



ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES

SCHOOL OF ALLIED HEALTH

DEPARTMENT OF NURSING AND MIDWIFERY

**ASSESSMENT OF FACTORS AFFECTING REPRODUCTIVE HEALTH
SERVICES UTILIZATION AMONG STUDENTS IN BAHIR DAR
UNIVERSITY, ETHIOPIA**

BY:

HEAVEN WORKNEH, BSc, RM

**A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF
GRADUATE STUDIES, DEPARTMENT OF NURSING AND MIDWIFERY IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTERS OF SCIENCE IN MATERNITY AND REPRODUCTIVE HEALTH
NURSING.**

JUNE, 2015

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JUNE, 2015

APPROVED BY THE BOARD OF EXAMINATION

This thesis by Heaven Workneh is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of Masters of Science in Maternity and Reproductive Health.

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June, 2015
Addis Ababa

ACKNOWLEDGEMENT

I am very much grateful to my husband families and friends for their continuous support and assistance throughout all the way of developing this thesis.

Also I would like to extend my thanks to my advisor Ato Fekadu Aga Assistant Professor who contributes by giving comment and continuous support in the development of this thesis.

Finally I would like to thank Bahir Dar University students for their co-operation and willingness in filling the questionnaire.

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ACRONYMS

AIDS	Acquired Immune Deficiency Virus
BDU	Bahir Dar University
EDHS	Ethiopian Demographic Health Survey
FP	Family planning
HIV	Human Immune Deficiency Virus
MDG	Millennium Development Goals
RH	Reproductive Health
RHS	Reproductive Health Service
STI	Sexually Transmitted Infections
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

ABSTRACT

Background: An integrative and comprehensive approach is required to scale up youth utilization of sexual and reproductive health service especially facility based. This requires baseline survey of youth users of RHS and the quality service offered.

Objective: The objective of the study was to assess factors affecting reproductive health services utilization among Bahir Dar university students.

Method: Institutional based cross sectional study was conducted among 848 Bahir Dar University students from March to May 2015, using a multi stage sampling technique. Self administered questionnaire was used to collect the data. The collected data was entered and analyzed using SPSS version 20.

Result: Of the total participants the utilization of reproductive health services was 33.7% FP, 66.6% VCT, 58.1% STI treatment and 71.2% abortion among the pregnant females. Students whose religion prohibits them to utilize FP were 47% less users of FP than those who are not prohibited at AOR: 0.53, 95%CI (0.3, 0.91). Students who had multiple sexual partners in the last three months were 3.84 times more VCT service users than student with single partner AOR: 3.84, 95% CI(2.04,7.23). Students who had multiple sexual partners were 3.59 times more Abortion service users than student with single partner AOR: 3.59, 95% CI (1.5, 25.71).

Conclusion: Age, cultural prohibition, religious prohibition, distance of service providing facility from dormitory and service providing professionals attitude are some of the factors which are found to affect RH service utilization among the university students.

Key words: University students, Reproductive health, service utilization, sexual activity, youth

CHAPTER 1: INTRODUCTION

1.1 Background information

Reproductive health is a state of complete physical, mental and social well-being in all matters related to the reproductive system at all stage of life. The International Conference on Population and Development Program of Action states that reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so (1).

A youth is an individual within a period of transition from childhood to adulthood, between the ages of 15-24 (2). Worldwide the terms “youth”, “adolescent” and “young people” are interchangeably used, often meaning the same thing but occasionally differentiated. During this period youth undergo biological transition, attain reproductive capability and psychological transition. According to WHO, one in every five people worldwide is youth (3). An estimate of 1.7 million youth lose their lives due to accidents, pregnancy related complications and violence (4).

Reproductive health care is defined as the constellation of methods, techniques and services that contribute to reproductive health and well-being by preventing and solving sexual health problems. Globally, the young population is estimated to be 1.8 billion (5). Among these, 513 million are between 15–19 years old, and 85% of the total youth are living in developing countries. These youth are most vulnerable to a range of reproductive health problems, such as teenage pregnancy and childbearing, unsafe abortion and sexually transmitted infections (STI), including HIV (1).

The World Health Organization (WHO) estimates that in Africa, 60% of all new HIV- infections occur in adolescents who are 15–19 years old (6). In developing countries, there are about 12.8 million births by young people aged between 15–19 years, and a large proportion of these pregnancies are unplanned (7). Globally both the epidemiological data and the expressed wishes of diverse constituencies indicate that reproductive health interventions are most likely to include attention to the issues of family planning, STD prevention and management and prevention of maternal and prenatal mortality and morbidity.

Reproductive health should also address issues such as harmful practices, unwanted pregnancy, unsafe abortion, reproductive tract infections including sexually transmitted diseases and HIV/AIDS, gender based violence, infertility, malnutrition and anemia, and reproductive tract cancers (1).

1.2 Statement of the problem

One quarter of the world's population is made up of 1.8 billion young people aged 15–24 which make up the largest cohort in history, thereby representing an extraordinary opportunity to shape the world's social, economic and health futures (8). In Ethiopian context young people, age 15 - 24, is the largest group (9). They contribute 26.2 million or 34.7% of total population.

Youth face increasing risks of negative RH outcomes: high STI prevalence, unwanted pregnancies, and highly vulnerable to HIV infections. Addressing the reproductive health needs of young people is complex as: “youth” can't be defined as a homogeneous group. Failure to deal with reproductive health problems at any stage in life set the scene for later health and developmental problems (1, 4, 9, 10).

Acknowledging the fact that the 1800 million young people globally, 1.5 billion of whom live in developing countries where HIV/AIDS has reduced their chances of living to the age of 60 by 20% (11). Half of all new HIV infections occur among young people, aged 15–24 (2). In 2007, an estimated 33.2 million people were living with HIV, 5.4 million of who were aged 15–24 years. In sub-Saharan Africa, there are 3.2 million young people living with HIV, with a ratio of three young women infected for every young man (12).

Youth are vulnerable to many health problems because they often have multiple sexual relationships and inconsistent use of condoms. Young men may have their first sexual experiences with prostitutes, while young females may have their first sexual experiences with older men, both of which increase the chance of getting sexually transmitted infections (STIs) including Human Immunodeficiency Virus (HIV). Substance abuse exposes the users to risky sexual behaviors such as having unprotected sex which can have economic, social, physical, psychological, and health problems (13).

According to the 2011 Ethiopian Demographic and Health Survey, among women age 25-49, 29 percent first had sexual intercourse before age 15, 62 percent before age 18, and by age 25 the majority of women (88%) have had sexual intercourse (14). The median age at first sexual intercourse for women age 25-49 years is 16.6 years.

Contraceptive use among currently married women of 15–19 years of age was only 23%, with nil utilization of permanent methods and 1.6% and 2.5% utilization of implants and IUD, respectively (14). Contraceptive use was lower when compared with other age groups. Among sexually active youth aged 15–19 years, women and men who were tested for HIV test were only 24% and 27% respectively (7, 14). Among sexually active, never-married women aged 15–19 in Ethiopia, 37 percent have an unmet need for contraception, and 28 percent of recent births were unplanned (15).

In Ethiopia, 60% of youth pregnancies are unwanted resulting from unprotected sexual intercourse (16). Among youth whose age between 15–24 years old, 1.1% of women are infected with HIV in Ethiopia (17). According to national reproductive health strategy of Ethiopia, few national programs are specifically targeted towards addressing their most pressing reproductive health needs (10).

Of the 3.2 million unsafe abortions among young women ages 15–19 each year worldwide, almost 50 percent are in the Africa region, the highest proportion of any region in the world, according to a 2013 study in Reproductive Health Matters. In Ethiopia, unsafe abortion is a leading cause of maternal death and injury (15). Despite recent progress, the country still has the fifth-highest maternal mortality ratio in Africa.

Almost all of sexual and reproductive health problems are preventable via transparent discussion, life skill training and making youth assertive on sexual and reproductive matters. Accessing sexual and

reproductive health service to young people helps to avoid many health problems, and achieve the millennium development goal 3, 4, 5 and 6. Determining parent youth communication about sexual and reproductive health issues helps to design appropriate intervention programs (10).

University students are in the youth age category and are exposed to risky sexual behaviors such as unprotected sexual intercourse leading to HIV, other STIs and unwanted pregnancies. Female youths are prone to unwanted pregnancies that lead unsafe abortions, severe illness, infertility and death. Globally, one-third of the 340 million new STIs cases occur per year in people under 25 years of age (13). Each year, more than one in every 20 youths contracts a curable STI. Studies reported that more than half of all new HIV infections occur in people between the ages of 15 and 24 years.

Students of higher learning institutions are assets of the society and change agents in filling the gap in the past and on whom the future generation is based. It is also clear that this group is on the way of transforming to adulthood; filled with ambition; and building their future academic and social career. Neglecting their sexual and reproductive health can lead to high social and economic costs, both immediately and in the years ahead. One of the most important commitments a country can make for future economic, social, and political progress and stability, therefore, is to address the sexual and reproductive health needs of this population group (18).

Currently youth have limited access to quality youth friendly services and are at increased risk of negative reproductive health outcomes (19). Limited access to targeted RH care and services for young people contributes to and exacerbates many of the RH problems. Thus identifying factors affecting access to reproductive health services by the youth is very important for planning relevant youth friendly services. Nevertheless the researcher is intrigued by a question: What factors affect the utilization of reproductive health services among Bahir Dar University students? The researcher could

not find scientific evidence to respond to this question. Therefore the purpose of this study is to assess factors affecting the utilization of reproductive health services among Bahir Dar University students.

1.3 Significance of the study

Even though universities are the major places to find the young population there is scanty information concerning utilization of reproductive health services among university students. This study will be aimed to assess factors affecting reproductive health services utilization among Bahir Dar University students. Therefore this study provides scientific evidence indicating factors that affect the utilization of reproductive health services by the university youth. It also helps for policy makers and other governmental and nongovernmental organizations as an insight for interventions done in youth friendly reproductive health services. It also will contribute as a base line for other researchers studying in similar field of study. In addition to this it will also help identify where the gap is in giving the nursing care and will help to improve and achieve the millennium development goals specially goal 4, 5 and 6.

CHAPTER 2: LITERATURE REVIEW

World Health Organization defines the age group 15-24 years of age as youth (20). Young age is the time of transition from childhood to adulthood during which young people experience changes following puberty.

Neglecting the sexual and reproductive health of youth can lead to high social and economic costs, both immediately and in the years ahead (21). One of the most important commitments a country can make for future economic, social, and political progress and stability, therefore, is to address the sexual and reproductive health needs of this population group.

