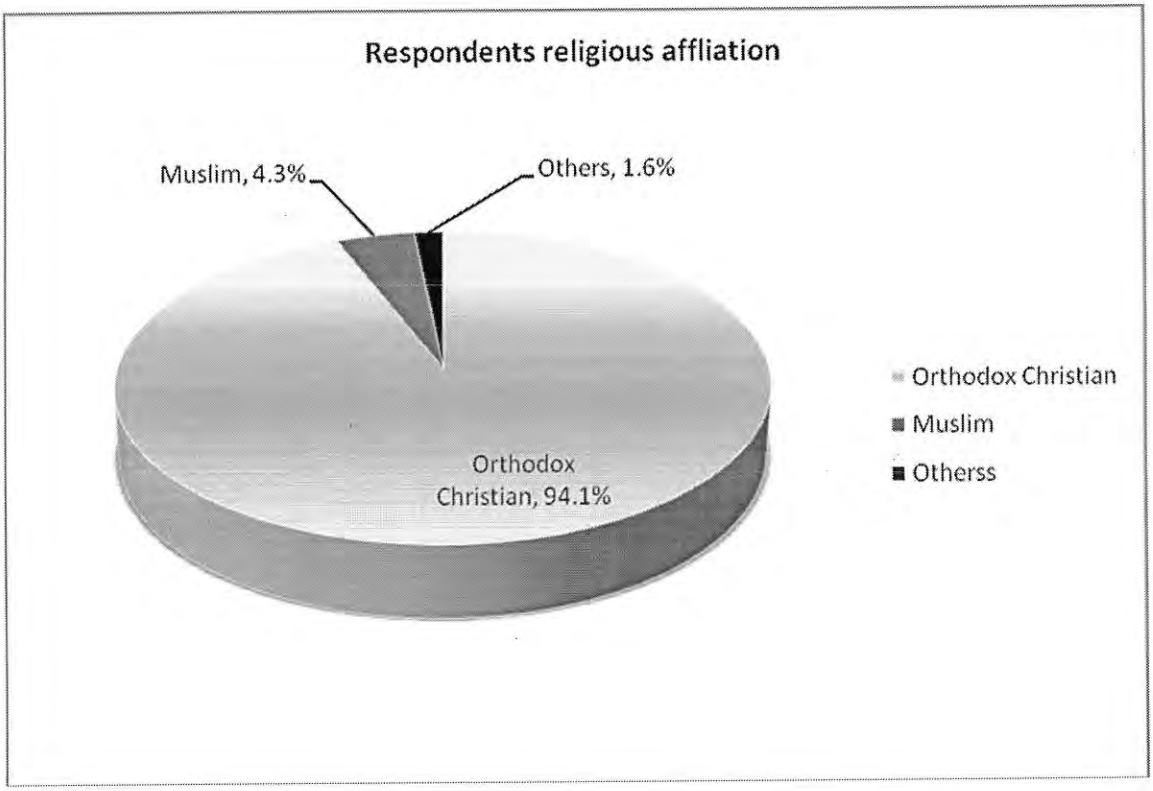
Graph 4.1.2.1 Percentage distribution of respondents by ethnicity



Source: Computed from the primary data of this study.

Data on the distribution of respondents by religion was also collected. The distribution of respondents by religion showed that majority of respondents (94.4%) was Orthodox Christians (Graph 4.1.2.2).

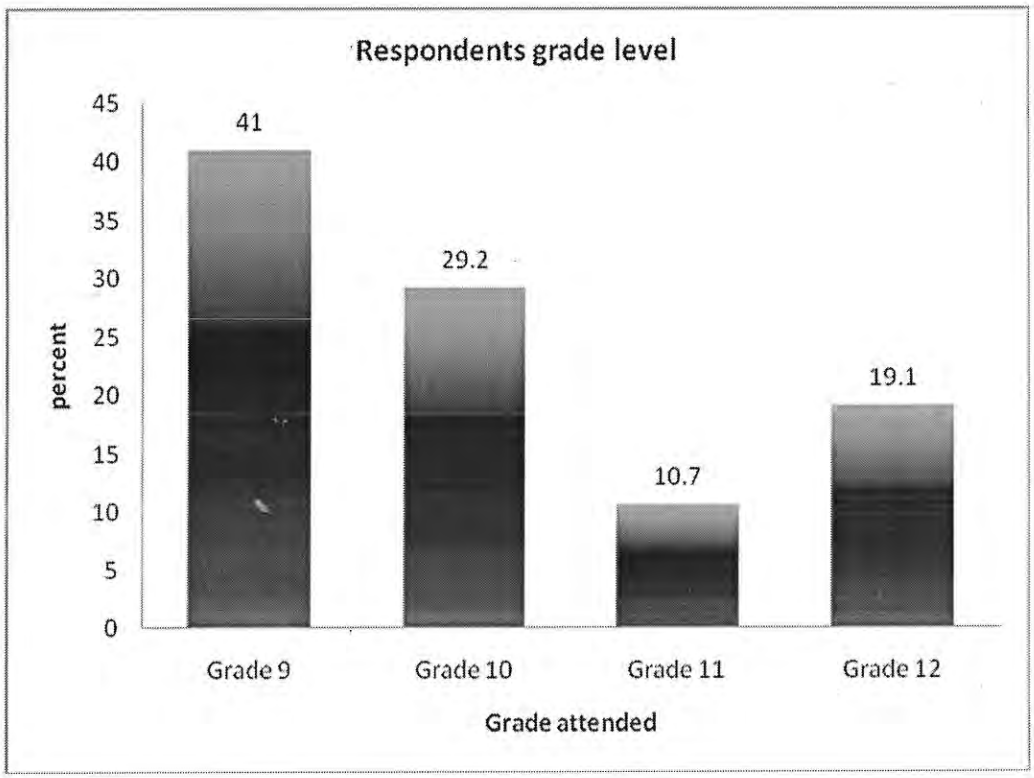
Graph 4.1.2.2 Percentage distribution of respondents by religion



Source: Computed from the primary data of this study.

Information on educational status of respondents indicated that at the time of the survey, majority of adolescents were attending secondary school, i.e. 41 percent and 29.2 percent of respondents were attending grade 9 and grade 10, respectively (Graph 4.1.2.3).

Graph 4.1.2.3 Percentage distribution of respondents by grade level



Source: Computed from the primary data of this study.

4.2 Background characteristics of respondents' parents

In this survey, respondents were asked about background characteristics their parents. Table 4.2 shows selected background characteristics of the respondents' parents.

Table 4.2 Percentage distributions of respondents' parents by background characteristics, Maichew Town, 2008

Characteristics	Number (624)	percentage (100)
Parental residence		
Rural	307	49.2
Urban	317	50.8
Mother's Education		
No schooling	497	79.6
Primary (Grade 1-8)	44	7.1
Secondary or above	83	13.3
Father's education		
No schooling	427	68.4
Primary (Grade 1-8)	85	13.6
Secondary or above	112	17.9
Mother's occupation		
House wife	278	44.6
Employed(Government or private)	171	27.4
Others (farmers)	175	28
Household Income		
Less than Birr 500 per month	347	55.6
Birr 500-1000 per month	186	29.8
More than Birr 1000 per month	91	14.6
Living arrangement		
Intact	328	52.6
Non-intact	296	47.4
Parent-adolescent discussion		
Yes	283	45.4
No	341	54.6

Source: Computed from the primary data of this study.

