Utilization of Family Planning And Volunteer Counseling And Testing Service And Associated Factors Among Preparatory School Students In Arba Minch Town, Southern Ethiopia: A Cross- Sectional Study Design

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Abstract

**Background:** The utilization of reproductive health service plays important role in preventing youths from different reproductive related health problems. Adolescents in Ethiopia have inadequate access to information and services.

**Objective:** To evaluate utilization of reproductive health service and determinant factors among preparatory school students in Arba Minch town.

**Method:** Institutional based cross sectional study was conducted among randomly selected 541 regular preparatory students in Arba Minch Town. Data was entered and clean into Epidata-4.6 templates then transferred to SPSS-25 statistical software for and analysis. A bi-variable and multivariable logistic regression model was used to identify statistically significant variables of the independent variable. Variables with P-value <0.05, CI 95% in the final model were considered significant determinant variables.

**Result:** Out of those who had sexual intercourse 78.6% and 29.3% of them used family planning and voluntary counseling and testing service respectively. Married adolescents were 4.236 times more likely utilized F/P service than their counterparts (AOR=4.236, 95% CI: 1.182-15.183). The study participants living with both parents were about 1.6 times (AOR=1.645, CI: 1.077-2.513 more likely to use voluntary counseling and testing service compared to those who living with others.

**Conclusions and Recommendations:** Majority (more than three fourth) of adolescents used family planning, but voluntary counseling and testing service utilization were low. The reasons for not utilizing family planning and voluntary counseling and testing service were felt ashamed from friends and unfriendly approach of health workers during service provision. Encourage adolescents open discussion about reproductive health service utilization with different peoples, open discussion within couples and encourage to increase female education are important steps to improve adolescent’s reproductive service utilization.

**Background**

Reproductive health (RH) is defined as “A state of physical, emotional, and social well-being, not merely the absence of illness or infirmity, in all matters relating to the reproductive system and its functions and processes. It includes human sexual activity and reproductive processes and implies that people can have a "responsible, satisfying, and safe sex life," as well as the ability to reproduce and the freedom to choose whether, when, and how often they reproduce” (1). Reproductive health is a big public health problem that affects people all over the world. However, it is important for female health during the reproductive period. Males still have control over certain reproductive health issues and demand unique reproductive health needs (2).

Adolescence is can be described as those youths age found between 10 up to 19 years (3). It is transition period from youthful to maturity (4). It is demarcated by significant change in physical, mental, emotional
and behavior. Adolescence is the time of assignation of an extensive variety of activities that put their life at high risk (5). And it can also characterized as a period of high risk taking because adolescents are susceptible to behavioral problems (6, 7). Among these behavioral problem during puberty are; physical health problem consequences such as abortion, school dropout, out of marriage vows as well as pushing prone to sexually transmitted diseases such as HIV(8). All these problems can be prevented through sexual and reproductive health service up take (3). The benefits of practicing family planning method is encompassing economic growth, prevents pregnancy-related health risks for women, particularly for adolescent girl, educational advances, and women's empowerment (9). Contraceptive use has multiple benefits. It prevents unplanned pregnancies, decreases the number of abortion, and reduces the incidence of death and disability interrelated to complication pregnancy, and childbirths. The benefits of it for long-range of time is increased education for women, and better family health to better family income and robust national economic growth. Increased contraceptive use and reduced unmet need for contraception are essential to improve maternal and adolescent health, and combating HIV (10).

The decisions made during this period of life affect not only the individual welfare of adolescents, but also the wellbeing of whole people. The proportion of unmet need among married & unmarried female adolescence in Central and West Africa is 29.3& 41.7%, respectively. In general, married adolescents aged 15–19 experience greater unmet need than all married women. Generally, the rate of family planning practice is low in all regions in SSA among 15-19-year old married female adolescent. In Ethiopia there are various cultural and social barriers for gender equality, resulting in poor reproductive indices and high prevalence of harmful traditional practices (11).