Students of higher learning institutions are people with multiple socio-cultural backgrounds who begin autonomous life at younger age for first time. Study findings reveal most of students of higher education rush to range of maladaptive high-risk extracurricular activities like alcohol use, substance and sexual abuse (22). Poor mental health, sexual coercion, low trust in others, and increased university enrolment are associated with risky sexual behavior among university students (24). Non regular partners, unprotected sex, and cross-generational sex among university students were also reported for this group.

Concerning the factors predisposing university student to sexual and reproductive health problems, university clinic staffs and director/officers consistently stated that economic problems, peer pressure, absence of preventive intervention and lack of access to information education communication (IEC) on sexual and reproductive health (SRH) issues were reported to be significant reasons for the problems (23).

A cross-sectional analytic study done to assess sexual behavior, contraceptive knowledge and use among female undergraduates' students of Muhimbili and Dare Salaam Universities in Tanzania shows that 70.4% of the respondents have had sexual intercourse and are sexually active, 74.7% had first sex at the age of 19–24 years (25). In another studies conducted among undergraduate students in Uganda University has resulted that 60% of the study participants were sexually active (26). Whereas study conducted among female University students in Sweden has also revealed that 98% of the study participants were sexually active (27).

In an institution-based, cross-sectional study conducted among Wolaita Sodo University students 32.1% of the respondents reported that they had sexual experience and the mean age at the first sex was 17.34 (28). Out of those who had sexual experience, 53.3% said that they had multiple sexual partners in their life time. Around one-third of the respondents (37.1%) had no awareness that the student clinic in the campus provides RH services, while only 24.3% ever used any of the RH services.

In another similar cross-sectional study done in Jimma University to assess the pattern of risky sexual behaviors and predisposing factors 26.9% of respondents are sexually active (29). The mean age at first sexual intercourse was 17.7 ± 2.7 years. Among those who ever had sexual intercourse, 43.7% ever had two or more life time sexual partners. Among the sexually active 18.9% had sexual intercourse with non-regular partner for the sake of money. In another study conducted to assess sexual behaviors and associated factors at Bahir Dar University the overall proportion of ever had sexual practice was 36.4% and ever had multiple sex partners was 42.7% of the sexually active students (30). From the sexually active respondents sexual intercourse for the exchange of money was found in 4% of the sexually active respondents. Ever

had sex with commercial sex workers has been reported by 7.4% of respondents and 21.5% of sexually active students had an experience of sexual intercourse with older individuals.

A cross sectional quantitative study design was conducted among private college students of Bahir Dar city to assess the prevalence and correlates of multiple sexual partnerships, out of the total respondents, 50.7% had ever had sexual intercourse (31). The mean age at sexual commencement was 18.7 years. Out of the total respondents 42.3% were reported to have peer pressure to start sex and have sexual partners.

Reproductive health targeted Millennium Development Goals (MDGs) will not be achieved without improving access to RH (32). The majority of the young people have very little knowledge on what sexual rights they are entitled to (28). Sometimes, they do not even appreciate the extent of their violations and worse still they do not know where they could go, for legal or social advice.

Young people face increasing pressures regarding sex and sexuality including conflicting messages and norms which may be perpetuated by lack of awareness of their rights and results in many young people being either unable to seek help when they need it (28). Although sexual and reproductive health problems are abundant, students are still less likely to use the university clinic which might be due to the lack of assertiveness to decide on healthy sexual and reproductive health matters. In this regard, a female nurse made an illustrative point as saying: "...there is a problem of being confident enough to seek reproductive health care services" (23). Likewise, female focused group discussants reported that majority of students prefer remaining silent and in some cases they will seek help from their friends. An experience noted by a female participant as; "...students do not want to seek care for their SRH problems. For example for the

last case of abortion (happened in dormitory) the student simply complains abdominal pain and it took place in dormitory” (23).

Globally, one-third of the 340 million new STIs cases occur per year in people under 25 years of age (30). Each year, more than one in every 20 adolescents contracts a curable STI. Studies reported that more than half of all new HIV infections occur in people between the ages of 15 and 24 years (3). A cross sectional study conducted among Debre Markos University Students reported that 66.5% of respondents felt being at risk of HIV infection (33). The overall prevalence of VCT utilization was 58.5% with slightly higher utilization by females as compared to males. The major reason for utilization of voluntary counseling and testing by students were to know their status 82%. Fear of stigma and discrimination associated with positive test HIV/AIDS result was reported by 8% of students and unavailability of the service nearby account 9.1% for reported reasons of not utilizing VCT service.

In another institution based cross-sectional study conducted to assess the prevalence of voluntary counseling and testing utilization and its associated factors among Bahir Dar university student. 40% of the respondents consider themselves as being at risk of HIV/AIDS infection (34). The proportion of study participants who ever tested for HIV was 37.8%. From those who had been tested, 74% of respondents had been tested from government institutes while twenty-six percent of them were in private institutes.

Higher institution students are different from other youths in that they are confined in a separate compound. They are usually away from their parents and don't know where to go to get contraceptive they need and don't have the money as well as the time to go outside and obtain contraceptives (35). In a study done to assess sexual behavior, contraceptive knowledge and use

among female undergraduates' students of Muhimbili and Dare Salaam Universities in Tanzania 15.8% of the respondents have had pregnancies (19). Of these, 27% have had unwanted pregnancies among which 54.6% have had induced abortions. More than half of the participants 58.5% have ever used any contraceptives.

The youth are unable to deal with violations because of barriers like shame, guilt, embarrassment, not wanting friends and family to know; confidentiality; and fear of not being believed and partly because of their inadequate knowledge and experience on sexuality issues including legal instruments that may accord them an opportunity to claim and protect sexuality-related rights (28).

Over all literatures are scanty which assess the reproductive health utilization of university students. In the case of accessed literatures almost all of the studies show that most of university students engage in sexual activity in earlier ages and they are more vulnerable to sexual and reproductive health problems like unwanted pregnancy, STIs and HIV/AIDS. The studies also revealed that the utilization of Reproductive health service utilization is very low among this group.

1.3 Conceptual Framework

This conceptual framework was developed to show the relationship of different variables with the dependent variable reproductive health utilization. It was self developed after reviewing different literatures (7, 25, 28, 29 and 30). The focus of this study was on analyzing the relationships between the presumed influencing factors and reproductive health utilization, but not the relationships between the presumed factors.

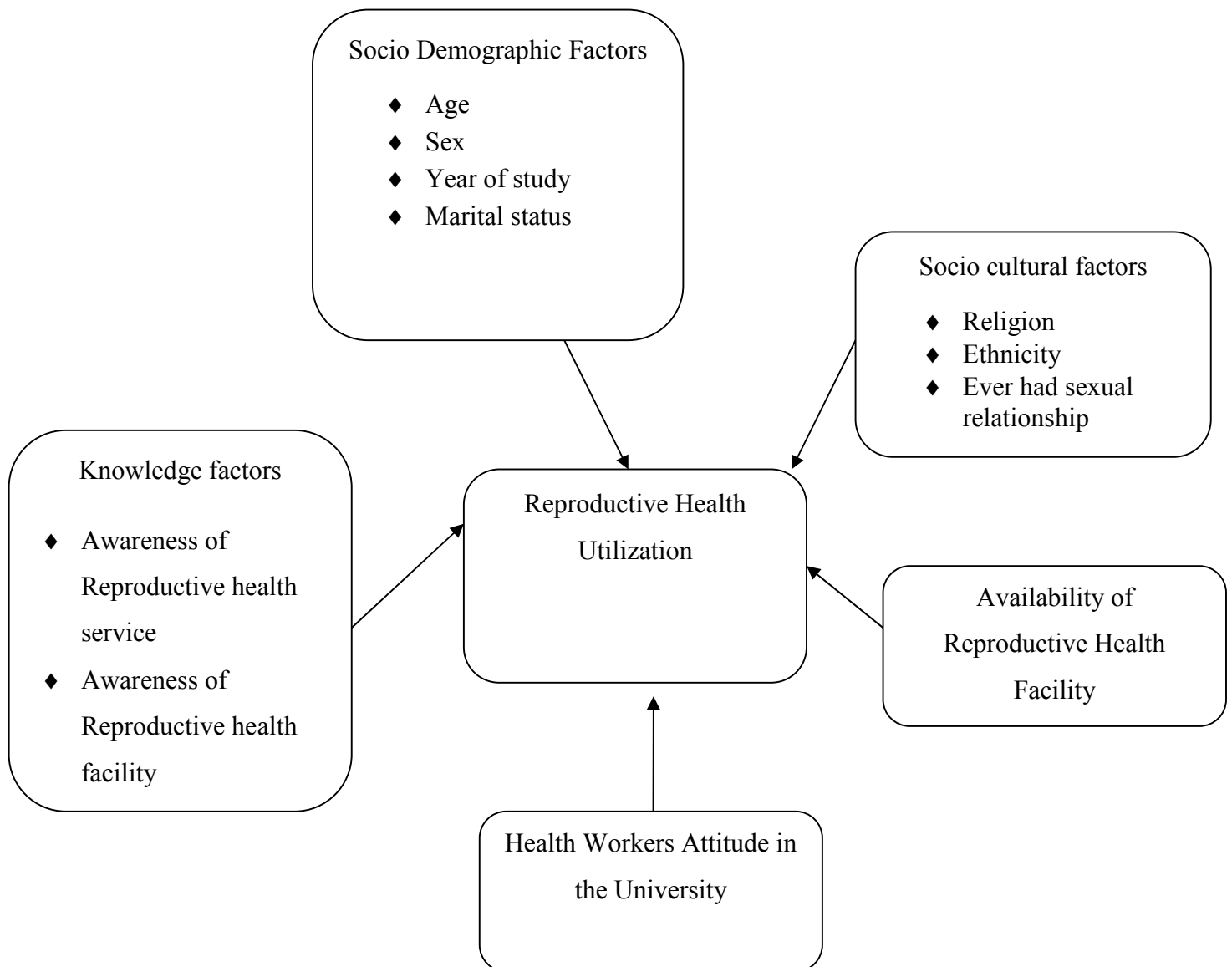


Figure1. Conceptual framework for assessment of factors affecting reproductive health services utilization among Bahir Dar University students.

CHAPTER 3: OBJECTIVES

3.1 General Objective

To assess factors affecting reproductive health services utilization among Bahir Dar university students

3.2 Specific Objectives

- To determine the prevalence of utilization of reproductive health service among Bahir Dar University students.
- To identify factors affecting reproductive health service utilization among Bahir Dar University students.