As shown in the above table, almost half (49.2%) of the respondents' parent live in rural areas and more than half (55.6%) of them earn less than Birr 500 per month. Majority of the respondents' mother (79.6%) had no formal education while only 13.3% of them have attended secondary or above level. Data on respondents mothers' occupation revealed that 44.6 per cent of them are house wives, 27.4 percent are employed (government or private), and the remaining 28 percent are farmers & daily laborers.

Data were also collected concerning parent-adolescent discussion about sexual matters, the data showed that 45.4 percent of girls (283) discussed with their parents about sexual issues while 54.6 percent of them (341) have never discussed with their parents about this issue.

4.3 Exposure of female adolescents to some selected individuals

Under this section adolescents were asked whether they had, boy friend, an elder sister who had started sex before marriage, and an intimate friend who had started sex before marriage. The responses to these questions are summarized in Table 4.3

Table 4.3 Percentage distribution of respondents who had boy friend, sexually experienced elder sister and/or intimate friend, Maichew, 2008

Characteristics	Number (624)	percentage (100)
Boy friend		
Yes	183	29.3
No	441	70.7
Elder sister who had started sex before marriage		
Yes	159	25.5
No	465	74.5
Intimate friend who had started sex before marriage		
Yes	190	30.4
No	434.	69.6

Source: Computed from the primary data of this study.

Table 4.3 depicted that about 29.3 percent of the female adolescents had boy friend and about one-fourth (25.5%) of respondents had an elder sister who had started sex before marriage.

4.4 Information and knowledge

In this section, an attempt is made to present the result of the study by examining knowledge and source of information about HIV/AIDS, STDs and contraception of unmarried female adolescents in the age group 15 to 24.

4.4.1 Knowledge about STDs other than HIV/AIDS

Respondents were asked whether they had ever heard of STDs or not, the majority about half (47.1%) of respondents are familiar with one or less STDs other than HIV/AIDS and the remaining 52.9 percent know two or more STDs other than HIV/AIDS. As indicated in table 4.4.1, 23.4% have ever heard of syphilis, 33.3% and 38.5% have ever heard of gonorrhea & chancroids respectively.

Table 4.4.1 Percentage distribution of respondents' knowledge about STDs other than HIV/AIDS, Maichew, 2008

Characteristics	Number	percentage
Knowledge about STDs other than HIV/AIDS		
One or less STDs	294	47.1
Two or more	330	52.9
Type of STDS other than HI/AIDS known (N=624)*		
Gonorrhea	208	33.3
Syphilis	146	23.4
Chanroid	240	38.5

*Multiple responses

Source: Computed from the primary data of this study.

4.4.2 Knowledge about HIV/AIDS

Female adolescents were asked about mode of transmission of HIV/AIDS during the survey. about 94 percent of respondents revealed that sexual intercourse without using condom transmits HIV/AIDS from one person to another while 66.5%, 35.6% and 40.4% stated using sharp edged materials in common with other people, breast feeding and during pregnancy from mother to child could transmit HIV/AIDS .

On the other hand 5.3% and 4% of the respondents believed that HIV/AIDS can be transmitted by mosquito bite and eating or drinking with HIV/AIDS infected person, respectively (Table 4.4.2).

Respondents were also asked to identify the correct mode of HIV/AIDS transmission among the six options (sexual intercourse, sharp edged materials, breast feeding, mother to child during pregnancy, mosquito bite, eating or drinking with HIV/AIDS infected person), and then those adolescents who know two or more correct mode of HIV transmission and reject the two misconceptions that HIV can be transmitted through mosquito bites and by sharing food are regarded as having **better knowledge** and others, who could identify less than two correct mode of HIV transmission or do not reject the two misconceptions that HIV can be transmitted through mosquito bites and by sharing food as having **poor knowledge** about HIV/AIDS. Based on this category, 31.6% of respondents had poor knowledge while 68.4% of respondents had better knowledge about HIV/AIDS (Table 4.4.2).

Table 4.4.2 Percentage distribution respondents' knowledge about HIV/AIDS, Maichew, 2008

Characteristics	Number	percentage
Knowledge about HIV/AIDS		
Poor knowledge	197	31.6
Better knowledge	427	68.4
Mode of HIV/AIDS transmission (N=624) *		
Sexual intercourse without using condom	590	94.6
Sharp edged materials	415	66.5
Breast feeding	222	35.6
Mother to child (during pregnancy)	252	40.4
Mosquito bite	33	5.3
Eating or drinking with HIV/AIDS infected person	25	4.0

*Multiple responses

Source: Computed from the primary data of this study.

4.4.3 Knowledge about contraception

Respondents were asked to identify contraceptive methods that they have ever known among six modern contraceptive methods (Pills, IUD, Norplant, Female/male sterilization, condom and injectables) and the other two natural contraceptive methods (safe period & withdrawal). The type of contraceptive methods known by the respondents were: pills 65.9%, Injectables 60.1%, condom 40.5%, IUD 38%, Norplant 20.7% and female or male sterilization 7.2%, withdrawal 13% and safe period 16.5% (Table 4.4.3).

Respondents were classified based on the number of modern contraceptive they know: Those who know one or less, two or three modern contraception and others who know more than three modern contraceptives. Based on this classification, 44.9% respondents know one or less modern contraception. The other, 30.3% and 24.8% know two or three and more than three modern contraception, respectively.

Table 4.4.3: Percentage distribution of respondents' contraceptive knowledge, Maichew , 2008

Characteristics	Number	Percentage
Knowledge about contraception (N=624)		
One or less modern contraception	280	44.9
Two or Three modern contraception	189	30.3
More than three modern contraception	155	24.8
Type of contraceptives known (N=624)*		
Pills	411	65.9
Injectables	375	60.1
Condom	253	40.5
IUD	237	38
Norplant	129	20.7
Female or male sterilization	45	7.2
Safe period	103	16.5
Withdrawal	81	13

*Multiple Responses.

Source: Computed from the primary data of this study.

4.5 Exposure related factors

In this section, attempts were made to investigate unmarried female adolescents' sources of information about sex-related issues. Respondents were asked whether they get sex-related information from mass media or not. Table 4.5 indicated that 62.8% of respondents have got sex-related information from mass media.

Respondents were also asked about their best source of mass media among television, radio and newspapers. Majority of the respondents 65.1% used Television as their best source of sex-related information. The other 20.4% and 14.5% of respondents got sex-related information from radio & newspapers, respectively.

In addition to the above questions, respondents were also asked whether they have ever discussed sex-related issues with other individuals or not. About three-fourth of respondents 73.9% have ever discussed sex related issues with any other persons (Table 4.5).

Major topics of discussion were reported to be 39.1% about HIV/AIDS, 24.4% about avoiding premarital sexual activities, 23.6% about menstruation, 10.6% about physical development, 9.6% how pregnancy occurs, 11.2% about contraception, and 17.5% about STDs (Table 4.5).

