Family Planning Utilization at First Sexual Initiation and Associated Factors among High School Youth Female Students in Northern Ethiopia

Tsega G/Slassie  
Mekelle University College of Health Sciences

Gimatsion Fisseha  
Mekelle University College of Health Sciences

Measho G/Slassie  
Mekelle University College of Health Sciences

Tigst Hagos  (✉️ tigst.hagos@mu.edu.et)  
Mekelle University College of Health Sciences

Research

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Abstract

Background: In developing, countries young women have little awareness about safe sex practice and do casual sexual activities. The consequences such as teenage and unplanned pregnancy and birth, unsafe abortion, miscarriages, and maternal deaths due to unsafe sex practice make youth sexuality much more serious and common in developing countries. Therefore, this study aimed to assess family planning, utilization at first sexual initiation, and associated factors among high school youth female students in Alamata, Tigray, Northern Ethiopia.

Methods: An institution-based cross-sectional study was employed in Alamata town, south Tigray region, Ethiopia from June 01-30, 2019. A Self-administered structured questionnaire was used to collect the data. Data were entered and analyzed using SPSS statistical package version 22. Descriptive statistics, bivariate and multivariable logistic regressions were used to assess the factor associated with family planning utilization at first sexual initiations.

Results: A total of 538 youths female who initiated sexual activities with an average age of 18.2 ± 1.6 years participated in this study. More than half of youths 297 (55.2%) were grades 9-10 and 283 (52.6 %) were living with both their mother and father. About 122 (22.7%) of youths used family planning methods at their sexual debut. The most common methods used were emergency contraceptive pills 90 (73.8%) and male condom 32 (26.2%). For those who start sexual activities without using family planning, 42 (7.8%) experienced unwanted pregnancy. Students those who got >100 birr monthly pocket money were 88% less likely to use a family planning method at first sex [AOR 0.124 CI 95% (0.05-0.32)] and regards to religion students categorized as other religions were more likely to use family planning methods [AOR 1.67 CI 95% (1.17-2.57)].

Conclusions: Most youth females are not using family planning at first sexual debut. This might expose them to different reproductive health problems. Therefore, an active effort to promote sexuality education and family planning use is recommended at the high school level.

Plain English Summary

Youth women must be allowed to decide freely whether they want to keep them against unintended pregnancy and to protect them against STI/HIV. Eight in 10 young women in sub-Saharan Africa have had their first sexual debut before the age of 20. Contraceptive use is the best intervention to reduce unintended pregnancy, unsafe abortion, and STI/HIV transmission among youth women. Despite extensive availability and awareness about family planning service utilization remains an alarming universal public health problem due to poor contraceptive accomplishment in developing countries. Therefore, this study aimed to assess family planning utilization at first sexual initiation and associated factors among high school youth female students in Northern Ethiopia. Based on this, in our study, we found that one in five youth females use modern contraceptives. The majority of youth females used emergency contraceptive pills followed by the male condom. Those youth who start sexual activities
without using family planning, 7.8% experienced unwanted pregnancy, and 4.5% developed STI. Therefore, sexual and reproductive health education and integration with school health program are important as a means for intervention. Parent’s involvement is also important.

Introduction

According to the United Nations worldwide youth report, 16% of the world’s population is between the ages of 15 to 24 years, which means one out of three world populations is young people, 207 million of them are living in less developed countries [1, 2].

Due to poor awareness and health-seeking problems, many youths in developing countries are exposing to different sexual and reproductive problems. The report indicated sexual initiation among adolescent and youths have been reported to be increasing worldwide. This sexual initiation at an early age is more likely to expose youths to risky sexual behavior like multiple lifetime sexual partners, unprotected sex, acquiring the sexually transmitted disease, and unwanted pregnancy. Worldwide more than 16 million adolescent girls give birth every year and an additional 5 million have abortions. Sub-Saharan Africa accounts for 50% of these births and the average birth rate of female adolescents aged 15–19 is 143/1000 birth, as a result, the needs for family planning use become more pressing [3–5].