CHAPTER 4: METHODOLOGY

4.1 Study Area

The study was conducted at Bahir Dar University, one of the youngest government universities in Ethiopia which is established in 2000 (36). The University is located in Bahir Dar town 567 kilometers Northwest of Addis Ababa. It offers a wide range of higher education programs both at undergraduate and graduate levels. The university has four campuses (Main campus, Poly campus, Zenzelma and Yibab campus). Under the university there are four Colleges, three Faculties, five Schools, two Academies and two Institutes. Even though BDU is just 15 years old, it currently runs 65 undergraduate and 67 postgraduate programs, and there are over 44,743 total students. Of this there are 12,039 male, 5,065 female (a total of 17,104) regular undergraduate students and depending on the discipline it gives three to six years for first degree programs (37).

4.2 Study design and period

Institutional based cross sectional study was conducted in Bahir Dar University from April to May 2015 to assess the factors affecting reproductive health service utilization.

4.3 Population

4.3.1 Source population

The source populations for the study were all Bahirdar University students at the study period.

4.3.2 Study population

Those regular undergraduate students from Bahirdar University were the study population.

4.3.3 Inclusion and exclusion criteria

4.3.3.1 Inclusion criteria

All Bahirdar University undergraduate regular students were illegible to be included in this study.

4.3.3.2 Exclusion criteria

Students attending in non regular or above first degree programs were not included in the study. Also any regular undergraduate students who were in semester breaks and field were excluded.

4.4 Sample size calculations

It was determined by single population proportion using the formula:-

$$n = \frac{(Z_{\alpha/2})^2 P(1-P)}{d^2}$$

Where: n is the desired sample size

Level of significance to be 5% ($\alpha = 0.05$), $Z_{\alpha/2} = 1.96$

P taken as 50% $P = 0.5$,

Margin of error (d) to be 5% ($d = 0.05$)

$$n = \frac{(Z_{\alpha/2})^2 P(1-P)}{d^2}$$

$$n = \frac{(1.96)^2 * 0.5(1-0.5)}{(0.05)^2}$$

$$n = \underline{\underline{384}}$$

Assuming 10% non-response rate and design effect 2,

The sample size will be: $n = 384 \times 2 + 10\% = 768 + 76.7 = \underline{\underline{848}}$

4.5 Sampling technique and procedures

Study subjects were selected from target population by multistage sampling technique (two stages). A multistage sampling technique is preferred because it was difficult to manage the total 17,104 regular undergraduate students of the university. To assure the representativeness of the data, the sample size was proportionally allocated to the seven colleges proportional to their number of students. From these, two departments were selected from each by lottery method. There are different years of studies in the selected departments (from first year to sixth year). Again the sample was allocated proportionally to these years of studies under the selected departments. One class from each year of studies was selected by lottery method again and the study subjects were selected from the classes by simple random sampling method (See Figure 2).

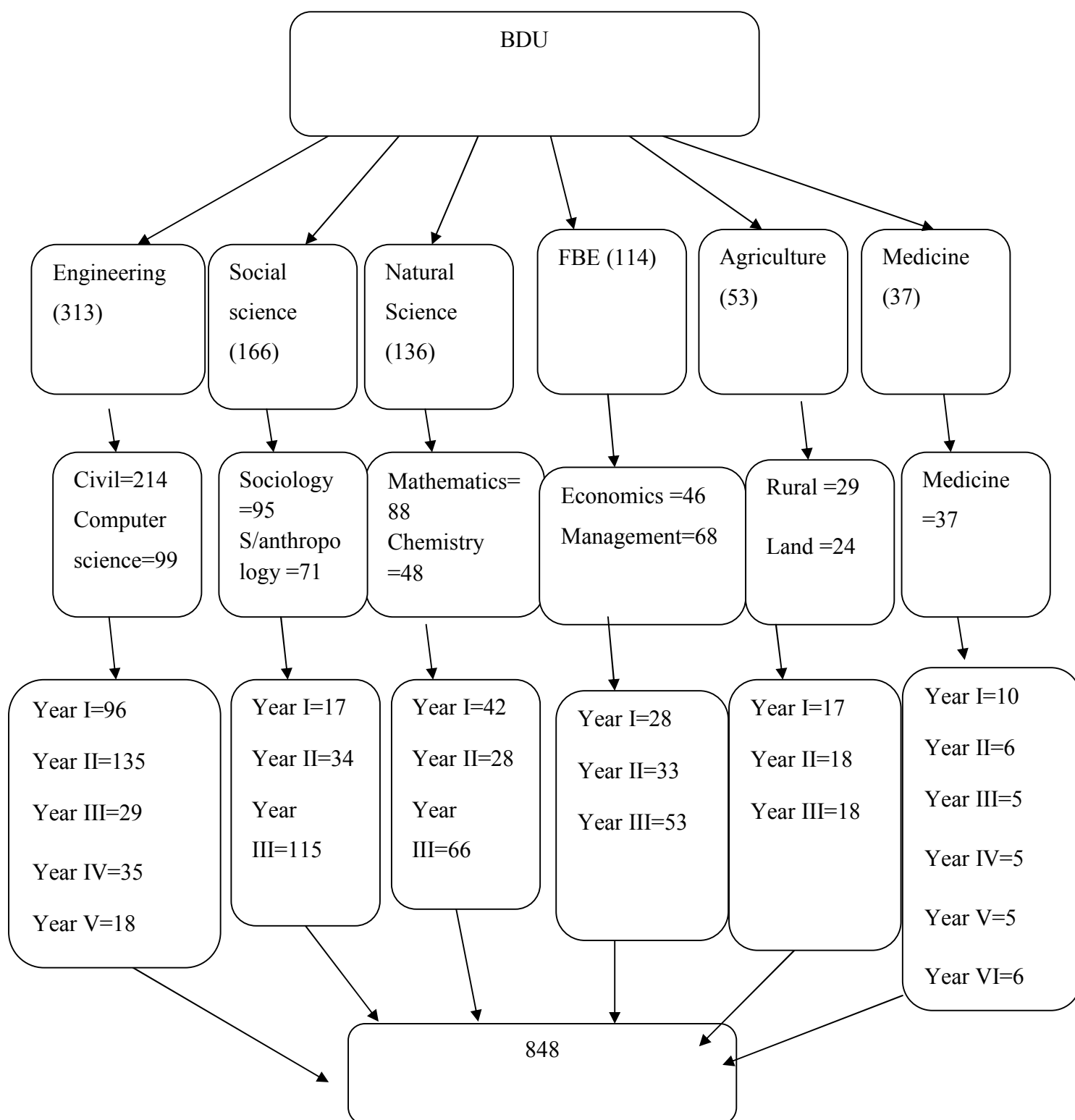


Figure 2: Schematic diagram of sampling procedure to select study participants at Bahir Dar University.

4.6 Study variables

4.6.1 Dependent variable

- Reproductive health service utilization
 - Family planning
 - VCT
 - STI treatment
 - Pregnancy test and Abortion

4.6.2 Independent variables

- Demographic factors
- Socio cultural factors
- Knowledge factors
- Health system factors

4.7 Operational definitions of the variables

Reproductive Health Service Utilization: The ability to access and make use of in an appropriate manner, the sexual and RH services that are available.

Demographic factors: factors which include Age, sex, department, year of study and marital status.

Socio cultural factors: factors which include religion, ethnicity, cultural prohibition and ever had sexual relationship.

Knowledge factors: This factor includes student's awareness about reproductive health service and about reproductive health serving facility.

Health system factors: this includes the factors like Health workers Attitude in the university.

4.8 Data collection procedures

4.8.1 Data collection instruments

Data was collected using self administered structured questioner. The questionnaire was partially adopted from WHO illustrative questionnaire for interview-surveys with young people (38, 39). Prior to original data collection the questionnaire was pre-tested on 5% of sample size (n=42) private college students and the necessary modifications and correction was taken to standardize and ensure its validity. There were four data collectors and prior to data collection one day training and orientation was given to them. There was also one supervisor to control and check the data collection procedure.

4.8.2 Data quality control issue

Quality of data was assured through careful modification of the data collection tool according to local situation in this case which is English. The data collection tool/questioner was pre-tested and the data collectors and coordinators were trained prior to data collection. The data collection procedure was also checked frequently, through supervision and frequent checking of information collected for its consistency on the same day by the coordinator and principal investigator.

4.9 Ethical considerations

The ethical clearance and official letter of cooperation was obtained from Addis Ababa University Department of Nursing and Midwifery ethical committee and from Bahir Dar University. The participants were informed about the purpose, significance of the study and confidentiality then verbal informed consent was taken from the participants prior to giving the questionnaire by the data collector (see Annex I).

4.10 Data management and analysis

Data was coded, entered, cleaned and results were analyzed using SPSS Version 20. Descriptive statistics such as frequency, percentage and summery figures were used to describe both categorical and continuous variables and the results are shown using tables, graphs and charts. Binary logistic regression analysis was carried out to assess the effect of predictor variables over dependent variables. Bivariate analysis was first run to select potential confounders at significant level of 0.05. Those variables which are significant (with P value less than 0.05) from bivariate analysis were selected and transferred to multi variable binary logistic regression analysis.

Furthermore, confounding was managed using the multivariate analysis. The final model was then tested by Omnibus test and its goodness of fit by Hosmer and Lemeshow was best fit. Significance was declared when p- value was < 0.05 with 95%CI.

CHAPTER 5: RESULTS

5.1 Socio demographic characteristics

Out of 848 total sample size 832 students were volunteered to fill the research questionnaire which makes the respondent rate 98.1%. From those who filled the questionnaire 507 (60.9%) were males and the rest 325 (39.1%) were females. Majority of the students 449 are in the age between 21-23, 207 of them in between 18-20 and 165 in between 24-26 and the rest 11 are in between 27-30 which is 54%, 24.9%, 19.8% and 1.3% respectively.

From the study participants 37% were Engineering, 20% social science, 16.3% FBE, 15.9% natural science, 6.4% agriculture and 4.4% medicine by department. Majority of the respondents were single which accounts 91.9% which is followed by married which is 6.7%. Likewise 640 (76.9%) of the participants were Orthodox Christian, 124 (14.9%) protestant and 55 (6.6%) Muslims. From all the respondents 54.1% said that their religion restricts utilization of reproductive health service while the rest 45.9% said it doesn't.