Table4.5 Percentage distribution of respondents by exposure related factors, Maichew, 2008

Characteristics	Number	Percentage
Ever got sex related information from mass media (N=624)		
Yes	392	62.8
No	232	37.2
Most frequently used mass media (N=392)		
Television	255	65.1
Radio	80	20.1
News paper	57	14.5
Ever discussed sex related issues with any other persons (N=624)		
Yes	461	73.9
No	163	26.1
Topic of discussion (N=461)*		
HIV/AIDS	244	39.1
Avoid premarital sexual activities	152	24.4
Menstruation	147	23.6
STDS other than HIV/AIDS	109	17.6
Physical development	66	10.6
How pregnancy occurs	60	9.6
About contraception	70	11.2

*Multiple responses

Source: Computed from the primary data of this study.

4.6 Sexual activities of unmarried female adolescents

This section covers sexual behaviors of female respondents which include age at first sexual intercourse, mean age at first sexual intercourse, age of sexual partners at the time first sex, number of sexual partners, and other related issues. Out of the total 624 sample never married female adolescents, 29.3% reported to have started sexual intercourse. The minimum and maximum age of respondents at first sex was 14 years and 20 years, respectively. Mean age at first sexual intercourse was 16.6 years with standard deviations of 1.81 years.

Among the respondents who had started sex, 50.3% initiated sex while they were between the ages 14 to 16 years, where as 49.7% initiated sex between the ages of 17 to 20 years. With regard to first sexual partners of respondents the majority (32.8%) and 20.2% of adolescents reported they had first sexual intercourse with their boy friend & fiancé, respectively (Table 4.6).The most important reason for the first sexual intercourse of the respondents were: 33.9% to get married; 29.5% due to love, 9.3% to get money and 10.5% were forced to have sex.

The minimum and maximum ages of respondents' first sexual partners at the time of their first sex were 14 years and 35 years, respectively. The mean age of respondents' first sexual partner at the time of their first sex was 22.2 years with standard deviation of 4 years. This shows that the mean age of the first sexual partners was 5.6 years higher than the mean age at which adolescent girls started sex. It is also found that the majority of respondents 83.1% had experienced sex with only one partner. The other 10.9% and 6% of girls had experienced sex with two or three, and more than three sexual partners, respectively.

Girls who had sexual intercourse were also asked whether they used condom at their last sex or not. Accordingly, 38.3% of them reported that they had used condom at their last sex.

Table 4.6 Percentage distribution of respondents' sexual behavior, Maichew, 2008

Characteristics	Number	Percentage
Sexual Experience (N=624)		
Ever had	183	29.3
Never had	441	70.7
Age at first sex (N=183)		
14-16 years	92	50.3
17-20 years	91	49.7
Sexual partners (N=183)		
Boy friend	60	32.8
Fiancé	37	20.2
Others	86	47
Age of sexual partners (N=183)		
<20 years	48	26.2
20-30 years	130	71
>30 years	5	2.7
Number of life time sexual partners (N=183)		
One	152	83.1
More than one	31	16.9
Major reason for involving into first sexual intercourse (N=183)		
To get married	62	33.9
Due to love	54	29.5
To get money	17	9.3
Forced or rape	21	10.5
Other reason	29	15.8
Used condom at last sexual intercourse (N=183)		
Yes	70	38.3
No	113	61.7

Major reason for not having sexual intercourse (N=441)		
Fear of HIV/AIDS	46	10.4
Religious reason	30	6.8
Want to stay until marriage	307	49.2
Not getting the right partner	23	5.2
Fear of parents	6	1.4
Other reasons	29	6.6
Attitudes towards premarital sexual intercourse (N=624)		
('A girl should be virgin until marriage')		
Agree	477	76.4
Disagree	36	5.8
It depends	111	17.8
Ever been pregnant (N=183)		
Yes	79	12.7
No	104	56.8
Ever had induced abortion (N=183)		
Yes	46	25.1
No	137	74.9
Ever had given birth (N=183)		
Yes	30	16.4
No	153	83.6

Source: Computed from the primary data of this study.

CHAPTER FIVE

BIVARIATE AND MULTIVARIATE ANALYSIS RESULTS

5.1 Bivariate Analysis Results

This section deals with the bivariate association between parental characteristics, individual characteristics, exposure related factors, knowledge about HIV/AIDS, knowledge about contraception, and attitudes towards premarital sex with female adolescents' premarital sexual practice. Bivariate analysis was done by cross-tabulating the dependent variable with independent (or intermediate) variables and applying chi-square test.

5.1.1. Differentials of female adolescents' sexual initiation by individual characteristics

The bivariate analysis based on Pearsons' chi-square value was performed to investigate the association between premarital sexual activities of female adolescents and individual characteristics. High values of Pearson's chi-square test for a given independent variables indicates that there is a strong association between each of the given independent variables and the dependent variables keeping the effects of other factors constant.

The bivariate analysis for the respondents' individual characteristics showed that age, education, religion, and employment status of respondents have a significant relationship with the level of sexual activities while variables like: religiosity & residence do not have a significant relationship with the level of sexual practice (Table 5.1.1).

Age of the never married female adolescents has a significant association with their sexual practice (X^2 =37.972, P<0.001). According to Table 5.1.1, the proportion of sexually experienced respondents in the age group 18-20 years is higher than those in the age group of 15-17 years. The bivariate result confirmed that the proportion of respondents who ever had sexual intercourse before marriage increases from 18.2% in the age group 15-17 years to 41.4% in the age group 18-20 years. The result of this study shows that sexual experience increases with age.

Educational level of the respondents was associated with never married female adolescents sexual experience (X^2 =6.687, P<0.05). The proportion of female adolescents who ever had sex increased from 26.3% to 36.6% as their grade increased from secondary to preparatory.

Employment status of respondents appeared to have a statistically significant relationship with the prevalence of sexual practice (X^2=21.521, P<0.001). Among the adolescents who had ever engaged in business activities 40.6% had started sex before marriage while only 23% of respondents who had never engaged in business activities had sex before marriage.

According to Table 5.1.1, 27.8% of orthodox Christians and 54.1% of followers of other religions had started sex before marriage (X^2 =4.622, P<0.01).

Table 5.1.1Proportion of Respondents who had started sex before marriage by individual characteristics, Maichew, 2008

Variables	Sexual activity			Chi-square (X^2)
	Ever had sex	Never had sex	Total (N)	
Age				37.972***
15-17	63 (18.9%)	271(81.1%)	334	
18-20	120 (41.4%)	170(58.6%)	290	
Education				6.687*
Secondary	115 (26.3%)	323(73.7%)	438	
Preparatory	68 (36.6%)	118(63.4%)	186	
Religion				4.622**
Orthodox	163 (27.8%)	424(72.2%)	587	
Others	20(54.1%)	17(45.9%)	37	
Religiosity				3.062
At least once a week	144(29.9%)	338(70.1%)	482	
Occasionally	36(30.3%)	83(69.7%)	119	
Never attend	3(13%)	20 (87%)	23	
Residence				2.319
Rural	74(33%)	150(67%)	224	
Urban	109(27.3%)	291(72.8%)	400	
Employment				21.521***
Employed	91(40.6%)	133(59.4%)	224	.
Unemployed	92(23%)	308(77%)	400	

*p<0.05, **p<0.01, ***p<0.001

Source: Computed from the primary data of this study.