The EDHS 2016 report, the median age at first sexual intercourse for women is 16.6 years. However, sexual initiation before the age of 18 in Ethiopia is prohibited by law. This early sexual initiation makes most Ethiopian adolescents and youths involve in unsafe sexual practices and hence face undesired health outcomes such as STI, unplanned pregnancy result in too early childbirth and unsafe abortion. These undesired health outcomes tend to hinder the pursuits of other life options of female adolescents and youths [6].

Besides, Ethiopia’s FP2020 commitments aimed to reduce adolescent and youth pregnancy rates from 12–3% and to increase contraceptive prevalence rate among women age 15 to 19 years from 32–40%, women’s age 20–24 years from 38–43%. In line with this, the Ministry of Health developed the health sector transformation plan of 2020, which aimed to increase the contraceptive prevalence rate (CPR) to 55%. This would mean reaching an additional 6.2 million youth and adolescent girls with family planning services by 2020[7]. The Ethiopian government has a design strategy to reduce mortality and morbidity among adolescents and youth, and establishing youth centers. It is also implementing the 2030 agenda for Sustainable Development Goal (Goal 3, target 3.7) includes “targets relevant for adolescent and youth sexual reproductive health under broader goals on health and well-being of the population universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs [8, 9].

However, the consequences of early sexual practices such as teenage pregnancy, unsafe abortion, HIV, and STI are still high in Ethiopia[10]. Therefore, this study aimed to assess family planning, utilization at first sexual initiation, and associated factors among high school youth female students in Alamata,
Tigray, Northern Ethiopia. The finding of this study will help in designing and implementing adolescent and youth sexual and reproductive health programs.

**Methods And Materials**

**Study settings**

This study was conducted at the high school in Alamata town, Tigray region; Northern Ethiopia from June 01–30, 2019. The town is located 600 km north of Addis Ababa, a capital city of Ethiopia. The Alamata town has a total population of 65,669. The town has one government hospital, one health center, one lower private clinic, six private medium clinics, and two private specialty clinics. The town has three high schools (grade 9–10) and one preparatory school (grade11-12) with a total of 3051 students of these 1401 female students. According to the regional health bureau report, the town has a high rate of HIV/AIDS, STIs cases and high teenage pregnancy, and unsafe sexual practice among young is common.

**Study Design And Sampling**

An institution-based cross-sectional study was conducted among Alamata high school female students age 15–24. Female regular students attending their schooling in the year 2019 were included in the study. From a total of 1,383 youth, women included in the baseline survey, 538 youths who initiated sexual intercourse were included in this study for analysis.

**Data Collection**

Structured and pretested self-administer questionnaire was used to collect the data. The questionnaire was originally prepared in English and then it was translated to local language (Amharic) and back to English for consistency [11]. The questionnaire includes socio-demographic characteristics, the peer pressure of students towards sexual initiation, substance use, sexual risk behaviors, parental communication on the sexual issues, watching pornographic materials, knowledge, and attitude towards family planning use.

Data collectors and supervisors were trained for one day on the data collection procedure that includes the confidentiality of the information. Supervisors and investigators were checking the data collection processes, accuracy, completeness, and consistency daily. The collected data were cleaned and edited before analysis.

**Measurements**

Family planning method utilization at first sexual intercourse was the dependent variable in this study. Socio-demographic factors (age, religion, educational status), knowledge and attitude towards family
planning methods, access to information and service towards family planning methods, family-related factors (income, education, communication), behavioral factors, peer influence, sexual behavior were an independent variable. Family planning, utilization at sexual initiation was measured if the youth report uses of any methods of family planning at first sexual debut, if “Yes” recode as “1” if “no” recode as “0”. Parental communication measured if the youth reported as having talked at least one sexual and reproductive health topics with their parents, and if “Yes” recoded as “1” if no recoded as “0”. Positive knowledge of family planning methods was measured if the youth mentioned at least one specific family planning method and a Positive attitude is measured if youths presumed at least one importance that acquired by using family planning methods.

Data analysis

The raw data were entered and analyzed using SPSS version 22. Descriptive statistics were used to summarize the data with frequency, percent, tables, and chart. Bivariate logistic regression analysis was used to determine the association between dependent and independent variables. Variables with p-value < 0.25 in bivariate analysis were entered into a multivariable logistic regression analysis to control for confounding variables. Crude odds ratio (COR) and adjusted odds ratio (AOR) with 95% CI were calculated to show the strength of association. A variable having a p-value < 0.05 was considered as significant in multivariate analysis.