Four hundred ninety (58.9%) of the study participants were Amhara and 163 (19.6%), 104 (12.5%), 67 (8.1%) were SNNPR, Oromo and Tigre respectively. From the total respondents 51.9% said that their culture prohibits the utilization of reproductive health service while the rest 48.1% said it doesn't.

From all the study participants 742 (89.2%) attained their preparatory education in governmental school and regarding parental employment 258 said formal employment, 242 farmers, 209 self-employment/business owners and 36 were casual laborers while 74 are unemployed.

Table 5.1 Socio Demographic Information of the students, Bahir Dar, 2015

Socio-Demographic Information	Frequency	Percent
Sex	832	100%
Male	507	60.9%
Female	325	39.1%
Age	832	100%
18-20	207	24.9%
21-23	449	54.0%
24-26	165	19.8%
27-30	11	1.3%
Department	832	100%
Engineering	308	37.0%
Social Science	166	20.0%
Natural science	132	15.9%
FBE	136	16.3%
Agriculture	53	6.4%
Medicine	37	4.4%
Year of study	832	100%
1st Year	220	26.4%
2nd Year	262	31.5%
3rd Year	283	34.0%
4th Year	38	4.6%
5th Year	23	2.8%
6th Year	6	0.7%
Religious affiliation	832	100%
Orthodox Christian	640	76.9%
Muslim	55	6.6%
Protestant	124	14.9%
Catholic	7	0.8%
Other	6	0.7%
Religion restriction	832	100%
Yes	450	54.1%
No	382	45.9%
Ethnicity	832	100%
Amhara	490	58.9%
Oromo	163	19.6%
Tigre	67	8.1%
SNNPR	104	12.5%
Other	8	1.0%
Culture prohibits	832	100%
Yes	432	51.9%
No	400	48.1%
Marital status	832	100%
Single	765	91.9%
Married	56	6.7%
Separated	11	1.3%
Parent occupation	832	100%
Employed	758	91.1%
Unemployed	74	8.9%

5.2 Sexuality and Knowledge of Reproductive Health Service

5.2.1 Measurement of sexual history

Out of the total participants 38.6% (321) had had sexual intercourse throughout their life time. From those majority of them had one sexual partner which is 132 (41.1%). Majority of respondents (30.5%) stated that they had sexual intercourse within the last month and had one sexual partner within the past three month which is 40.8% followed by two people which counts 39.3%.

Table 5.2: Sexual Experience Information of the students, Bahir Dar, 2015

Sexual Experience Information	Frequency	Percent
Sexual intercourse practice	832	100%
Yes	321	38.6%
No	511	61.4%
Age of first time sexual intercourse experience	321	100%
12-15	20	6.2%
16-18	98	30.5%
19-21	160	49.8%
22-24	43	13.4%
Number of sexual partners up to this age period	321	100%
1 Person	132	41.1%
2 Persons	54	16.8%
3 Persons	42	13.1%
4 Persons	20	6.2%
5 Persons	28	8.7%
6 or more Persons	45	14.0%
Number of sexual partners with in three month period	321	100%
1 Person	131	40.8%
2 Persons	126	39.3%
3 Persons	37	11.5%
4 Persons	8	2.5%
5 Person	19	5.9%
The last time respondents have sex	321	100%
Within the last week	94	29.3%
Within the last month	98	30.5%
Within the last six months	55	17.1%
Within the last year	46	14.3%
More than one year ago	28	8.7%

Note: Excluded system missing value out of total number of cases.

From the study participants 49.8% started sexual intercourse at the age interval of 19-21 and 30.5% started at the age interval 16-18 years where as 6.2% of them started at the age between 12-15 years. Where the minimum age at first sexual intercourse is 12 years.

5.2.2 Knowledge and preference of reproductive health service

Seven hundred three of the participants 84.5% have ever heard about reproductive health service providing facility and the source of their knowledge is mass media, friends/peers, parents/guardian, read it from, notice board and teachers which accounts 40.1%, 22.1%, 9.4%, 7.2% and 5.6% respectively.

From the study participants 362 (43.5%) prefer the campus clinic to get any reproductive health service while 214 (25.7%) of them said they prefer private health facilities to get the service and 200 (24.0%) of them said they prefer government health facility where as 56 (6.7%) of study subjects prefer pharmacy to get the service.

Table 5.3: Knowledge and preference of reproductive health service, Bahir Dar, 2015

Knowledge and preference of reproductive health service	Frequency	Percent
Knowledge of reproductive health service providing facility	832	100%
Yes	703	84.5%
No	129	15.5%
Source of reproductive health service providing facility knowledge	832	100%
Parent/Guardian	78	9.4%
Friend/Peer	184	22.1%
Teacher	47	5.6%
I read on the notice board	60	7.2%
Mass media	334	40.1%
I do not know of any	129	15.5%
Preference of reproductive health service utilization	832	100%
The campus clinic	362	43.5%
Government health facilities	200	24.0%
Private health facilities	214	25.7%
Pharmacy	56	6.7%

Note: Excluded system missing value out of total number of cases.

5.2.3 Accessibility of Reproductive health facility

Majority of the respondents 76.4% had said there is reproductive health facility in their campus whereas the rest said no and the distance of nearest reproductive health facility from their dormitory is explained as 65.9% near short walking distance, 19.6% near but requires long walking distance and 14.5% reported as far needs transportation. More than half of the participants (51%) rated the service providers' attitude as good and 36.2% as moderate and 11.1% as bad.

Three hundred fifty one of study participants (42.2%) have missed a reproductive health service and the reasons for not getting the service were the clinic was closed, found friend and felt

ashamed, I had no money for the service, long queue and service provider refuse to give service/was rash which accounts 32%. 23.4%, 18.5%, 15.7% and 10.3% respectively.

Table 5.4: Accessibility of Reproductive Health Facility, Bahir Dar, 2015

Reproductive Health Facility	Frequency	Percent
Reproductive health facility in the campus	832	100.0%
Yes	636	76.4%
No	196	23.6%
Distance of reproductive health serving facility from dormitory	832	100.0%
Near, a short walking distance	548	65.9%
Near but requires long walking or for transport	163	19.6%
Far, requires for transport	121	14.5%
Service provider attitude towards giving care	832	100.0%
Good	424	51.0%
Moderate	301	36.2%
Bad	92	11.1%
Never used	15	1.8%
Missed reproductive health service facility	832	100.0%
Yes	351	42.2%
No	481	57.8%
Reason for missing reproductive health service	832	100.0%
The queue was long	55	15.7%
I had no money for the service	65	18.5%
I found friends and felt ashamed	82	23.4%
The service provider refused to give the service/ was harsh	36	10.3%
The clinic was closed	113	32.2%

Note: Excluded system missing value out of total number of cases.

5.3 Utilization of Reproductive Health Service

5.3.1 Family planning service utilization

Among the sexually active participants 280 (87.2%) have used family planning service throughout their life. Among the methods used were condoms 62.3%, oral contraceptive pills 16.8%, injectable 4.7%. for those who have never utilized family planning service the reason was 69.9% not married, 10.7% religious prohibition and 3.8% unplanned sexual intercourse. From those sexually active participants 178 (55.5%) have used family planning methods during their

first sexual intercourse while 143 (44.5%) didn't. the major reasons for not utilizing family planning was sex was unplanned 55.2% followed by did not believe pregnancy was possible 17.5% and method not available at the time 11.9%.

Table 5.5: Family planning service utilization, Bahir Dar, 2015

Family planning Service	Frequency	Percent
Family planning service utilization	321	100%
Yes	256	79.8%
No	65	20.2%
Type of family planning service utilized	256	100%
Oral contraceptive pills	40	15.6%
Condoms	192	75.0%
Injectable	15	5.9%
Norplant	5	2.0%
Oral contraceptive and Condoms	4	1.6%
Reason for not using family service	65	100.0%
Not married	36	55.4%
Infrequent and unplanned sex	7	10.8%
Religious Prohibition	8	12.3%
Lack of knowledge and fear of side effect	14	21.5%
Utilization of any family planning service 1st sex	321	100.0%
Yes	178	55.5%
No	143	44.5%
Reason for not utilizing FP in 1st sexual		
Did not believe pregnancy was possible	25	17.5%
Sex was unplanned	79	55.2%
Shortage of knowledge and side effect fear	19	13.3%
Method not available	17	11.9%
Partner opposed	3	2.1%
Utilization of condom	321	100.0%
Yes	243	75.7%
No	78	24.3%
Frequency of utilizing condom	243	100.0%
Every time	95	29.6%
Sometimes	95	29.6%
Don't know/remember	53	16.5%
Utilization of condom on the 1st sexual intercourse	243	100.0%
Yes	160	49.8%
No	83	25.9%
Utilization condom on the last sexual intercourse	243	100.0%
Yes	172	53.6%
No	71	22.1%

Note: Excluded system missing value out of total number of cases.

From the sexually active participants 243 (75.7%) had ever used condom. Most of the respondents say that they use condom sometimes (29.6%) whereas only 9% used condom every time they had sexual intercourse. Among those who use condom 160 (49.8%) has used condom for the first time they had sexual intercourse and 172 (53.6%) had used condom the last time they had sexual intercourse.

5.3.2 Voluntary Counseling and Testing (VCT) Service utilization

The table below shows the frequency distribution of voluntary counseling and testing service utilization among Bahir Dar university students.

Table 5.6: Voluntary Counseling and Testing (VCT) Service, Bahir Dar, 2015

Voluntary Counseling and Testing (VCT) Service	Frequency	Percent
Exposure on getting the HIV virus	832	100.0%
Yes	327	39.3%
No	505	60.7%
Reason for exposed on getting the HIV virus	327	100.0%
Have had sex without condom	85	26.0%
More than one sexual partner	54	16.5%
Have had sexual intercourse with commercial sex	45	13.8%
Injuries with contaminated sharps instruments	138	42.2%
Others	5	1.5%
Voluntary counseling and testing service utilization	832	100.0%
Yes	554	66.6%
No	278	33.4%
Place were VCT for HIV/AIDS test	554	100.0%
The campus clinic	141	25.5%
Governmental institution	298	53.8%
Private clinic	112	20.2%
high school	3	0.5%
VCT before first sexual intercourse	832	100.0%
Yes	420	50.5%
No	412	49.5%
Frequency of VCT testing service	554	100.0%
When exposed to risk	163	29.4%
Every three month	110	19.9%
Every six month	50	9.0%
Every year	125	22.6%
Occasionally	106	19.1%

Note: Excluded system missing value out of total number of cases.