5.1.2 Differentials of unmarried female adolescents' sexual practice by parental characteristics

As can be seen from the table (Table 5.1.2), the chi-square test result indicated that selected parental characteristics and prevalence of respondents sexual practice had an association. Parental characteristics such as mothers' education, mothers' occupation, living arrangement, and parental residence are associated with female adolescents' sexual practice.

Parents' education was measured in this study by mother's education & father's education. The proportion of sexually experienced female adolescents decreased as mother's education increased. Accordingly, 31.6% of adolescents whose mothers had no formal education, 22.7% primary, and 21.2% secondary or above started sexual intercourse at the time of the survey ($P<0.05$, $X^2=6.197$) (Table 5.1.2). Where as father's education was not significantly associated with respondents' sexual activities.

On the other hand, mother's occupation is significantly associated with female adolescents sexual practice ($X^2 = 15.496$, $P<0.001$). The proportion of sexually experienced adolescents whose mothers' occupation was housewives, employed and others were 21.6%, 38% and 33.1%, respectively.

Concerning living arrangement, among the respondents whose parents were living together, about one-third (32.9%) had started sex; where as only about one-fourth of female adolescents whose parents were not living together had started sexual intercourse ($X^2=4.323$, $P<0.05$).

Residence of parents and female adolescents premarital sexual practice also significantly associated ($X^2=9.986$, $P<0.01$). The proportion of sexually experienced adolescents whose parents' residence was in rural areas was 35.2%; where as the proportion of adolescents whose parent residence in urban areas was only 23.7%.

Father's education and household income were not significantly associated with respondents' sexual experience.

Table 5.1.2Proportion of respondents who have had sex before marriage by parental characteristics, Maichew, 2008

Variables	Sexual activity			Chi-square (X^2)
	Ever had sex	Never had sex	Total (N)	
Mothers' education				6.197*
No schooling	157(31.6%)	340 (68.4%)	497	
Primary	10(22.7%)	34 (77.3%)	44	
Secondary or above	16(19.1%)	67 (80.7%)	83	
Mothers' occupation				15.496***
House wife	60 (21.6%)	218 (78.4%)	278	
Employed	65 (38%)	106 (62%)	171	
Others (farmer ,laborer)	58 (33.1%)	117 (66.9%)	175	
Fathers' education				1.044
No schooling	120 (28.1%)	307 (71.9%)	427	
Primary	28 (32.9%)	57 (67.1%)	85	
Secondary or above	35 (31.2%)	77 (68.8%)	112	
Household income				3.670
less than Birr 500	107 (30.8%)	240 (69.2%)	347	
500-100 Birr	57 (30.6%)	129 (69.4%)	186	
More than Birr 1000	19 (20.9%)	72 (79.1%)	91	
Living arrangement				4.323*
Intact	108 (32.9%)	220 (67.1%)	328	
Non-intact	75 (25.3%)	221 (74.7%)	296	
Residence				9.986**
Rural	108 (35.2%)	199 (64.8%)	307	
Urban	75 (23.7%)	242 (76.3%)	317	

*p<0.05, **p<0.01, ***p<0.001

Source: Computed from the primary data of this study.

5.1.3 Differentials of female adolescents' sexual practice by knowledge about HIV/AIDS and contraception, and attitudes towards premarital sex

As can be seen from the Table 5.1.3 knowledge of female adolescents about contraception and HIV/AIDS is significantly associated with female adolescents' sexual practice.

The cross-tabulated result showed that, 38.6% of respondents who knew less than two modern contraception, and 21.8% of respondents who knew more than two modern contraception were sexually experienced (X^2 = 20.493, P<0.001). This indicated that knowledge about contraception and premarital sexual activities of female adolescents have negative relationship.

With regarding to knowledge about HIV/AIDS, about 40.1% of female adolescents who had poor knowledge about HIV/AIDS had started sex; while only 24.4% of them who had better knowledge had experienced sexual intercourse (X^2 = 17.972, P<0.001). Accuracy of knowledge about HIV/AIDS negatively related with premarital sexual activity of female adolescents.

The data (Table 5.1.3) showed that attitudes of respondents towards premarital sex is significantly associated with premarital sexual experience (X^2 = 74.14, P<0.001). Those who believed that adolescents should have sex before marriage more involved into sexual intercourse than those who disagree about adolescents' premarital sexual intercourse (80.6% Vs 21.6%) .

Table 5.1.3 Proportion of respondents who are sexually experienced by knowledge about HIV/AIDS and contraception, and attitudes towards premarital sex, Maichew, 2008

Variables	Sexual activity			Chi-square (X^2)
	Ever had sex	Never had sex	Total (N)	
Knowledge about contraception (Number of modern contraception known)				20.493***
Less than two	108(38.6%)	172(61.4%)	280	
More than two	75(21.8)	269(78.2%)	344	
Knowledge about HIV/AIDS				17.972***
Poor knowledge	79(40.1%)	118(59.9%)	197	
Better knowledge	104(24.4%)	323(75.6%)	427	
Attitudes towards Premarital sex (A girl should be virgin until marriage)				74.14***
Agree	103(21.6%)	374(78.4%)	477	
It depends	51(45.9%)	60(54.1%)	111	
Disagree	29(80.6%)	7(19.4%)	36	

***p<0.001

Source: Computed from the primary data of this study.

5.1.4 Differentials of female adolescents' sexual activities by exposure related factors

Table 5.1.4 showed that the higher proportion (53.2%) of female adolescents who had an intimate friend who had started sex before marriage was sexually experienced. The chi-square statistic revealed that having sexually experienced intimate friend and premarital sexual activities of female adolescents were significantly associated(X^2 =74.853, P<0.001)

Majority of adolescents (49.1%) who had sexually experienced elder sister had started sex before marriage; where as only 22.6 % of adolescents who had no sexually experienced elder sister had started sex. This indicated that having sexually experienced elder sister and sexual experience of female adolescents are positively related

(X^2 =40.073, P<0.001)

Parent-adolescent discussion about sexual matters was also another crucial variable to influence female adolescents' sexual behavior Table 5.1.4 showed that school female adolescents who ever had discussed on sex-related issues with their parents was associated with sexual practice of female adolescents. The data depicted that school female adolescents who had ever discussed sex related issues with their parents were less likely to have had sex than their counterparts who never discussed (21.2% Vs 36.1%).

In this study, getting sex related information from mass media and adolescents premarital sexual activity did not have statistically significant association.