Worldwide there were 1.8 billion youths age found between 10–24 years out of which 1.2 billion youths were aged 15–24 years in 2015, and Africa comprises 19% (above 226 million) of the world adolescent (12). Youths are the greatest percentage of the population in SSA, with more than 33% of the population ages found between 10–24years (13), and 33.8% of the total population in Ethiopia is found between 10–24years (14).

Ethiopia is a country which unsafe abortion is a prominent cause of maternal mortality and injury (28). However as many research findings disclosure that the RHS utilization among adolescents are lower than other age categories (29). Adolescents in Ethiopia have limited access to SRH information (30). Despite of the high rate of SRH problems; the access of acceptable SRH services to adolescents is very low (31–33). This poses a major public health problem such as maternal deaths and other complications resulting from early marriage, unplanned pregnancy, and unsafe abortion in the country. From the overall burden of disease due to complicated child birth; Adolescent women accounts for 23% of among women of all ages (21). Worldwide the estimated number of 3.2 million unsafe abortions occur each year among youth girls aged 15–19 years(28). According to the 2016 Ethiopian Demographic and Health Survey report, among sexually active adolescents aged 15–19 years, adults who were tested for HIV test were only 22% and 18% respectively (18). Adolescents’ RHS uptake is low particularly in the Southern Ethiopia in which study area is found (34). Therefore it is important to further investigate what other factors affect the utilization and what are these factors in the context of Arba Minch and to gain a better understanding of the
reasons for low utilization of the service as a first step towards the reduction of teenage pregnancy, unsafe abortion and other reproductive health problems. The objective of this study was to evaluate reproductive health services utilization of adolescents in preparatory schools in Arba Minch Ethiopia. Determining the prevalence of reproductive health service utilization in Arba Minch will contribute to pave the identified gaps and solve the problems related to the service utilization.

Methods And Materials

Study Design and Period: School based cross-sectional study was conducted in two randomly selected governmental preparatory schools among 541 regular preparatory school students in Arba Minch town from December 01-30/2019.

Study Area: The study was conducted in Arba Minch town which is found in Gamo zone, the Southern Nations Nationalities and Peoples Region (SNNPR). It is located in Southern 505km far from Addis Ababa (capital city of Ethiopia) and 275km southwest of Hawassa (capital town of the regional state). It is structured or divided into 4 sub city and 11 kebeles in order to facilitate socio-economic development of the town residents. Arba Minch is home to 14 governmental health facilities, 34 private clinics, 13 drug store and 2 community pharmacy providing health care services for the community and also 23 primary schools [8 Governmental, and 15 private (4 of them are 1-4 grade)], 9 high schools (5 Governmental and 4 privates) and 6 preparatory schools (3 Governmental and 3 private schools). Total number of the students enrolled in 2019 G.C. 11th and 12th grade are 2878 (2274 students in governmental and 604 private schools).

Source Population: All students enrolled to preparatory school in Arba Minch town in 2019.

Study Population: All students in randomly selected preparatory schools in Arba Minch town were the study population.

Inclusion and Exclusion Criteria

All regular students between ages of 15-19 years old enrolled in to preparatory school in 2019 and Regular preparatory school students drop out from school, severely sick and unable avail themselves on the data collection period were exclude.

Sample Size Determination: A single population proportion formula was used to calculate the required sample size by assessment of RH service utilization and associated factors among high students (p) = 67.3% in Goba town, confidence level of 95%, and 5% of margin of error the sample and the underlying population as follows:

\[
 n = \frac{(z_{\alpha/2})^2 \times pq}{d^2}
\]
Where: \( n \) = sample size required; \( p \) = Estimated proportion of RH among preparatory adolescents = 0.673 (from Goba; \( d \) = maximum tolerable error which is = 0.05; \( Z \) = value of standard normal distribution at 95% confidence level which is 1.96.

\[
\frac{(1.96)^2 \cdot 0.673 \cdot 0.327}{0.05^2} = 338.
\]

Finally by adding 10% nonresponse rate and because of multistage sampling method was used sample size 338 was multiplied by design effect 1.5 and the final sample sizes was 541.