Ethical Consideration

The study was conducted after securing all the ethical approval of the Mekelle university institutional review board. An official letter was taken from the school of public health to the responsible body. A permission letter was obtained from the District Education bureau. Information about the study was explained to students and written consent was taken from each student. Students' names or addresses were not recorded.

Results

Socio-demographic characteristics of study participants

A total of 538 youths female who initiated sexual activities have participated in this study. More than half of the study participants 297(55.2%) were grade 9–10 students. More than one-third of youths' mother 237 (44.1%) were unable to read and write. The mean age of youths who participated in the study was 18.23 ± 1.6 age range from 15–24 years. About 19(3.5%) student's families have an average income of less than 1000 Birr per month and the majority 436 (81%) of these students got less than 100 Birr as pocket money per month (Table 1).
Table 1
Socio-demographic characteristics of youths in Alamata town, North Ethiopia, 2019

| Socio-demographic variables       | Frequency | Percentage |
|-----------------------------------|-----------|------------|
| **Age in years**                  |           |            |
| < 18                              | 168       | 31.3       |
| >=18                              | 370       | 68.7       |
| **Grade level**                   |           |            |
| Grade 9–10                        | 297       | 55.2       |
| Grade 11–12                       | 241       | 44.8       |
| **Living status**                 |           |            |
| With mother and father            | 283       | 52.6       |
| With mother only                  | 166       | 30.9       |
| With father only                  | 31        | 5.8        |
| Other                             | 58        | 10.7       |
| **Religion**                      |           |            |
| Orthodox                          | 316       | 58.7       |
| Other religions                   | 222       | 41.3       |
| **Mother’s educational attainment**|         |            |
| Unable to read and write          | 237       | 44.1       |
| Able to read and write            | 301       | 55.9       |
| **Father’s educational attainment**|         |            |
| Unable to read and write          | 213       | 39.6       |
| Able to read and write            | 325       | 60.4       |
| **Family monthly income**         |           |            |
| <=1000 Birr                       | 19        | 3.5        |
| > 1000 Birr                       | 519       | 96.5       |
| **Monthly pocket money**          |           |            |
| <=100 Birr                        | 436       | 81         |
| > 100 Birr                        | 102       | 19         |
Sexual Activity

Out of 538 female youths who started sexual intercourse, the majority of 366 (68%) of female students started sex with their boyfriends. About 319 (59.3%) of students had more than one sexual partner at the time of the study. A majority of 458 (85.1%) of respondents did not face any health problem during their first sexual intercourse, but 42 (7.8%) experienced an unwanted pregnancy (Table 2).

| Sexual relationships                  | Frequency | Percentage |
|---------------------------------------|-----------|------------|
| First partner relationship            |           |            |
| Boyfriend                             | 366       | 68         |
| Casual partner                        | 129       | 24         |
| Husband                               | 43        | 8          |
| Number of sexual partners             |           |            |
| Only one                              | 219       | 40.7       |
| More than one                         | 319       | 59.3       |
| The problem facing during first sex   |           |            |
| Unwanted pregnancy                    | 42        | 7.8        |
| Abortion                              | 14        | 2.6        |
| STD                                   | 24        | 4.5        |
| No problem occurred                   | 458       | 85.1       |

Age At Sexual Initiation

Out of 538 female youths who started sexual intercourse, more than half 294 (55%) of them started at age 15. The mean age at first sexual intercourse among students who started sexual activity was 15.7 (SD + 0.98) (Fig. 1).

Figure 1: Age at first sexual debut among high school female youths in North, Ethiopia 2019.