From all the study participants 325 (39.3%) believe that they have been exposed to getting HIV/AIDS. Among the reasons for exposure of HIV/AIDS were injury with contaminated sharp instruments, have had sex without condom, more than one sexual partner and have had sexual intercourse which accounts 42.2%, 26%, 16.5% and 13.8% respectively.

Among all the study participants 554 (66.6%) have utilized voluntary counseling and testing, from those undertaking VCT the place for testing were government institution 53.8%, campus clinic 25.5% and private clinic 20.2%. Four hundred twenty of the study participants have had VCT before first sexual intercourse. Whereas the frequency of testing was explained as when exposed to risk 29.4%, every year 22.6% and every three month 19.9%.

5.3.3 Sexually Transmitted Infection (STI) Treatment Utilization

From all study participants 267 (32.1%) have had STI sign and symptoms throughout their life and the majors taken for treating the STI was explained as self-treatment 75 (28.1%), went to campus clinic 68 (25.5%), went to public health institution 40 (15.5%) and 37 (13.9%) did nothing.

Table 5.7: Sexually Transmitted Infection (STI) Treatment, Bahir Dar, 2015

Sexually Transmitted Infection(STI) Treatment	Frequency	Percent
STI experience/treatment	832	100.0%
Yes	267	32.1%
No	565	67.9%
Action taken for first STIs case	267	100.0%
I did nothing	37	13.9%
Self-treatment	75	28.1%
Went to campus clinic	68	25.5%
Went to pharmacy	17	6.4%
Went to public health institution	40	15.0%
Went to traditional healer	9	3.4%
Went to private health institution	21	7.9%

Note: Excluded system missing value out of total number of cases.

5.3.4 Pregnancy and Abortion Service Utilization

From all the female respondents 126(38.8%) were sexually active. Of these sexually active females 41.3% have been pregnant throughout their life. Among the pregnant 80.8% were only once pregnant and the rest 19.2% have been pregnant more than once. The mean age at first pregnancy was 19.9 years and majority of the girls 69.2% were pregnant at the age between 19-21.

Table 5.8: Pregnancy and Abortion Service, Bahir Dar, 2015

Pregnancy and Abortion Service	Frequency	Percent
Ever been pregnant	126	100.0%
Yes	52	41.3%
No	74	58.7%
Number of times being pregnant	52	100.0%
Once	42	80.8%
More than Once	10	19.2%
Age at first pregnancy	52	100.0%
16-18	8	15.4%
19-21	36	69.2%
22-24	8	15.4%
Wanted pregnancies	52	100.0%
Yes	4	7.7%
No	48	92.3%
Action taken for unwanted pregnancy	52	100.0%
Aborted	37	71.2%
Unwanted but continued	15	28.8%
Preference to discuss about induced pregnancy	52	100.0%
My boy friend	31	59.6%
My peers/ friends	8	15.4%
My parents	8	15.4%
Health workers	3	5.8%
For an abortionist	2	3.8%
Place you aborted	37	100.0%
At public health institution	15	40.5%
At private clinic	15	40.5%
At abortionist's house	3	8.1%
FGA	4	10.8%

Note: Excluded system missing value out of total number of cases.

Among the pregnancies only 7.7% said they wanted their pregnancy while the rest 92.3% were unwanted. From this unwanted pregnancies 71.2% of them terminated their pregnancy while 28.8% said their pregnancy was unwanted but continued. In order to have the abortion they discussed the issue with their boyfriend, peers/friends, and parents 59.6%, 15.4% and 15.4% respectively. Fifteen of the females (40.5%) reported that they perform at private clinic and another 40.5% at public health institution and 10.8% at Family Guidance Association.

5.3.5 General reproductive health service utilization

Figure 1 shows the graphical representation of utilization of reproductive health service among Bahir Dar university students. Which is from all the participants 66.6% have utilized VCT where as 32.1% have utilized STI treatment service and among sexually active 321 participants 33.7% of them have utilized family planning service and from those 52 females who have ever been pregnant 71.2% have utilized abortion service while the rest 28.8% doesn't.

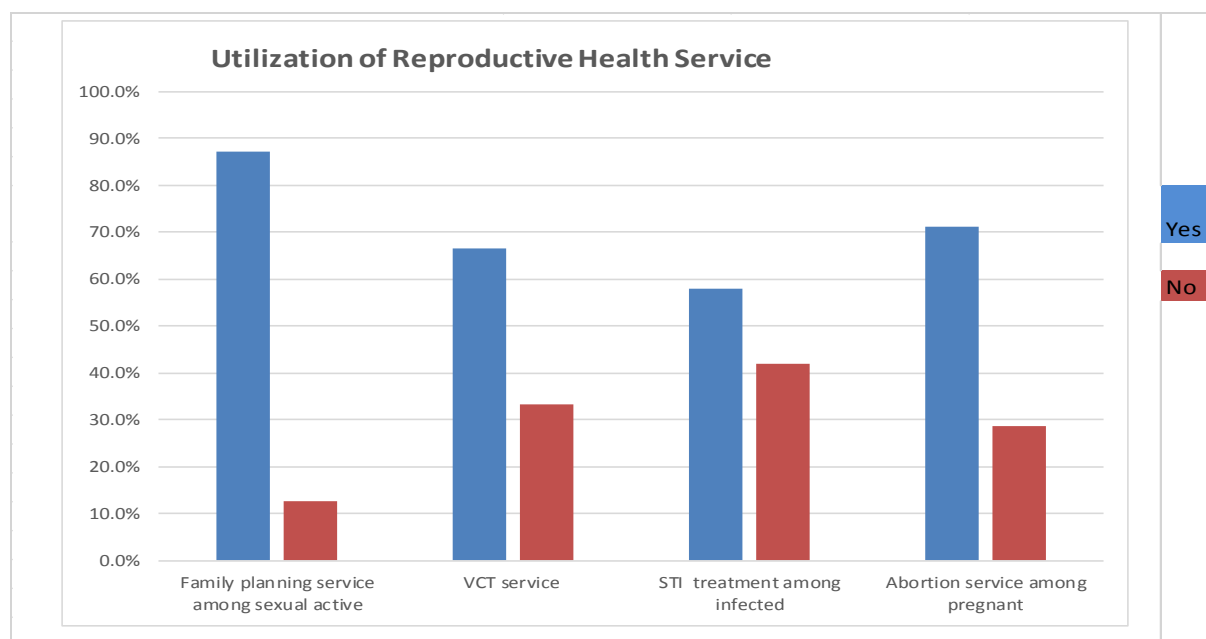


Figure 5.1 Utilization of Reproductive Health service, Bahir Dar, 2015

5.4 Factors affecting utilization of reproductive health service

5.4.1 Factors affecting family planning service utilization

When performing bivariate analysis females were found to utilize family planning services 68% lesser than males do COR: 0.32, 95%CI (0.18, 0.56). However, after managing multivariate analysis sex was not found to have significant effect in using FP AOR: 0.56, 95%CI (0.15, 2.17).

The age group from 23-30 were found to be utilizing FP by 53% less than the age group 18 -22 in bivariate analysis at COR: 0.47, 95%CI (0.26,0.84). But the multivariate analysis result revealed that the association was confounded with different confounders.

After bivariate analysis was carried out students whose religion prohibits them to utilize FP were 47% less users of FP than those who are not prohibited at COR: 0.53, 95%CI (0.3,0.91), after carrying out multivariate analysis the result was persistently found to be similar(47%) less user of FP at AOR: 0.53, 95%CI (0.3,0.91).

Culturally prohibited student were found to be 10% higher FP utilizers than those who are not culturally prohibited at COR: 1.1, 95%CI (0.63, 1.89), but after controlling confounders by performing multivariate analysis the result was changed to be culturally prohibited students were 37% less users of FP than those who are not culturally restricted at AOR: 0.63, 95% CI (0.02, 0.2).

After controlling the confounders and performing multivariate analysis others (married and separated) were 18.36 times more users of FP than those who are single at AOR: 18.36, 95%CI (2.39, 141.32).

Table 5.9 Bivariate and Multivariate analysis of factors associated with family planning service utilization among sexually active students (N=321), Bahir Dar, 2015

FP Service Utilization	Yes		No		Crude OR (95% CI)	Adjusted OR (95% CI)
	N	%	N	%		
Sex						
Male	170	66.4%	25	38.5%	1	1
Female	86	33.6%	40	61.5%	0.32 (0.18,0.56)	0.56 (0.15,2.17)
Age						
18-22	136	53.1%	46	70.8%	1	1
23 and above	120	46.9%	19	29.2%	0.47 (0.26,0.84)	1.17 (0.26,5.22)
Religion restrict						
Yes	151	59.0%	28	43.1%	1	1
No	105	41.0%	37	56.9%	0.53 (0.3,0.91)	0.53 (0.3,0.91)
Culture prohibits						
Yes	136	53.1%	36	55.4%	1	1
No	120	46.9%	29	44.6%	1.1(0.63,0.89)	0.63(0.02,0.2)
Marital status						
Single	205	80.1%	57	87.7%	1	1
Married	51	19.9%	8	12.3%	1.77(0.8,3.95)	18.36(2.39,141.32)
Previous school history						
Governmental school	211	82.4%	63	96.9%	1	1
Private school	45	17.6%	2	3.1%	6.72(1.59,28.47)	1.89(0.25,14.51)
Parent occupation						
Employed	163	63.7%	26	40.0%	1	1
Unemployed	93	36.3%	39	60.0%	0.38(0.22,0.66)	1.39(0.4,4.81)
Age of 1st sexual intercourse						
18 and below	101	39.5%	17	26.2%	0.54(0.3,1)	5.81(1.2,28.25)
Above 18	155	60.6%	48	73.9%	1	1
No of sexual partners up to this age period						
One Person	94	36.7%	38	58.5%	2.43(1.39,4.22)	4.01(0.95,16.97)
More than one	162	63.3%	27	41.5%	1	1
No of sexual partners with in three month						
One Person	94	36.7%	37	56.9%	2.28(1.31,3.96)	1.14(0.33,3.91)
More than one	162	63.3%	28	43.1%	1	1
The last time have sexual intercourse						
Within a month	173	67.6%	19	29.2%	1	1
Before a month	83	32.4%	46	70.8%	0.2(0.11,0.36)	0.08(0.02,0.26)

<i>Continued</i>						
Ever exposed on HIV						
Yes	132	51.6%	18	27.7%	1	
No	124	48.4%	47	72.3%	0.36(0.2,0.65)	*
RHS facility in campus						
Yes	187	73.1%	40	61.5%		1
No	69	27.0%	25	38.5%	0.59(0.33,1.04)	0.2(0.04,0.97)
Service provider attitude						
Good	106	41.4%	24	36.9%	1	1
Moderate	121	47.3%	25	38.5%	1.1(0.59,2.03)	0.93(0.26,3.32)
Bad	29	11.3%	16	24.6%	0.41(0.19,0.87)	0.53(1.09,3.29)
Ever missed RHS						
Yes	129	50.4%	15	23.1%	1	*
No	127	49.6%	50	76.9%	0.3(0.16,0.55)	
Reason for missing RHS						
The queue was long and harsh service provider	27	20.9%	11	73.3%	1	*
Shamed and no money	56	43.4%	4	26.7%	5.7(1.66,19.57)	
The clinic was closed	46	35.7%	0	0.0%	2.28(1.31,3.96)	
<i>*Not significant in the multivariate analysis (back ward stepwise logistic regression)</i>						

Students who attained their preparatory class at private school were 6.72 times higher family planning users than those who attained in government school COR: 6.72, 95%CI (1.59,28.47) however, after performing multivariate analysis to avoid confounding effect of certain variables, previous school history was found not to have any significant effect in utilizing family planning service.