**Sampling Technique**

After calculating sample size, two stage sampling technique was used by considering two preparatory schools in Arba Minch town and also students was stratified in to eleventh and twelve's grade stream and then to male and female. The samples were selected by using simple random sampling (SRS) technique and from each grade and sex. The sample size was distributed to each grade proportional to their size. Generally, the required numbers of students was selected computer generated numbers from each grades and sex (figure 1).

**Data Collection**

Data was collected by using semi-structured self-administered method by using pre-tested questionnaires. Data collection period was from Dec. 10-11/2019. Data collectors were school instructors and facilitator was selected for the school a day before the data collection. The purpose of the study was explained to study participants in order to identify the clarity of questionnaires and their sensitiveness.

**Data Quality Control**

To assure the quality of the data, orientation was given for data collectors and supervised, on spot checking and reviewing the completeness of questionnaires done by investigator. The questionnaires was prepared originally in English and translated to Amharic then back to English. The questionnaire was pre-tested among 5% of similar setting students in Birbir preparatory students before the actual data collection processes to ensure its clarity, ordering, consistency and acceptance. After collecting the data, each questionnaire was checked for completeness and being filled correctly.

**Data Management and Analysis**

Data was entered in to EpiData version 4.6 and export to SPSS Version 25 software package for analysis. Bivariate logistic regression was used to identify the association between the dependent and independent variable. The variables whose significance level less than \( P<0.25 \) were considered as candidate for the multivariable logistic regression analysis. Before multivariable analysis, independent variables were checked for multicollinear effect using correlation matrix. Hosmer-Lemshow test was used to test goodness-of-fit to assess whether the necessary assumptions for application of multivariable logistic
regression. Finally to determine the independent factors associated with F/P and VCT utilization, multivariable logistic regression was done. Variables with P-value <0.05 in the final model was considered statistically significant. Variables were explained by frequency text, tables and figures.

Results

Socio Demographic Characteristic of the Study Participants

Out of 541 study samples, 522 responded to the questionnaires yielded response rate of 96.5%. Majority of the students 296(56.7%) were males. The mean age of the study participant was 17.8(SD±0.804 years). Among the respondents, 216(41.4%) and 306(58.6%) were attending grade 11th and grade 12th respectively. Two hundred fifty two (48.3%) respondents were Orthodox religion follower followed by protestant 247(47.3%) and Muslim 22(4.2%). Gamo 380(72.8%) and Gofa 44(8.4%) constitute the major ethnic group. The majority of the respondents 499(95.6%) were unmarried. Regarding to participants family educational status 160(30.7%) of fathers and 72(13.8%) of mothers were above secondary education (table 1).

Table 1: Socio demographic characteristics of study subjects preparatory school, in Arba Minch southern Ethiopia, Dec. 2019 G.C.
| Variable                           | frequency | Percent |
|-----------------------------------|-----------|---------|
| Sex                               |           |         |
| Male                              | 296       | 56.7    |
| Female                            | 226       | 43.3    |
| Age                               |           |         |
| 15-16                             | 26        | 5       |
| 17-19                             | 496       | 95      |
| Educational status                |           |         |
| 11th grade                        | 216       | 41.4    |
| 12th grade                        | 306       | 58.6    |
| Marital status                    |           |         |
| Single                            | 499       | 95.6    |
| Married                           | 21        | 4       |
| Divorced                          | 2         | 0.4     |
| Religion                          |           |         |
| Orthodox                          | 252       | 48.2    |
| Protestant                        | 22        | 4.2     |
| Muslim                            | 247       | 47.3    |
| Others                            | 1         | 0.2     |
| Ethnicity                         |           |         |
| Gamo                              | 380       | 72.8    |
| Gofa                              | 44        | 8.4     |
| Amara                             | 32        | 6.1     |
| Wolayta                           | 26        | 5       |
| Zeyise                            | 24        | 4.6     |
| Others                            | 16        | 3.1     |
| Co residence                      |           |         |
| with both parents                 | 334       | 64      |
| With mother only                  | 66        | 12.6    |
| With father only                  | 21        | 4       |
| With relatives                    | 40        | 7.7     |
| With friends                      | 52        | 10      |
| Alone                             | 9         | 1.7     |
| Father’s educational status       |           |         |
| No formal education               | 48        | 9.2     |
| Completed primary education(1-8)  | 187       | 35.8    |
| Completed secondary education(>9) | 127 | 24.3 |
|-----------------------------------|-----|------|
| Above secondary education         | 160 | 30.7 |
| **Mother’s educational status**   |     |      |
| No formal education               | 93  | 17.8 |
| Completed primary education(1-8)  | 240 | 46   |
| Completed secondary education(>9) | 117 | 22.4 |
| Above secondary education         | 72  | 13.8 |
| **Father’s occupational status**  |     |      |
| Formal employment                 | 188 | 36   |
| Casual laborer                    | 66  | 12.6 |
| Self-employment                   | 268 | 51.3 |
| **Mother’s occupational status**  |     |      |
| Formal employment                 | 88  | 16.9 |
| Casual laborer                    | 18  | 3.4  |
| Self-employment                   | 70  | 13.4 |
| House wife                        | 346 | 66.3 |