Table 5.1.4 Proportion of sexually experienced female adolescents by exposure related factors, Maichew, 2008

Variables	Sexual activity			Chi-square (X^2)
	Ever had sex	Never had sex	Total (N)	
Ever got sex related information from mass media				0.306
Yes	118(30.1%)	274(69.9%)	392	
No	65(28%)	167(72%)	232	
Intimate friend who had started sex before marriage				74.853***
yes	101(53.2%)	89(46.8%)	190	
No	82 (18,9%)	352(81.1%)	434	
Elder sister who had started sex before marriage				40.073***
Yes	78(49.1%)	81(50.9%)	159	
No	105(22.6%)	361(77.4%)	465	
Parent-adolescent discussion				16.497***
Yes	60(21.2%)	223(78.8%)	283	
No	123(36.1)	218(63.9%)	341	

* P<0.05, **P<0.01, ***P<P0.001

Source: Computed from the primary data of this study.

5.2 Multivariate analysis results

In the preceding section, bivariate analysis was used to estimate the association of each independent variable (parental characteristics, individual characteristics, exposure related factors), intermediate variable (knowledge about HIV/AIDS & contraception, attitudes of adolescents towards premarital sex), and the dependent variable (sexual experience of female adolescents). However, this simple cross-tabulated chi-square result may not show the independent variables exact influence on the dependent variable, because the influences of other variables were not controlled.

Thus, binary logistic regression analyses were applied to examine the net effect each independent variables on premarital sexual activities of female adolescents, by controlling for the effects of other intervening variables.

As it has been mentioned earlier, the binary logistic regression model is appropriate to use when the response to a set of explanatory variables is in a binary form which in this case is ever had sex and never had sex. It is coded as a dummy variable (1=Ever had sex and (0=Never had sex).

Socio-economic and demographic characteristics of respondents, parental characteristics and exposure related factors which had significant association with premarital sexual activities of female adolescents, were further tested by binary logistic regression, to investigate the overall net effects of these variables on premarital sexual activities of female adolescents.

Variables entered into model include **individual characteristics**: age, education, religion, employment; **parental characteristics**: mother's education, mother's occupation, living arrangement, residence; and **exposure related factors**: mass media, parent-adolescent discussion, having sexually experienced intimate friends and/or elder sister. Other variables, which were not significantly associated with premarital sexual practice of adolescents during the bivariate analysis, were not included in the model.

Among the variables which were included in the binary logistic model, as depicted in Table 5.2, living arrangement of parents, educational level of respondents and religiosity had no significant effect on female adolescents premarital sexual activities.

Table5.2. Multivariate analysis result of female adolescent sexual activity, Maichew, 2008

Variables	B	S.E	Sig	Exp (B)
Mother's education				
• No schooling (RC)				
• Primary (Grade 1-8)	-0.528	0.435	0.225	0.590
• Secondary or above	-1.096	0.392	0.005	0.334**
Mother's occupation				
• House wife (RC)				
• Employed (Government or private)	1.453	0.285	0.000	4.274***
• Other (farmer or laborer)	1.004	0.274	0.000	2.728***
Living arrangement				
• Intact (RC)				
• Non-intact	-0.360	0.218	0.098	0.697
Parental residence				
• Rural	0.546	0.235	0.020	1.726*
• Urban (RC)				
Age group				
• 15-17(RC)				
• 18-20	0.933	0.252	0.000	2.541***
Educational level				
• Secondary (RC)				
• Preparatory	0.248	0.268	0.355	1.281
Religion				
• Orthodox (RC)				
• Others	0.604	0.413	0.143	1.830
Employment				
• Employed	0.477	0.217	0.028	1.612*
• Not employed (RC)				

Parent–adolescent discussion • Yes (RC) • No	0.484	0.224	0.031	1.622*
Having sexually experienced intimate friend • Yes • No (RC)	1.561	0.226	0.000	4.763***
Having sexually experienced elder sister • Yes • No (RC)	1.171	0.232	0.000	3.227***
Constant	-3.462	0.341	0.000	0.031

* P< 0.05
** P<0.01
*** P<0.001
-2LL= 562.528
N= 624
HLT = 0.099
Percentage correct = 77.9%

-2LL = -2 Log Likelihood
N= total number respondents included in the model
S.E = Standard Error
RC== Reference category
HLT= Hosmer and Lemeshow Test
B= beta coefficient
Exp (B) = Odds ratio

Source: Computed from the primary data of this study.

The result of the multivariate analysis (Table 5.2) indicated that mother's education had an influence on female adolescents' sexual activities before marriage. As mother's education increased, the relative risk of engaging into premarital sexual activities of female adolescents reduced. According to Table 5.2, the likelihood of being sexually active for adolescents whose mothers' educational level was secondary or above decreased by 66.6% as compared to adolescents whose mothers had no formal education.

Table 5.2 revealed that the likelihood of being sexually active for female adolescents whose mothers were employed in government or private sector is about 4.3 times higher as compared to housewife mothers. Similarly, female adolescents whose mothers were farmer or daily laborers were 2.7 times more likely to have had sex before marriage than adolescents whose mothers were housewives.

The residence of respondents' parents found to be predicator of female adolescent's premarital sexual practice. The likelihood of involvement into sexual practice for adolescents whose parents' place of residence was in rural areas was 1.73 times higher as compared with adolescents whose parents lived in urban areas.

The result of multivariate analysis (Table 5.2) showed that the relative risk of having sexual intercourse among adolescents in the age group of 18-20 years was increased by a factor of 2.5 when it was compared with adolescents in the age group of 15-17 years.

Taking adolescent who never engaged into work for business activities as a reference group, respondents who ever engaged in work for business activities had a higher risk of involvement into sexual practice. The likelihood of having sex before marriage for employed adolescents was 1.6 times higher than unemployed adolescents.

Pertaining to parent-adolescent discussion, the multivariate analysis (Table 5.2) showed that the relative risk of being sexually active was high for adolescents who didn't discuss sex-related matters with their parents. Adolescents who didn't discuss sex-related matters with their parents were 1.6 times more likely to have had sex as compared with adolescents who discussed sex-related issues with their parents.

Having sexually experienced peers and/or siblings were the most powerful predictors of premarital sexual practice of female adolescents. With respect to having sexually experienced intimate friend, adolescents who had sexually experienced intimate friend, were 4.8 times more likely to have had sex as compared to adolescents who had no sexually experienced intimate friend. Similarly, the relative risk of having sexual intercourse for adolescents who had sexually experienced elder sister was 3.2 times higher as compared to female adolescents who had no sexually experienced elder sisters.

5.3 Discussion on the findings

The objective of this study was to investigate socio-economic and demographic correlates of premarital sexual practice among school female adolescents in Maichew town. To attain this objective independent variables such as mother's education, mother's occupation, living arrangement, parental residence, age, education, religion, employment, parent–adolescent discussion, having sexually experienced intimate friend and sexually experienced elder sister were examined by both bivariate and multivariate analysis. The results of the finding are discussed in this section.

5.3.1. Parental characteristics and premarital sexual practice

Parental education predicts the sexual activities of female adolescents. Studies revealed that female adolescent's sexual activity decreased as the level of mother's education improved (Abebe, 2007; Simret, 2007). Similarly in this study the proportion of female adolescents' sexual experience declined from 36.1% to 19.3% as mother's educational level increased from having no formal education to secondary or above level. This association was also confirmed by the multivariate analysis that the likelihood of female adolescents' sexual activities decreased as mother's education improved.