After performing bivariate analysis students whose parents are unemployed are 62% less FP users than students who belong to employed family COR: 0.38, 95%CI (0.22, 0.66), but after performing multivariate analysis no significance was found.

After computing multivariate analysis students who started sexual intercourse below 18years old were found to be 5.81 times more users than those who stated sexual intercourse later than their 19 years old AOR: 5.81, 95% CI (1.2, 28.25).

Students who had only one sexual partner are 2.43 times more FP users than those who had multiple partners COR: 2.43, 95%CI (1.39, 4.22) but after performing multivariate analysis no statistically significant association was found with the number of sexual partners up to this age and FP utilization.

Students who had only one sexual partner in the past three month were 2.28 times more FP users than those who had multiple sexual partners COR: 2.28, 95%CI (1.31, 3.96) after computing multivariate analysis no statistically significant association was found.

Students who have had sexual intercourse before a month were 80% less users of FP than those who had sexual intercourse with in the last month COR: 0.2, 95%CI (0.11,0.36). After computing multivariate analysis to avoid confounding effect of variables students who have had sexual intercourse before a month were 2% less users of FP than those who had sexual intercourse within the last month AOR: 0.08, 95%CI (0.02,0.26).

Students who have not been exposes to HIV were 64% less users of FP than those who have been exposed COR: 0.36, 95%CI (0.2, 0.65) then after computing multiple logistic regressions no statistically significant association was found between students exposure to HIV and use of FP service.

After controlling the confounding factors by performing multivariate analysis students who don't have access to reproductive health facility in their campus were 80% less FP users than those who have access AOR: 0.2, 95%CI (0.04,0.97).

Students who were mistreated by health care providers were 59% less utilizing FP service than those highly welcomed COR: 0.4, 95% CI(0.19,0.87). however, after adjusted the possible confounding effect of certain variables in multivariate analysis students who were mistreated were 47% times less utilizing FP service than those highly welcomed AOR: 53,95%CI(0.09,3.29).

Students who were interested and got the service were 70% less FP used than students who were interested to use, but fail to access FP service COR: 0.3, 95%CI(0.16, 0.55). However, it was found to be no statistically significant association in multivariate analysis.

Students who had no money and felt ashamed of use of FP were 5.7 time higher FP utilize than those who and those who got closed clinic at arrival were 2.28 time more FP utilizes than the queue was long and harsh service provider respectively COR: 5.7,95% CI(1.66,19.57), COR: 2.28, 95% CI (1.31,3.96). But the multivariate result does not reveal that there was statistical significant association.

5.4.2 Factors affecting VCT service utilization

After computing bivariate analysis student's sex found to be statistically associated with VCT service utilization in which females were 45% less used VCT services than males COR: 0.55,

95% CI(0.41,0.74). After adjusting the confounders it was found that sex is statistically insignificant for VCT service utilization AOR: 0.81, 95% CI (0.42, 1.57).

With regard to age of students it was found that students who were aged 23 year and above were 75% more VCT service users than students whose age was 18 through 22 COR: 1.75, 95% CI(1.28,2.39), after applying multivariate analysis the age was also found to be insignificantly associated with VCT service utilization.

Table 5.10 Bivariate and Multivariate analysis of factors associated with VCT service utilization for the total sampled students (N=832) , Bahir Dar, 2015

VCT Service Utilization	Yes		No		Crude OR (95% CI)	Adjusted OR (95% CI)
	N	%	N	%		
Sex						
Male	364	65.7%	143	51.4%	1	1
Female	190	34.3%	135	48.6%	0.55(0.41,0.74)	0.81(0.42,1.57)
Age						
18-22	332	59.9%	201	72.3%	1	1
23 and above	222	40.1%	77	27.7%	1.75(1.28,2.39)	1.49(0.75,2.97)
Religion restrict						
Yes	320	57.8%	130	46.8%	0.64(0.48,0.86)	0.41(0.18,0.93)
No	234	42.2%	148	53.2%	1	1
Sexual intercourse practice						
Yes	241	43.5%	80	28.8%	0.52(0.39,0.71)	*
No	313	56.5%	198	71.2%	1	
Number of sexual partners with in three month period						
One person	75	31.1%	56	70.0%	1	1
More than one person	166	68.9%	24	30.0%	5.16(2.98,8.96)	3.84(2.04,7.23)
Knowledge of RHS						
Yes	487	87.9%	216	77.7%	0.48(0.33,0.7)	3.35(0.92,12.27)
No	67	12.1%	62	22.3%	1	1

<i>Continued</i>						
FP service utilization						
No	336	60.6%	216	77.7%	1	1
Yes	218	39.4%	62	22.3%	0.44(0.32,0.62)	1.01(0.38,2.73)
Utilization of FP service on the 1st sex						
Yes	139	57.7%	39	48.8%	1	1
No	102	42.3%	41	51.3%	0.66(0.55,0.8)	0.71(0.32,1.57)
Utilization of condom						
Yes	195	35.2%	48	17.3%	0.38(0.27,0.55)	*
No	359	64.8%	230	82.7%	1	
Frequency of using condom						
Every time	83	42.6%	12	25.0%	0.45(0.22,0.92)	*
Sometimes	112	57.4%	36	75.0%	1	
Exposed on HIV virus						
Yes	238	43.0%	89	32.0%	0.63(0.46,0.85)	1.26(0.61,2.58)
No	316	57.0%	189	68.0%	1	1
Reason for exposed HIV						
Have had sex without condom	73	30.7%	12	13.5%	1	*
More than one sexual partner	71	29.8%	33	37.1%	2.85(1.4,5.78)	
Injuries with contaminated sharps instruments	94	39.5%	44	49.4%	1.01(0.58,1.74)	
STIs experience						
No	337	60.8%	228	82.0%	1	1
Yes	217	39.2%	50	18.0%	2.94(2.07,4.17)	3.89(1.81,8.39)
Service provider attitude						
Good	299	54.0%	125	45.0%	1	1
Moderate	195	35.2%	106	38.1%	0.77(0.56,1.05)	0.1(0.04,0.23)
Bad	60	10.8%	47	16.9%	0.53(0.35,0.82)	0.1(0.04,0.27)
Missed RHS facility						
Yes	251	45.3%	100	36.0%	1	*
No	303	54.7%	178	64.0%	0.68(0.5,0.91)	

**Not significant in the multivariate analysis (back ward stepwise logistic regression)*

Students whose religion prohibited them to use VCT service were found to be 36% less VCT user than students who were not religiously restricted COR: 0.64, 95% CI (0.48, 0.86) and in multivariate, religion was persistently found to be associated with VCT service utilization in

which Students whose religion prohibited them to use VCT service were found to be 41% less VCT user than students who were not religiously restricted AOR: 0.41,(0.18,0.93).

It was found that students who had history of sexual intercourse were 48% less VCT service user than students who had no sexual history at bivariate level COR: 0.52, 95% CI(0.39,0.71). But multivariate level the association with history of coitus remained to be due to confounder.

Students who had multiple sexual partners in the last three months were 5.16 times more VCT service used than student with single partner at bivariate level COR: 5.16, 95% CI (2.98,8.96). Furthermore, in multivariate analysis number sexual partner was found to be associated with VCT service use, in which Students who had multiple sexual partners in the last three months were 3.84 times more VCT service used than student with single partner AOR: 3.84, 95% CI(2.04,7.23).

Student who do know where reproductive health service facility is found to be 52% less likely to use VCT service than those who do not know COR: 0.48,95% CI(0.33,0.7). at multivariate analysis, it was found that there is no statistical significance between student who know where reproductive health service facility is and VCT service utilization.

There was a statistical significance between family planning users and those who did not use family planning regarding VCT service use in which students who utilized FP service were 56% less used VCT service than those who don't utilized FP service COR: 0.44, 95% CI (0.32, 0.62) and in multivariate analysis, it was reviled that the above result was due to confounding effect of certain variables.

Students who don't utilize FP service during their first coitus were found 34% less VCT service used than Students who utilized COR: 0.66, 95% CI (0.55, 0.8) and the association after multivariate analysis was found to be statistically insignificant.

Students who utilized condom were found to be 62% less likely to have VCT service than student who did not utilize condom COR: 0.38, 95% CI (0.27, 0.55), but the association was found to be confounder effect while computed in multivariate analysis. In a similar fashion, there was a statistical significance association between frequency of utilization of condom and utilization of VCT service in which students used condom every time they had sex were found to 55% less likely to utilize VCT service COR: 0.45, 95% CI(0.22,0.92), but no association after it was computed in multivariate analysis.

There was also an association found between exposure for HIV and VCT service utilization by which students who did not get exposure to HIV were 37% less likely to use VCT service than who got exposed COR: 0.63(0.46,0.85). Furthermore, in multivariate analysis, it was revealed that the above result was due to confounding effect of certain variables.

Though there was a statistical significant association found between reasons for exposure to HIV and VCT service utilization, but it was insignificantly associated when multivariate analysis was done. In bivariate analysis, it found that students who had multiple sexual partner are 2.85 times more VCT service utilizes than students who have had bare sex COR: 2.85, 95% CI(1.4,5.78).