### Sexual History of the Participants

Out of 522 participants 307 (58.8%) have boy/girlfriend and among these 141 (45.9%) of them had two and above two sexual partners. From a total participants 159 (30.5%) have had sexual intercourse with their friends in the past 12 months (Table 2).

**Table 2**

Sexual history of the study participants in preparatory school, in Arba Minch, Southern Ethiopia Dec. 2019.

| Variables                      | frequency | Percent |
|--------------------------------|-----------|---------|
| Ever had boy/girlfriend        | Yes       | 307     | 58.8   |
|                                | No        | 215     | 41.2   |
| Ever had sexual intercourse    | Yes       | 159     | 30.5   |
|                                | No        | 363     | 69.5   |
| Number of sexual partner       | One       | 166     | 54     |
|                                | Two and above | 141 | 46     |
Awareness and Source of Information

About 468(89.7%) of study participants were heard information about reproductive health services, among these 324(62.1%) and 297(56.9%) of the participants had information (awareness) about family planning and VCT services respectively. Health care provider and mass media were source of information for one hundred twenty two (23.4%) each followed by teachers 93(15.9%). 316(60.5%) study participants were discussed about reproductive health service, 174(33.3%) and 195(37.4%) of the study subjects were discussed about family planning and VCT services respectively. One hundred ninety seven (37.7%) were discussed with their friends or peer groups followed by parents or guardian 94(18%) (figure 2).

Family Planning Service Utilization

Among sexual intercourse experienced study participants 125(78.6%) utilized FP service. Male condoms were most commonly used 79(63.2%) followed by 45(32%) pills and the least used modern contraceptive was female condom only four (3.2%) during their sexual intercourse. The major reason for not using family planning service for 162(31%) of the study participant was have no money for the service followed by one hundred thirty six (26.1) felt ashamed from their friends (Fig. 3).

Voluntary Counseling and Testing Service Utilization

The prevalence of voluntary counseling and testing service among the study participants were 153(29.3%) utilized the service. The reason for not using VCT service were felt ashamed from friends 171(32.8%) followed by eighty six (16.5%) of non-convenient behavior of health care providers (Fig. 4).

Determinant Factors for Family Planning Service Utilization

In the bi-variable logistic regression analysis at p<0.25 in 95% CI factors such as sex, marital status, co-residence, mother’s educational level, father occupation, discussing about RH and F/P, discussing on RH with parents and health care providers and having sexual intercourse experience were associated with family planning service utilization. But in multivariable analysis at p- value ≤0.25 at the level of 95% CI, marital status, ever had boy or girl friend ever had sexual intercourse with in the past 12 months and discussing on RH with parents were found to be significantly associated with family planning service utilization. Based on this study the odds of family planning service utilization among married adolescents were 4 times more likely to utilize F/P service than their counterparts (AOR = 3.967, 95% CI: 1.083–14.528). The adolescents those experienced sexual intercourse were 38.243 times (AOR = 38.243, 95% CI: 20.100-72.762) more likely to utilize F/P service than abstainers. Adolescents who had discussion on RH with their parents were about 2.766 times (AOR = 2.766, CI: 1.251–6.116) more likely to use the service those who do not have discussion with their parents (Table 3).
Table 3
Biv-variable and multivariable logistic regression analysis of determinant factors for F/P service utilization among preparatory school adolescents, in Arba Minch, southern Ethiopia Dec. 2019 (n = 159)