Family Planning Method Utilization At Sexual Debut

Among those who had sexual activities for the first time, only 122 (22.7%) of them were used family planning methods in their first sexual debut. And the most common method used by these sexually
experienced female students were emergency contraceptive pills 90 (73.8%), male condom 32 (26.2%), of the 93 (76.2%) of respondents used the family planning method to prevent pregnancy, 3 (2.4%) also used to prevent HIV/STI. Currently, 322 (59.9%) of sexually experienced female students were using family planning methods. Currently, most youths utilized injectable 96 (17.8%), contraceptive pills 52 (9.7), male condom 49 (9.1%) and traditional methods 7 (1.3%). Among students who did not use family planning during the sexual debut, the reason for not used contraception was youth think of protection (17.8%), didn’t mind getting pregnant (17.5%) didn’t know what to use (13.8%) had no reason (11.3%) and didn’t like contraception (10.8%) (Table 3).
Table 3
Family planning utilization at sexual debut among youths in Alamata town Northern, Ethiopia, 2019

| Family planning use                                      | Frequency | Percentage |
|----------------------------------------------------------|-----------|------------|
| Family planning method use at first sex                  |           |            |
| Yes                                                      | 122       | 22.7       |
| No                                                       | 416       | 77.3       |
| The methods used at first sex                            |           |            |
| Male Condom                                              | 32        | 26.2       |
| Emergency contraceptive pills                            | 90        | 73.8       |
| Reasons to use family planning methods                   |           |            |
| To prevent pregnancy                                     | 93        | 76.2       |
| To prevent STI/HIV                                       | 3         | 2.5        |
| Both                                                     | 26        | 21.3       |
| Source of family planning methods                        |           |            |
| Pharmacy                                                 | 91        | 74.6       |
| Shops                                                    | 29        | 23.8       |
| Private clinic and Hospital                              | 2         | 1.6        |
| Current family planning use                              |           |            |
| Yes                                                      | 322       | 59.8       |
| No                                                       | 216       | 40.2       |
| Methods currently using                                  |           |            |
| Male Condom                                              | 49        | 15.2       |
| Contraceptive pill                                       | 52        | 16.1       |
| Emergency contraceptive pills                            | 118       | 36.7       |
| Injectable                                                | 96        | 29.8       |
| Traditional family planning methods                      | 7         | 2.2        |

Factors associated with family planning method use at sexual debut

The model shows that some of the variables have a statistically significant effect on family planning method use at first sexual debut. Students those who got >100Birr monthly pocket money were 88% less
likely to use a family planning method at first sex [AOR 0.124 CI 95% (0.05–0.32)] and regards to religion students categorized as other religions were more likely to use a family planning method [AOR 1.67 CI 95% (1.17–2.57)] (Table 4).

### Table 4
Factors associated with family planning use at first sexual debut among youths, North Ethiopia 2019

| Factors                       | Family planning use at first sex | Crude OR (95% CI) | Adjusted OR (95% CI) |
|-------------------------------|----------------------------------|------------------|----------------------|
|                               | Yes (%)                          | No (%)           |                      |
| Father educational attainment|                                  |                  |                      |
| Unable to read & write        | 39(32)                           | 174(41.8)        | 1                    | 1                    |
| Able to Read and write        | 83(68)                           | 242(58.2)        | 1.53(0.998–2.346) *  | 1.73(0.91–3.39)      |
| Pocket money                  |                                  |                  |                      |
| <=100 Birr                    | 117(95.9)                        | 319(76.7)        | 1                    | 1                    |
| > 100birr                     | 5(4.1)                           | 97(23.3)         | 0.141(0.06–0.354) ***| 0.124(0.05–0.32) ***|
| Religion                      |                                  |                  |                      |
| Orthodox                      | 65(53.3)                         | 251(60.3)        | 1                    | 1                    |
| Other religions               | 57(46.7)                         | 165(39.7)        | 1.33(1.78–2.00) *    | 1.67(1.17–2.57) *    |
| Mother educational attainment|                                  |                  |                      |
| Unable to read & write        | 48(39.3)                         | 189(45.4)        | 1                    | 1                    |
| Able to Read and write        | 74(60.7)                         | 227(54.6)        | 1.28(0.85–1.94) *    | 0.81(0.432–1.513)    |
| Attitude                      |                                  |                  |                      |
| Yes                           | 115(94.3)                        | 360(86.5)        | 1                    | 1                    |
| No                            | 7(5.7)                           | 56(18.5)         | 0.39(0.174–0.883) *  | 0.47(0.203–1.086)    |

Note: ***p-value < 0.001; **p-value < 0.01; *p-value < 0.05

### Discussion
This study aimed to assess family planning, utilization at sexual debut, and associated factors among female high school students in Alamata town, Northern Ethiopia. Accordingly, 22.7% of students utilized
family planning methods at first sexual debut. During the sexual debut, most of the students used post pills (73.8%) and male condoms (26.2%). Monthly pocket money of the students and religion were associated factors with the use of family planning at first sexual activities.