Mother's occupation was also one of the important predictor variables for premarital sexual activities of female adolescents. Hanson et al. (1989) proposed that having a working mother may lead to less supervision of adolescents. In line with this proposition, in this study, female adolescents whose mothers were employed in private or government institution were found more likely to have had sex as compared to adolescents whose mothers were housewives. This may be, due to the fact that employed mother's have relatively less contact time with their adolescents for appropriate supervision.

In this study, parent-adolescent discussion about sex related issues, as in the results of other studies (Abebe, 2007; Simret, 2007), was found to be one of the important predictor of adolescent's sexual activities. Female adolescents who discussed about sex-related issues with their parents were less likely to have had sex before marriage.

The results of multivariate analysis showed that, adolescents whose parents lived in rural areas were high likely to have had sex as compared to their counterparts whose parents lived in urban areas. This may be because adolescents from rural areas had less access to appropriate reproductive health information. Salih (2007) revealed that urban origin adolescents are two times more likely to have knowledge of reproductive health than their rural counterparts.

Review literature on the relationship between living arrangement of parents and premarital sexual practice of female adolescent showed that adolescents in intact families are less likely to involve into sexual activities (Abebe, 2007; Simret, 2007). However, in this study, the bivariate analyses were found to be contrary to the reviewed literature. The bivariate analysis showed that among the respondents whose parents were living together, about one-third had started sex; where as only about one-fourth (25.3%) whose parents were not living together have ever had sex. But the results of multivariate analysis on premarital sexual activity showed that the association was not significant.

This finding suggests that it may not be specifically associated with single-parent family that leads to an increased risk of having premarital sexual practice, perhaps something about the process of family dissolution it self.

5.3.2. Exposure related factors and premarital sex

Family members, in general, are expected to have discussions with each other concerning norms, values, goals and aspirations. In this regard, parents and older children may have better opportunity in shaping younger children's behavior. As Diop (2005) indicated, in a family, where an older children, particularly, sisters, look after their siblings to help their parents, can be an important role model for younger sibling during their early years and thus influence their behavior. Similarly, in this study about half of female adolescents who had sexually experienced elder sister had started sex before marriage. This association was also confirmed by multivariate analysis that the likelihood of having sexual intercourse for female adolescent was strongly high (3.2 times higher) as compared to female adolescents who had no sexually experienced elder sister.

Another powerful predictor variable obtained in this study was peer influence, which was measured by having an intimate friend who had started sex before marriage. Having an intimate friend who had experienced sex was strongly associated with premarital sexual activities of adolescents. The bivariate analysis asserted that more than half of female adolescents who had sexually experienced intimate friend and less than one-fifth of female adolescents who had no sexually experienced intimate friend ever had sex. The multivariate analysis showed that female adolescents who had sexual experienced intimate friend were 4.8 times high likely to have had sex. This indicated that the influence of peers is high among adolescents to have sex. A study conducted in Ghana (Karim et al. 2003) has shown that youth who perceived that their friends were sexually active were more likely to be sexually experienced than were youth who thought that their friends had not yet initiated intercourse.

In line with this study a study conducted in Woreta town showed that female adolescents who had no sexually experienced friend were 15.2 per cent less likely to have had sexual intercourse relative to their counterparts who had no sexually experienced friends (Abebe, 2007).

5.3.3. Individual characteristic and premarital sexual activities

Age was associated with a higher likelihood of being sexually experienced. The relative risk of having sexual intercourse among adolescents in the age group of 18-20 years was 2.5 times higher as compared to adolescents in the age groups of 15-17 years. The bivariate analysis has also shown that 41.4 percent of adolescents in the age group 18-20 years and 18.9 percent adolescents in the age group of 15-17 years have had sex, respectively. The age group variable was included here as a control variable.

Increase in educational level is expected to have an impact on female adolescents' premarital sex. Bauni (1990) explained that modern education exposes adolescents to different value systems, and the school environment enables them to interact more with partners of opposite sex. Similarly, in this study, the bivariate analysis result showed that educational level of respondents and premarital sexual activities was positively related. Nevertheless, in this study, as the multivariate analysis showed, education was not significantly associated with female adolescents' sexual practice. This may be because, all respondents were schoolgirls, which are exposed to the effects of modern education nearly equally. The difference for the effects of education among secondary and preparatory school students' sexual experience may only be attributed to their duration of exposure to the school, which could be controlled by the variable age in the multivariate analysis.

Religion, which reflects societal values and norms, is expected to have and influence on premarital sex. However, in this study, the multivariate analysis showed that, religion was insignificantly related with premarital sex.

Employment status of respondents was also an important predicator of female adolescents' premarital sexual activities. The bivariate analysis asserted that larger proportion (40.6%) of adolescents who had ever been employed and 23% of adolescents who had never been employed in any business activities had started sex before marriage. The multivariate analysis also showed that adolescents who ever engaged in work for business activities had a higher risk of involvement into sexual practice. This may be due to the fact that the business environment exposes them to interact more with opposite partners, and enables them to be free from parents' supervision.

CHAPTER SIX
SUMMARY AND CONCLUSIONS

6.1 Summary and conclusion

The sexual activities of young people, to day, will have a profound effect on populations' size, health and resources for years to come. Moreover, the consequence of premarital sexual activities is, particularly, greater for females than for males. This is because female adolescents are both biologically and socially, more susceptible to the risks of STDs including HIV/AIDS, unwanted pregnancy, induced abortion, and other related problems.

Thus, this study was conducted to investigate correlates of premarital sexual activities of school female adolescents in Maichew Town. To attain this objective, the association between family background characteristics, individual characteristics and exposure related factors; and female adolescents premarital sexual activities was examined using bivariate (Chi-square) and Multivariate (Binary logistic regression) analysis.

The study was based on a sample survey of 624 never married schools female adolescents in the age group of 15 to 20 years which was conducted during February to April, 2008.

The result of the study indicated that majority of respondents(93.8 percent) were in the age group of 15-19 years while 6.2 percent were at exact age of 20 during the survey. According to the data about 70.2 percent and 29.8 percent of respondents were from secondary and preparatory level education, respectively. In the study, it was found that 29.3 percent of never married school female adolescents have ever had sex with mean age at sex 16.6 years. Among sexually experienced female adolescents, 43.2 percent of them have ever been pregnant, 25.1 percent have ever given birth, and 16.4 percent have ever had an induced abortion.

The two most important reasons of respondents for the involvement of first sexual intercourses were to get married (40 percent) and due to love (29.5 percent). About 17 percent of sexually experienced adolescents had sex with more than one sexual partners and 62 percent of sexually experienced respondents didn't use condom during their last sex. This indicated that some adolescents were engaged in risky-sexual activities.

Concerning knowledge about HIV/AIDS and contraception, about 68.4 percent of respondents had better knowledge about HIV/AIDS, and 55.1 percent of them know at least two modern contraception.

More than three-fourth (76 percent) of respondents were found to be agreed that "a girl should be virgin until marriage". About half (49.1 percent) of adolescents who had never had sex reported that their main reason for not having sex was to keep their virginity until marriage. On the other hand, as mentioned before, one of the most important reason of sexually experienced adolescents' for their first sex was to get married, which was about 40 percent. These indicated that female adolescents, in the study area, give more value for marriage.