| Variable                        | F/P service utilization | COR(95%, ci)         | AOR(95%,ci)         | p-value |
|--------------------------------|-------------------------|----------------------|---------------------|---------|
|                                | Yes                     | No                   |                     |         |
| Sex                            | Male                    | 61                   | 235                 | 0.657(0.439–0.984) | 1.182(0.646–2.163) | 0.587 |
|                                | Female                  | 64                   | 162                 | 1       | 1       |         |
| marital status                 | Married                 | 23                   | 6                   | 14.694(5.8308–37.040) | 3.967(1.083–14.528)* | 0.037 |
|                                | Unmarried               | 102                  | 391                 | 1       | 1       |         |
| co-residence                   | with both parents       | 68                   | 266                 | 0.588(0.390–0.885) | 0.760(0.414–1.394) | 0.376 |
|                                | With others             | 57                   | 131                 | 1       | 1       |         |
| mother educational status      | Educated                | 111                  | 318                 | 0.508(0.276–0.933) | 0.573(0.248–1.324) | 0.192 |
|                                | No formal education     | 14                   | 79                  | 1       | 1       |         |
| father occupational status     | Formal employment       | 74                   | 194                 | 0.579(0.366–0.915) | 0.734(0.372–1.448) | 0.372 |
|                                | daily laborer           | 17                   | 49                  | 0.910(0.493–1.679) | 0.473(0.193–1.159) | 0.102 |
|                                | Self-employ             | 34                   | 154                 | 1       | 1       |         |
| discussed about RH             | Yes                     | 98                   | 218                 | 2.98(1.863–4.767) | 0.983(0.462–2.094) | 0.965 |
|                                | No                      | 27                   | 179                 | 1       | 1       |         |
| discussed about F/P            | Yes                     | 64                   | 110                 | 2.737(1.810–4.141) | 1.501(0.727–3.099) | 0.273 |
|                                | No                      | 61                   | 287                 | 1       | 1       |         |
| have you discussed on RH with parents | Yes            | 44                   | 50                  | 3.770(2.352–6.043) | 2.766(1.251–6.116)* | 0.012 |
|                                | No                      | 81                   | 347                 | 1       | 1       |         |
| have you discussed on RH with health workers | Yes | 13 | 18 | 2.444(1.162–5.142) | 2.153(0.665–6.969) | 0.201 |

Key *=significantly associated, **=strongly associated & 1 = reference
### Determinants of Voluntary Counseling and Testing Service Utilization

Based on bivariate analysis at $p \leq 0.25$ factors such as co-residence, mother educational status, discussing about VCT, discussing on RH, discussing on RH with friends and health care providers were found to be associated with VCT service utilization.

Out of the variables which entered to multivariate logistic at $p \leq 0.05$ factors such as co-residence with both parents, mother educational status, discussing about VCT and discussing on RH with health care providers were statistical significant determinants of VCT service use. The study participants living with their both parents were about 1.63 times (AOR = 1.631, CI: 1.067–2.494) more likely to use VCT service compared to those who living with others or alone. The children of formal educated mothers were about 1.88 times more likely to utilize VCT service than those whose mothers had no formal education (AOR = 1.888, CI: 1.059–3.366). In this study adolescents who discussing about VCT service and discussing about RH with health care providers were about 2.077 and 2.53 times more likely to utilize VCT service when compared to their counterparts (AOR = 2.077, CI: 1.207–3.573 and AOR = 2.532, CI: 1.143–4.609) respectively (Table 4).
Table 4
Bi-variable and multivariable logistic regression analysis of determinant factors for VCT service utilization among preparatory schools, Arba Minch town, southern Ethiopia November 2019 (n = 522)