In this study, the overall rate of family planning use is very low. This indicates most adolescents and youths in this study do not use family planning during the sexual debut. More than half of the youths used post pills. However, the use of post pills only prevents them from having unplanned pregnancy but may expose them to HIV, sexually transmitted diseases, to pathogens that cause cervical cancer. Moreover, some youths reported, still, they are experiencing an unwanted pregnancy. This condition may affect their health, education, and social status which have long term effects on the adolescent and youths’ development. Therefore, awareness creation about the use of family planning methods, post pills use during sexual debut and sexual education is important at the high school and youth centers level. Designing an innovative intervention at the school level about the use of condoms and its availability is also important.

While almost all (99.8%) of female students heard of at least one specific family planning methods. But only a few of them used a family planning method at their first sexual debut. In our findings (26.2%) were used male condoms at their first sex. This result was higher than the study in India (3.2%)[12]. Another study in Ghana indicates condom was the commonest contraceptive used (82%)[13]. The disparity between family planning knowledge and practice, indicating that knowledge did not always constitute a practice. Study in the Oromia region of Ethiopia indicated adolescents who never heard about family planning methods were 3 times higher for nonuse of family planning as compared to adolescents who know at least one method of family planning method[14].

Female students who got > 100 Ethiopian birrs monthly pocket money were 88% less likely to use the family planning method. The possible justification might be due to inappropriate management of the money which innovates for use of technologies that increase watching pornographic videos and might relate with addiction to alcohol and chat. This result was not associated with previous studies. Overall, the main reason for not using family planning during sexual debut among adolescents could be due to casual sex, poor awareness of consequence, and sexual violence in developing countries.

In this study among students who did not use family planning during the sexual debut, the reason for not used contraception was didn’t think of protection (17.8%), didn’t mind getting pregnant (17.5%), didn’t know what to use (13.8%), had no reason (11.3%) and didn’t like contraception (10.8%). In contrast, other studies show different reasons for not using family planning services for 87.1% of the participants was fear of being detected and 59.7% reported that they disliked the judgmental attitude of health workers [15, 16]. This indicated there are misconceptions and knowledge gaps.

**Limitations**

Our findings are limited to only female students due to high consequence among females. Due to the sensitivity of the issue and at a young age, there may be under-reporting and social desirability bias.
Therefore, it better to consider this limitation in the interpretation of these findings.

**Conclusions**

Family planning utilization at sexual debut is very low. Many adolescents and youths are exposing to sexual and reproductive health problems. Monthly pocket money and religion of the students were associated with family planning method use at first sex. Applying creative, student center approaches in designing programs at high school and youth center level to improve awareness and practice of family planning is important. Besides, implementing sexuality education at the high school level is important.

**Abbreviations**

EDHS
Ethiopian demographic health survey; HIV:Human Immune Deficiency Virus; SDGs:Sustainable Development Goals; SRH:Sexual and Reproductive Health; STI:Sexual Transmitted Infection; WHO:World Health Organization

**Declarations**

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**Availability of data and materials**

Our data will not be shared to protect the participants’ anonymity

**Author’s contributions**

TG had taken a principal role in the conception of the idea, developing methodology, data collection, analysis and write up of the report. GF, MG, TH contributed to the conception of the idea, methodology, analysis, and write up of the report and draft manuscript and approval of the final version of the manuscript. All authors read and approved the final manuscript.
Ethical approval and consent to participate

The ethical review board of Mekelle University, college health science approved the study protocol and the verbal consent for the participants. Informed written consent was obtained from each student after the purpose of the study explained to them. The right of the respondents to withdraw was assured. Any personal identifier was not encoded.

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interests.

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Figures

![Figure 1](image)

**Figure 1**

Age at first sexual debut among high school female youths in North, Ethiopia 2019.