Bivariate finding revealed that students who manifested STI symptoms were 2.94 times more likely to use VCT service than those who did not COR: 2.94, 95% CI(2.07,4.17). In multivariate analysis, students who manifested STI symptoms were 3.89 times more likely to use VCT service than those who did not AOR: 3.89, 95% CI(1.81,8.39).

Students who were mistreated by health care provides were found to be 47% less utilized VCT service than Students who were warmly welcomed by health care provider COR: 0.53, 95% CI (0.35,0.82). After further analysis was made in multivariate, students who were moderately welcomed and mistreated by health care provides were both found to be 99.9 % less utilized VCT service than Students who were warmly welcomed by health care provider AOR: 0.1, 95% CI (0.04,0.23), AOR: 0.1, 95% CI (0.04,0.27).

Finally, bivariate and multivariate analysis was done to check up if there is possible associate b/n student who had an access for RH service facility with those who had no access for RH service facility with regard to their VCT service utilization. As a result, student who had no access for RH service facility were found to be 32% times less VCT service utilized than those who had an access for RH service facility COR: 0.68, 95% CI (0.5,0.91). However, this association was found to be wrong after multivariate analysis was carried out.

5.4.3 Factors affecting STI treatment utilization

It was found that students who had no history of sexual intercourse were 42% less STI treatment service user than students who had sexual history at bivariate level COR: 0.58, 95% CI(0.36,0.95). After computing multivariate analysis to control confounder effect of variables the association with history of coitus was students who had no history of sexual intercourse were 76% less STI service utilizes than students who had sexual history AOR: 0.24, 95%CI (0.03, 0.06).

Students who have not been exposes to HIV were 44% less users of STI treatment service than those who have been exposed COR: 0.66, 95%CI (0.4, 1.08) then after computing multiple logistic regressions it was found the association was because of confounder's effect.

Students who have never been pregnant tends to be 61% less STI treatment service utilizers than those who have been pregnant COR:0.39, 95%CI (0.16, 0.99), after computing multivariate analysis it was found the association was because of confounder's effect.

Table 5.11 Bivariate and Multivariate analysis of factors associated with STI treatment Utilization among STI infection experienced students (N=267) , Bahir Dar, 2015

STI Treatment Utilization	Yes		No		Crude OR (95% CI)	Adjusted OR (95% CI)
	N	%	N	%		
Sexual intercourse experience						
Yes	69	44.5%	65	58.0%	1	1
No	86	55.5%	47	42.0%	0.58(0.36,0.95)	0.24(0.03,0.06)
Ever exposed on getting HIV virus						
Yes	81	52.3%	70	62.5%	1	*
No	74	47.7%	42	37.5%	0.66(0.4,1.08)	
Been pregnant						
Yes	12	19.4%	14	37.8%	1	1
No	50	80.6%	23	62.2%	0.39(0.16,0.99)	0.69(0.31, 3.96)
Distance of RHS facility from dormitory						
Near a short walking distance	90	58.1%	54	48.2%	1	1
Near but require long walking	38	24.5%	26	23.2%	1.98(1.07,3.65)	0.15(0.01,1.84)
Far require for transport	27	17.4%	32	28.6%	1.73(0.85,3.54)	0.09(0.06,15.67)
Reason for missing reproductive health service						
The queue was long and harsh service provider	8	10.8%	13	20.3%	1	1
Felt shamed and shortage money	37	50.0%	40	62.5%	1.5(0.56,4.04)	0.04(0,0.51)
The clinic was closed	29	39.2%	11	17.2%	4.28(1.4,13.15)	0.15(0.02,1.38)

**Not significant in the multivariate analysis (back ward stepwise logistic regression)*

Students who are in medium distance from RH service providing facility were 1.98 times more STI treatment service users than those who are in a walking distance from RH service providing facility COR: 1.98, 95%CI (1.07, 3.65), but the multiple logistic regression revealed that the association was due to confounding effect of certain variables.

After the multivariate analysis was computed result revealed that students who had no money and felt ashamed of use of RH service were 96% lesser STI treatment service users than those who waited long queue to get service AOR: 0.04, 95% CI (0, 0.51).

5.4.4 Factors affecting Abortion service utilization

Students who started sexual intercourse above 19years old were 85% lower Abortion service users when compared to those who stated sexual intercourse below their 18 years old COR: 0.15, 95%CI (0.04, 0.64) and after computing multivariate analysis students who started sexual intercourse above 19years old were found to be 73% less abortion service users than those who stated sexual intercourse below their 18 years old AOR: 0.27, 95% CI (0.05, 0.4).

Students who had multiple sexual partners were 4.52 times more Abortion service users than student with single partner at bivariate level COR: 4.25, 95% CI(1.2,16.97). Furthermore, in multivariate analysis number of sexual partner was found to be associated with Abortion service use, in which Students who had multiple sexual partners were 3.59 times more Abortion service users than student with single partner AOR: 3.59, 95% CI(1.5, 25.71).

Table 5.12 Bivariate and Multivariate analysis of factors associated with Abortion service utilization among pregnant students (N=52) , Bahir Dar, 2015

Abortion Service Utilization	Aborted		Not aborted		Crude OR (95% CI)	Adjusted OR (95% CI)
	N	%	N	%		
Age of first sexual intercourse						
18 and below	23	62.2%	3	20.0%	1	1
Above 19	14	37.8%	12	80.0%	0.15(0.04,0.64)	0.27(0.05,0.4)
No of sexual partners up to this age period						
One person	14	37.8%	11	73.3%	1	1
More than one person	23	62.2%	4	26.7%	4.52(1.2,16.97)	3.59(1.5,25.71)
FP service utilization						
No	9	24.3%	9	60.0%	4.67(1.3,16.74)	3.4(1.2, 12.7).
Yes	28	75.7%	6	40.0%	1	1
STIs symptoms experience						
No	14	37.8%	12	80.0%	6.57(1.57,27.43)	6.57(1.57,27.43)
Yes	23	62.2%	3	20.0%	1	1

**Not significant in the multivariate analysis (back ward stepwise logistic regression)*

**Not significant in the multivariate analysis (back ward stepwise logistic regression)*

There was a statistical significance between family planning users and those who did not use family planning regarding Abortion service use in which students who do not utilized FP service were 4.67 times more Abortion service users than those who utilized FP service COR: 4.67, 95% CI (1.3, 16.74) and in multivariate analysis, students who do not utilized FP service were 3.4 times more Abortion service users than those who utilized FP service AOR: 3.4, 95% CI (1.2, 12.7).

Bivariate finding revealed that students who doesn't manifested STI symptoms were 6.57 times more likely to use Abortion service than those who did not COR: 6.57, 95% CI(1.57,27.43). In multivariate analysis the result was found to be unchanged, students who doesn't manifested STI symptoms were 6.57 times more likely to use Abortion service than those who did not AOR: 6.57, 95% CI(1.57,27.43).

6. DISCUSSION

The percentage of youth who attend health facilities for FP, VCT and STI treatment services is one of the indicators of the immediate and long term RH needs of young people (5). This institution based study which assessed the patterns of adolescent FP, VCT service utilization and associated factors is important to see the progress towards achieving the national MDGs, especially goals 4 to 6.

The study revealed that 38.6% of the students are sexually active with mean age of 19.1 ± 2.1 years which is a bit higher than a cross-sectional study done in Jimma University (29) and Wolaita Sodo University (28) students which are 26.9% and 32.1% of participants are sexually active respectively. It found to be lesser than another similar study conducted among private college students of Bahir Dar city to assess the prevalence and correlates of multiple sexual partnerships, out of the total respondents, 50.7% were sexually active (25). The result of this study is also found to be much lesser than a cross-sectional analytic study done to assess sexual behavior, contraceptive knowledge and use among female undergraduates' students of Muhimbili and Dare Salaam Universities in Tanzania which shows that 70.4% of study participants are sexually active (19) and with another study conducted among female University students in Sweden has also revealed that 98% of the study participants were sexually active (27).

Majority of the sexually active students reported to have one sexual partner but significant number of students 22.7% reported to have more than 5 sexual partners. Even though majority of the study subjects 84.5% had awareness of where reproductive health facility is found it's significant that 15.5% doesn't have clue.

From all the sexually active participants 79.8% of them have ever utilized FP service which is much higher than a study done in Muhimbili and Dare Salaam Universities in Tanzania which reveals 58.5% of study participants have ever used any contraceptive (19).

From all the study subjects 39.3% of respondents felt being at risk of HIV infection which is less compared to Debre Markos University Students which reported 66.5% (33). Voluntary Counseling and Testing (VCT) is proven to be one of the most powerful weapons in halting the spread of HIV/AIDS. It is known to be a very important component of HIV/AIDS prevention strategies. Despite the fact that various studies have shown low utilization of VCT service particularly in developing countries this study revealed that from the study subjects 66.6% of them utilize VCT service. This is relatively comparable with similar study done in Debre Markos University at which the overall prevalence of VCT utilization was 58.5%.

The finding indicates that more than half (53.8%) of the respondents prefer government institution to undertake the VCT service where 25.5% prefer the campus clinic. Among the study participants 32.1% have had STI sign and symptoms and the major taken was 25.5% went to campus clinic while 28.1% reported to have self treatment.

From the sexually active female participants 38.8% were sexually active and among them 41.3% have been pregnant throughout their lives which is higher than a study done in Muhimbili and Dare Salaam Universities in Tanzania which reveals 27% of participants have had unwanted

pregnancies among which 54.6% have had induced abortions where as in this study 71.2% have had an abortion (19).

Religious prohibition and cultural prohibition to use RH services is found to be directly proportional with FP users, participants whose religion prohibits them to use FP service utilize less than those who doesn't AOR: 0.53, 95%CI (0.3,0.91). So this implies that there should be religious leaders involvement in encouraging this youth to use the services. This also holds true to cultural prohibition in using RH services.

Marital status is found to be associated with family planning utilization in this study which is married and separated students were 18.36 times more users of FP than those who are single at AOR: 18.36, 95%CI (2.39, 141.32) this is similar to a study done in Muhimbili and Dare Salaam Universities in Tanzania (19).

Early engagement in sexual activity is found to affect family planning utilization; Students who started sexual intercourse below 18years old were 46% lower FP users when compared to those who stated sexual intercourse later than their 19 years old.

In this study it reveals that distance has higher implication in using FP services which is as the distance of accessing the service increases the less utilization is by the students; students who don't have access to reproductive health facility in their campus were 80% less FP users than those who have access AOR: 0.2, 95%CI (0.04,0.97).