| Variable                                | VCT utilization | COR(95%, ci)          | AOR(95%,ci)          | p-value |
|-----------------------------------------|-----------------|-----------------------|----------------------|---------|
|                                         | Yes             | No                    |                      |         |
| co-residence                            | With all parents| 108                   | 226                  | 1.518(1.012–2.279) | 1.631(1.067–2.494)* | 0.024 |
|                                         | With others     | 45                    | 143                  | 1       | 1       |         |
| mother educational status               | No formal education| 17                   | 76                   | 0.482(0.274–0.847) | 0.530(0.297–0.944)* | 0.031 |
|                                         | Educated        | 136                   | 293                  | 1       | 1       |         |
| Discussed about RH                      | Yes             | 104                   | 212                  | 1.572(1.056–2.339) | 0.747(0.414–1.348)* | 0.332 |
|                                         | No              | 49                    | 157                  | 1       | 1       |         |
| Discussed on RH with friends            | Yes             | 71                    | 126                  | 1.670(1.138–2.451) | 1.383(0.803–2.381)* | 0.242 |
|                                         | No              | 82                    | 243                  | 1       | 1       |         |
| Discussed on RH with health workers     | Yes             | 15                    | 16                   | 2.398(1.154–4.983) | 2.532(1.143–5.609)* | 0.032 |
|                                         | No              | 138                   | 353                  | 1       | 1       |         |
| Discussed about VCT                     | Yes             | 77                    | 118                  | 2.155(1.466–4.011) | 2.077(1.207–3.573)* | 0.008 |
|                                         | No              | 76                    | 251                  | 1       | 1       |         |

Key *=significantly associated, **=strongly associated & 1 = reference

Discussion

In this study, the overall utilization of family planning service among sexual intercourse experienced adolescents was 78.6%. This finding was nearly in agreement with the study conducted in Nigeria 81.6%, Gondar 79% and Goba 72.4% (31, 43, 52). However this finding was higher than the study conducted in Hadyia zone 64.5%, North Shewa 27.9% and kachabirra 17.6% (40, 46, 53). This difference might be due to different characteristics of individuals between the study areas and design, whereas this study was conducted in urban and have higher educational level so adolescents might have good knowledge and attitude towards family planning service utilization.

This study revealed that VCT service utilization was 29.3% from total study participant and 31.6% from sexually active study subjects. This outcome was slightly similar with the finding of the study conducted
in Kachabira 38.2% southern Ethiopia (40). Which was lower than the research findings in Nekemt 59.2%, Ancha 45.8% and Karamoja region, Uganda 82% (39,47, 53). This variation could be due to the recent nationwide noticeable emphasis decrement no the fight against HIV/AIDS related health promotion and preventive activities. Other reason could be as the study finding feeling ashamed from friends and unfriendly handling and non-convenient behavior of health care providers.

This study disclosed that utilization of F/P service was high among married individuals. This could be due to increased open discussion on sexual and reproductive health issues or family planning between couples. In this study discussing on RH with parents were found to be significantly associated with family planning use than their counterparts. Discussion on the service with different people has an effect on F/P service utilization. Adolescents who discussed about RH service with their parents were utilized family planning more than those who do not discussed. This is consistent with the studies conducted in Gondar and Anchar (31, 47). This variation might be because of discussion allows adolescents to create opportunity exchange information that increases further understanding about RH service and its benefit.

The practice of family planning service utilization among youths who have had sexual intercourse in last one year was higher than abstainers. This finding is consistent with the study done in goba and Nekemt (39, 43). The possible reason sexually experienced individuals might have more time to discuss with their partner about family planning to avoid the risk and consequences of sexual vulnerability and they may also care each other.

VCT service utilization among adolescents co-residence with both parents were high when compared with those who live others or alone. This is similar with the study conducted in East Gojjam. This difference could be because of information and experience exchange among parents. In this study maternal educational status affects VCT service utilization. In this study adolescents of formal educated mothers were utilize VCT service more than that of the children of illiterate mothers. This finding supported by the study conducted in Goba (43). The possible justification could be educated mothers may have better information and awareness about HIV/AIDS and VCT they may encourage their children to utilize the service. In this study adolescents who discussion on VCT service with health care providers utilize more than not discussed with health care providers. This is also observed in the study conducted in Medawolabu University, Gondar and Goba (31, 43). This could be justified as discussion about VCT with health care providers allows adolescents to exchange better information that facilitate further understanding and avoid misunderstanding on the service. Also discussing with health worker may not need referral to other health professional for the service.