Based on bivariate and multivariate analysis, the following major results were found.

- The two most powerful factors which strongly increased the likelihood of female adolescents' sexual activities, in this study, were peer influence and siblings influence. Female adolescents who had sexually experienced intimate friend were 4.8 times high likely to have had sex; where as, female adolescents who had sexually experienced elder sister were 3.2 times high likely to have had sex as compared to adolescents who had no sexually experienced elder sister.

- Parent-adolescent discussion about sex-related issues reduced the relative risk of female adolescents' premarital sexual practice.
- Mother's educational level, specifically secondary or above level, had a negative effect on female adolescents' premarital sexual activities.
- Female adolescents who were engaged in business activities were highly exposed for premarital sex.
- Having housewife mothers decreases the likelihood of female adolescents' involvement into premarital sexual activities.
- Female adolescents whose parents were from rural areas were highly exposed for premarital sexual activities.

6.2 Recommendations

Based on the results of this study and over all situation of the study area, Maichew town, the following recommendations are suggested.

Moral teaching and supervision of parents have a paramount importance for the wholesome personality of adolescents. Thus parents, particularly mothers, should be given an appropriate technical guidance by concerned bodies on:

i. How to offer proper reproductive health information to their female daughters for increasing early awareness of reproductive health matters and risky sexual activities.
ii. How to supervise the sexual activities of their daughters so as to reduce immature decisions of adolescents in engaging early sexual intercourse.

This could help parents in providing evidence based and convincing advice to their daughters in order to reach adolescents before the actual involvement into sexual practice.

Anti HIV/AIDS clubs, which are available both in the school and the town, should also be financially and technically supported to incorporate issues of reproductive health to equip adolescents with appropriate and meaningful reproductive health knowledge.

In general, an appropriate intervention program is required to meet the special needs of female adolescents focusing on education and counseling in the areas of responsible sexual behavior, responsible family planning practice, reproductive health, and HIV/AIDS prevention. This will maximize the awareness of adolescents about risky-sexual behavior; and help them make wise decision before the actual involvement into sexual activities. Here, special attention should also be given to different sub-groups of adolescents such as rural origin adolescents, who have different life experiences and needs.

Finally, it is recommended that further research is needed in the areas of premarital childbearing which was found to be relatively high among school adolescents in this study.

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Appendix-I: Main questionnaire in English Version

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF DEVELOPMENT STUDIES
INSTITUTE OF POPULATION STUDIES

A STUDY ON CORRELATES OF PREMARITAL SEXUAL PRACTICE AMONG HIGH SCOOL FEMALE ADOLESCENTS IN MAICHEW TOWN

Questionnaire number _____ (to be given by the researcher)

Inclusion criteria

School female adolescents in the age group 15-20 years at the time of the survey.

Confidentiality and Verbal Consent

(Data collector: please read the following to the respondents)

Dear respondent,

Good morning/ afternoon,

My name is _____ I am working as a data collector for the study conducted by a post graduate student in Addis Ababa University. The objective of this study is to investigate factors which affect female adolescents' premarital sexual practice in order to generate useful information for planning appropriate interventions and strategies. To attain this objective your genuine participation by responding to the questions is very important and highly appreciated.

You are therefore, sympathetically asked to fill the questionnaire as accurately as possible. Despite the fact that the questionnaire attempts to explore your personal information, all the information will be incorporated only for this study. No information concerning you as individual will be passed to another individual or institution. Your name will not be written in any page of this questionnaire. Your participation is voluntary. You have also the right to skip questions which is vague for you and you can terminate or stop at any time you want. Would you participate?

[Yes, I want.] Thank you please encircle or write your responses on the space provided.

[No, I won't] Thank you very much!

Name and Signature of Data Collector:

Name _____Signature_____Date_____

I. Respondent's Background Characteristics

No	Questions and Filters	Coding and Categories	Skip	Code
Q101	How old are you?	Age in years_____		
Q102	What is your current educational status?	1. Grade 9th 2. Grade 10th 3. Preparatory -1 4. Preparatory -2		
Q 103	Where were you living since you were 10 years old?	1. Maichew 2. Other urban 3. Rural		
Q 104	What is your ethnic group?	1. Tigraway 2. Amhara 3. Agew 4. Other, specify_____		
Q105	What is your religion?	1. Orthodox Christian 2. Muslim 3. Protestant 4. Catholic 5. Other, specify_____		
Q 106	How often do you attend religious services?	1. Daily 2. Weekly 3. Monthly 4. Few times a year 5. Not at all 6. Other specify_____		
Q107	Have you ever been engaged in any business activities to earn money?	1. Yes 2. No	If no, skip to Q109	
Q 108	In what business activities have you been working?	1. Self employed 2. Government organization 3. Private organization 4. House maid 5. Other, specify _____		
Q109	Do you have pocket money?	1. Yes 2. No	If no, skip to Q 201	
Q110	How much is your average monthly pocket money per month?	1. Less than Birr50 2. Birr 50 -100 3. More than Birr 100		

II. Family Background Characteristics

Q201	Where is your parents' current residence?	1. Rural 2. Urban		
Q202	How many members are there in your family?	1. whose age less than 15 years__ 2. whose age between 15 to 24 years_____ 3. whose age greater than 24 years_____		
Q 203	With whom are you living now?	1. Father and mother 2. Mother only 3. Father only 4. Siblings 5. Relatives 6. Friends 7. Alone 8. Other, specify_____		
Q204	Is your father alive?	1. Yes 2. No		
Q 205	What is the educational status of your father?	1. Illiterate 2. Read and write 3. Primary (Grade 1-8) 4. Secondary (Grade 9-12) 5. Above secondary		
Q 206	Do you have step father(s)?	1. Yes 2. No		
Q207	Is your mother alive?	3. Yes 4. No		
Q208	What is the educational status of your mother?	1. Illiterate 2. Read and write 3. Primary (Grade 1-8) 4. Secondary (Grade 9-12) 5. Above secondary		
Q209	What is you mother's occupation?	1. House wife 2. Civil servant 3. Self-employed 4. Daily laborer 5. Employed in private sector 6. Farmer 7. Other, specify_____		

Q210	What is the average monthly income of your family? (You can guess)	1. Less than Birr 500 2. Birr 500-1000 3. More than Birr 1000		
Q211	How do you classify the economic status of your family?	1. Rich 2. Medium 3. Poor		
Q 212	Are your biological parents living together?	1. Yes 2. No	If yes, skip to Q 214	
Q213	Why your biological parents are not living together?	1. Divorced 2. Separated 3. Widowed 4. Other, specify_____		
Q214	Have you ever discussed sex related issues?	1. Yes 2. No	If no, skip to Q 217	
Q215	With whom do you discuss about sexual matters most frequently?	1. Mother only 2. Father only 3. Siblings 4. Other, specify_____		
Q 216	About which topics have ever discussed about sex related maters? [Multiple answer is possible]	1.Body change (physical development) 2. Menstrual cycle 3. How pregnancy occurs 4. Avoiding sexual intercourse before marriage 5. Methods of contraception 6. HIV/AIDS 7.STDS 8. Others, specify_____		
Q217	Who is controlling you mainly not to have sexual intercourse?	1. Father 2. Mother 3. Siblings 4. Others, Specify_____		
Q218	What is the educational status of a person who controlled you not to have sex mainly?	1. Illiterate 2. Read and write 3. Primary (Grade 1-8) 4. Secondary (Grade 9-12) 5. Above secondary		