**Strength And Limitation**

This study addressed previously unscathed and currently which is area of public health concern. Gender balance is considered during sampling technique by proportionally allocating for both sexes each grade. Data was collected through self-administered questionnaire which may decrease social desirability bias.
Limitation: this study share the limitations of cross sectional studies. It is impossible to decide causal relationship among dependent and independent variables. This study was conducted only in two governmental preparatory schools, which means the result, may not generalize to adolescents out of school and rural and semi-urban adolescents.

Conclusions

In general majority of sexual intercourse experienced adolescents were used family planning service whereas VCT service utilization was low. This study shows that Marital status, Discussed on with parents, having boy or girlfriend and ever had sexual intercourse were the factors affecting F/P service utilization, whereas Co-residence both parents, Mother educational status, Discussed with Health care providers and discussed about VCT were the significantly determinant factors for VCT service utilization. The reason for not utilizing F/P service was having no money for the service followed by felt ashamed from friends, but felt ashamed from friends followed by harsh and unfriendly approach of health care providers during service provision were the two major reasons for not utilizing VCT service.

Based on the study finding, we can recommend that to health initiation and health care providers:

Encourage adolescents open discussion about RHS utilization, couples open discussion about RHS utilization, Encourage couples open discussion about RHS utilization and Encourage female education.

Abbreviations

AIDS, Acquired Immune Deficiency Syndrome; AOR, Adjusted Odds Ratio; ARH, Adolescent Reproductive Health; DHS, Demographic and Health Survey; FGC, Female Genital Cutting; HIV, Human Immune Deficiency Virus; IEC, Information, Education and Communication; RH, Reproductive Health; SRH, Sexual and Reproductive Health service; VCT, Voluntary Counseling and Testing

Declarations

Ethics Approval and Consent to Participate

The study was reviewed and approved by the Institutional Review Board (IRB) of Arba Minch University College of Medicine and Health Science. The study purpose, procedures, and benefits were explained to participants in local languages. Informed written consent was obtained and signed.

Consent for Publication

Not applicable

Availability of Data Materials
Datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

**Competing Interests:** The authors declare that they have no competing interests.

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**Authors’ Contributions**

MM: drafted study design, carried out data collection supervision, data management, data analysis, and interpretation. GS: participated in statistical data analysis, result interpretation, and prepared the manuscript. MG: participated in data analysis and interpretation and revised the drafted manuscript. ZG: participated in the study design and revised the drafted manuscript. FW: participated in data analysis and interpretation and revised the drafted manuscript. SD: participated in data analysis and interpretation and revised the drafted manuscript. All authors read and approved the final manuscript

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**Figures**
Preparatory schools in Arba Minch town

Simple random sampling

Arba Minch preparatory = 1112

Grade 11th n=427
M=238  F=189

Grade 12th n=685
M=370  F=315

Proportional allocation of sample size in each grade

Grade 11th n=250
M=148  F=102

Grade 12th n=283
M=165  F=118

Simple random sampling will be used

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Figure 1

Diagrammatic presentation of sampling procedure
Figure 2

The frequency source of information for study participants Arba Minch, Southern Ethiopia, Dec. 2019.

|                |           |
|----------------|-----------|
| others         | 3.20%     |
| Implants       | 7.20%     |
| injectables    | 10.40%    |
| pills          | 36%       |
| female condom  | 3.20%     |
| male condom    | 63.20%    |

Figure 3

Types of contraceptives ever utilized among preparatory school, Arba Minch, southern Ethiopia Dec. 2019 (n=522)
Figure 4

Reason for not utilizing VCT service among Arba Minch Town preparatory school students in, Southern Ethiopia in 2019.