III. Sexual Behavior

No	Questions and Filter	Codes and Categories	Skip to	code
Q301	Do you have a boy friend?	1. Yes 2. No		
Q302	Do you have an intimate friend who has started sexual intercourse?	1.Yes 2. No		
Q303	Have you ever started sexual intercourse?	1. Yes 2. No	If yes, skip to Q305	
Q304	What was your main reason for not starting sexual intercourse?	1. Fear of parents 2. Fear of HIV/ AIDS or STDs 3. Fear of pregnancy 4. Religious reason 5. I have not found the right person 6. Want to stay until I got married 7. Other, specify _____	Skip to Q313	
Q305	At what age have you started sexual intercourse for the first time?	Age in years ____(Completed year)		
Q306	What was the age of your partner with whom you had sex for the first time? [You can guess]	Age in years_____(Completed year)		
Q307	Have you ever received money (gift) for sex?	1. Yes 2. No		
Q308	What was the most important reason for the first sexual intercourse?	1. To get married 2. Forced (or Rape) 3. To get money 4. Due to love 5. To get a boy friend 6. Friends doing it 7. Other, specify _____		
Q 309	With whom did you have sexual intercourse at the first time?	1. Boy friend 2. Fiancé 3. Students 4. Teacher 5. Office worker 6. Merchant 7. Other, specify _____		

Q310	How many sexual partners do you have since you have started sexual intercourse?	1. Only one 2. Two or Three 3. More than three		
Q 311	Have you ever used chat or alcohol for the first time you had sex?	4. Yes 5. No		
Q312	Did you use condom the first time you had sexual intercourse?	1. Yes 2. No		
Q313	A girl should be virgin until marriage	1. Agree 2. Disagree 3. It depends		

IV. Knowledge about HIV/AIDS and STDs

Q401	Have you ever heard of a disease that can be transmitted through sexual intercourse?	1. Yes 2. No	If no, skip to Q 403	
Q402	Which of the STDs do you know? (Multiple answer possible)	1. Syphilis 2. Gonorrhea 3. HIV/AIDS 4. Chancroids 5. Others, specify_____		
Q403	Have you ever heard about HIV/AIDS?	1. Yes 2. No	If no, skip to Q406	
Q404	In your understanding, in which of the following ways can HIV/AIDS be transmitted from one person to another? (Multiple answer possible)	1.Have sex with out condom 2. Using sharp edged materials in common with other people. 3. Breast feeding 4. During pregnancy, from mother to child. 5. Biting by mosquito 6. Eating or Drinking with HIV/AIDS infected person 7. Other, specify_____		

Q405	What kind of care should be taken so as not to be infected with HIV/AIDS? (multiple answers possible)	1. Abstain from sex 2. Using condom 1. Avoiding multiple sexual partner 2. Avoid using sharp edged materials in common with other people 3. Avoiding sex with people who have multiple partners 4. Avoid mosquitoes 5. Avoiding kissing with person who is infected with HIV/AIDS 6. Others, specify_____		
Q406	Have you ever contracted any STDs?	1. Yes 2. No		
Q407	Have you ever received voluntary HIV counseling and testing service?	1. Yes 2. No		

V .Contraceptive Knowledge and Practices

No	Questions and filters	Coding and categories	skip	Code
Q501	Have you ever heard of contraceptive methods?	1. Yes 2. No	If no skip to 509	
Q502	Which contraceptive method do you know? [multiple response possible]	1. Pills 2. IUD(Loop) 3. Injectables 4. Norplant 5. Condom 6. Female sterilization or Male sterilization 7. Traditional medicine 8. Withdrawal 9. Safe period 10. Others, specify _____		

Q503	Which was (were) your sources of information about contraception? [multiple response possible]	1. Mother 2. Father 3. Siblings 4. Peers 5. Boy friend 6. Health Sector 7. Mass media 8. School 9. Others, specify_____		
Q504	Do you know where contraceptives are obtained?	1.Yes 2. No	If no, skip to Q 506	
Q505	Where is that?	1. Public health sectors 2. Private health sector 3. Pharmacies 4. Shop 5. Other, specify_____		
Q506	Why do women use contraceptive? [multiple response possible]	1. For prevention of unwanted pregnancy 2. For child spacing 3. For prevention of STDs 4. For prevention of HIV/AIDS 5. Others, specify_____		
Q507	Have you ever used any contraceptive method?	1. Yes 2. No	If no, skip to Q508	
Q508	Main reason for not using contraceptive method?	1. Lack of knowledge 2. Cultural taboo 3. Fear of side effect 4. Prohibited by the religion 5. Not practicing sex 6. Can't get contraceptive 7. Others, specify_____		
Q509	Have you ever been pregnant?	1. Yes 2. No	If no, skip to 601	
Q510	Have you ever given birth?	1. Yes 2. No		
Q511	Have you ever aborted or terminated your pregnancy?	1. Yes 2. No		

VI. Peer influence, siblings influence and Source of sex related information

Q601	Do you have an elder sister who has started sex before marriage?	1. Yes 2. No		
Q602	Have you ever obtained advice from any of your sisters not to start sex before marriage?	1. Yes 2. No		
Q603	Did you have an intimate friend who has started sex before marriage?	1. Yes 2. No		
Q604	Has your intimate friend ever encouraged you to have sex?	1. Yes 2. No		
Q605	Have you faced peer pressure to have sex?	1. Yes 2. No		
Q606	Have you ever got sex-related in a formation from mass media?	1.Yes 2. No	If no, skip to Q611	
Q607	How many times, on average, do you watch television per week?	_____Times		
Q608	How many times, on average, do you listen radio per week?	_____Times		
Q609	How many times, on average, do you read newspaper per week?	_____Times		
Q610	Which mass media you used to get sex-related information most commonly? (Multiple response is possible)	1. Television 2. Radio 3. Newspaper 4. Others, specify___		
Q 611	Have you ever disused sex-related issue with your mother freely?	1. Yes 2. No		

Thank you very much for your cooperation!!

Declaration

I, the undersigned hereby declare that this thesis is my original work and has not been presented for a degree in any other university, and that all sources of material used for the thesis have been duly acknowledged.

Name: .....

Signature: .....

Place: .....

Date of Submission: .....

This thesis has been submitted for examination with my approval as a university advisor.

Name: .....

Signature: .....

Date of Submission: .....

Declaration

The thesis is my original work, has not been presented for a degree in any other university and that all sources of material used for the thesis have been duly acknowledged.

Nigussie Ahmedin		11/07/2008
Student	Signature	Date

I confirm that this thesis has been submitted with my approval as the supervisor of the same.

SATHIYA SUSVMAN		11/07/2008
Advisor	Signature	Date