Similarly health care provider's attitude has also impact on service utilization of the students. Students who were mistreated were 47% times less utilizing FP service than those highly welcomed AOR: 53,95%CI(1.09,3.29).

Students whose religion prohibited them to use RH service were found to be 41% less VCT user than students who were not religiously restricted AOR: 0.41,(0.18,0.93). Similarly this study finding revealed that students who manifested STI symptoms were 3.89 times more likely to use VCT service than those who did not AOR: 3.89, 95% CI(1.81,8.39). From this we can understand that as exposure or risk increases the utilization of VCT service also increases.

Similar to FP health care provider's attitude towards giving care for students has a significant association with VCT service utilization. Students who were moderately welcomed and mistreated by health care provides were both found to be 99.9 % less utilized VCT service than Students who were warmly welcomed by health care provider AOR: 0.1, 95% CI (0.04,0.23), AOR: 0.1, 95% CI (0.04,0.27).

In this study results revealed that sexual history and guilt and shortage of money for treatment were found to be significantly associated with STI treatment service utilization. Students who had no history of sexual intercourse were 76% less STI service utilizes than students who had sexual history AOR: 0.24, 95%CI (0.03, 0.06

Students who started sexual intercourse above 19years old were 85% lower Abortion service users when compared to those who stated sexual intercourse below their 18 years this reveals

that as age increases students grow responsible and are also aware of different methods of preventing unwanted pregnancies.

Students who had multiple sexual partners were 3.59 times more Abortion service users than student with single partner and students who do not utilized FP service were 3.4 times more Abortion service users than those who utilized FP service.

7. STRENGTH and LIMITATON

7.1 STRENGTH

This study has focused on marginalized and young group of people who are highly vulnerable to HIV, other STIs, unwanted pregnancies and other reproductive health problems where adequate information and studies are lacking. This might certainly fill some of the gaps and serve as baseline information for future studies.

The reliability of the data was maintained by pre data collection training of the data collectors and the supervisors, close supervision by the principal investigator and using pre-tested and well structured questionnaire.

7.2 LIMITATIONS

Time was one of the big constraints while performing this research.

The allocated budget was insufficient which has impact on the paper.

The study focused on university youth and therefore generalization of the findings for out of the school youth may not be feasible.

The study outcome depended on the truthfulness and openness of respondents as the information sought was considered personal and sensitive.

8. CONCLUSION

In this study it is seen that more males are utilizing most of the reproductive health services than the female students which puts the females to be vulnerable for different reproductive health problems. It is also seen that significant number of participants are sexually active and the minimum age to engage in sexual activity is found to be 12 years.

Although the students have knowledge and awareness about reproductive health services and the providing facilities the numbers of students utilizing these services are significantly low which implies that further intervention and investigation is vital.

Factors like age, cultural prohibition, religious prohibition, distance of service providing facility from dormitory and service providing professionals attitude are some of the factors which are found to affect RH service utilization among the university students.

9. RECOMMENDATION

This research revealed that females are less utilizing an RH service which implies that more intervention is needed to empower and educate female both from government and partners.

The religion and cultural prohibition plays a great impact in youth utilization of reproductive health service there for religious leaders and elders should work in co-operation with the government and partners in giving reproductive health education and support.

Health education should be provided by the concerned bodies and emphasis should be put on sexual and reproductive health issues in order to encourage the youths to delay sex and negotiate reproductive health service use.

There is also a need to give a capacity building training for health care service providers by responsible NGOs in dealing with the youth so that they may be friendly and appealing to them, this will attract them to the clinics or facilities and in turn improve utilization of the services

The university managements should adjust the opening hours of the reproductive health service giving facility so that the facilities remain open for longer hours and be operated on weekends too to accommodate the students schedules.

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11. ANNEX

ANNEX I: INFORMED CONSENT

I am Heaven Workneh a post graduate student pursuing Masters Studies in Maternity and Reproductive Health Nursing (MSc.) at Addis Ababa University. I am undertaking a research on Assessment of factors affecting reproductive health services utilization among Bahir Dar University student and request you kindly to participate in this study which is voluntary and involves no risk to you. The information given is confidential and will be useful in improving reproductive health services for youth in universities in the whole country. The questionnaire will take about 20-30 minutes to fill.

Do you agree to participate? YES No

Date..... Signature.....

7. Is there any part of your culture that prohibits utilization of reproductive health service?

- A. Yes B. No

8. What is your marital status?

- A. Single C. Separated
B. Married D. Widowed

9. What is the type of school you attend your preparatory education?

- A. Governmental school
B. Private school

10. Is your parent(s) employed?

- A. Yes B. No

11. If employed, what is his/her/their occupation?

- A. Formal employment (Civil servant, Government workers, NGO worker etc)
B. Casual laborer
C. Self employment/business
D. Farmer
E. Other (specify)

Part Two: sexuality and Utilization of Reproductive Health Services

Measuring Sexual Activity

1. Have you ever had sexual intercourse?

- A. Yes B. No

2. At what age you had sexual intercourse for the first time?

- A. I have never had sexual intercourse B. years old

3. Up to this age period, with how many people have you had sexual intercourse?

- A. I have never had sexual intercourse
- B. 1 person
- C. 2 people
- D. 3 people
- E. 4 people
- F. 5 people
- G. 6 or more people

4. During the past 3 months, with how many people did you have sexual intercourse?

- A. I have never had sexual intercourse
- B. I have had sexual intercourse, but not during the past 3 months
- C. 1 person
- D. 2 people
- E. 3 people
- F. 4 people
- G. 5 people
- H. 6 or more people

5. When was the last time you had sex?

- A. Within the last week
- B. Within the last month
- C. Within the last six months
- D. Within the last year
- E. More than one year ago
- H. I have never had sexual intercourse

6. Do you know any reproductive health service providing facility?

- A. Yes
- B. No

7. If yes who told you about it?

A. Parent/Guardian

B. Friend/Peer

C. Teachers

D. I read on a notice board

E. Mass media

F. I do not know of any

8. Which services are being offered in reproductive health facility? Tick all correct answers.

A. Family planning services (Contraceptives, condoms)

B. Voluntary Counseling and Testing(VCT)

C. Treatment of all the diseases

D. Treatment of sexually transmitted Infections/diseases

E. Care of pregnant young persons

F. General health information/counseling

G. Sports and recreational activities

9. If you have reproductive health problem and need services, counseling, and support where do you go for help?

A. The campus clinic

B. Government health facilities

C. Private health facilities

D. Pharmacy

Utilization of Reproductive Health Service

10. Have you ever used modern contraceptives?

A. Yes B. No

11. If yes, what type of modern contraceptive are you using?

- A. Oral contraceptive pills
- B. Condoms
- C. Injectables
- D. IUDs
- E. Norplant
- F. Others, specify-----

12. If No, what was the reason you are not using contraceptive?

- A. Not married
- B. I have infrequent sex.
- C. Husband/partner opposed
- D. Religious Prohibition
- E. Lack of knowledge about contraceptives
- F. Fear of side effects
- G. Difficult to obtain contraceptives
- H. Method was expensive
- I. Too far to get contraceptives(Not accessible)
- J. Sex was unplanned
- K. Others, specify-----

13. Did you use contraceptive the first time you had sexual intercourse?

A. Yes B. No

14. If No, what was the reason?

- A. Did not believe pregnancy was possible
- B. Sex was unplanned

- C. Did not know any method
- D. Fear of the side effects
- E. Method not available
- F. Method expensive
- G. Partner opposed
- H. Rape
- I. Others specify -----

15. Have you ever used condom?

- A. Yes
- B. No

16. With what frequency did you and your entire partners use condom within the last 12 months?

- A. Every time
- B. Almost every time
- C. Sometimes
- D. Don't know /remember

17. Did you use condom the first time you had sexual intercourse?

- A. Yes
- B. No

18. Did you use condom the last time you had sexual intercourse?

- A. Yes
- B. No

19. Do you believe you have done anything that may have put you at risk of getting the HIV virus?

- A. Yes
- B. No

20. If Yes, why?

- A. Have had sex without condom
- B. More than one sexual partner
- C. Have had sexual intercourse with commercial sex workers
- D. Injuries with contaminated sharps instruments
- E. Others specify

21. Have you ever had a voluntary counseling and testing service (VCT) for HIV/AIDS?

- A. Yes B. No

22. If Yes where did you have the test?

- A. The campus clinic
B. Governmental institution
C. Private clinic
D. Other specify

23. Did you have voluntary counseling and testing service (VCT) before your first sexual intercourse?

- A. Yes B. No

24. How often did you go for voluntary counseling and testing service (VCT)?

- A. When exposed to risk
B. Every three month
C. Every 6 month
D. Every year
E. Other specify

25. Have you ever had symptoms of STIs such as, genital ulcer, genital discharge or genital swelling?

- A. Yes B. No

26. What did you do first when you had STIs?

- A. I did nothing
B. Self treatment.
C. Went to campus clinic
D. Went to pharmacy
E. Went to public health institution
F. Went to traditional healer

G. Went to private health institution

H. Others, specify -----

The following questions are for females only

27. Have you been pregnant?

A. Yes B. No

28. If yes, how many times have you been pregnant?

A. I have never been pregnant

B. Once

C. 2 times

D. 3 times

E. 4 and above times

29. What was the age when you first became pregnant? years old

30. If you have been pregnant, were all your pregnancies wanted?

A. Yes B. No

31. If your answer is no what did you do with the pregnancy?

A. Aborted B. Unwanted but continued

32. For to have induced abortion, to who did you first discuss the issue with?

A. My boy friend

E. Traditional healers

B. My peers /friends

F. For an abortionist

C. My parents

G. Others, specify -----

D. Health workers

33. Where did you aborted?

A. At the campus clinic

B. At public health institution

C. At private clinic

- D. At abortionist's house
- E. I have induced it myself by
- F. ingesting different drugs
- G. Others, specify -----

Part three: Reproductive Health Facility Factors

34. Is there reproductive health facility in your campus?

- A. Yes
- B. No

35. How far is reproductive health serving facility from your dormitory?

- A. Near, a short walking distance
- B. Near but requires long walking or for transport
- C. Far, requires for transport

36. If you have ever used a reproductive health service facility, how would you describe how you were handled by service provider?

- A. Good-Friendly, welcoming, handled me well and gave me the service I required
- B. Moderate-welcomed me but asked too many unnecessary questions before giving me service
- C. Bad, he/she was harsh rude and denied me service

37. Have you ever visited Reproductive health facility but missed the service you required?

- A. Yes
- B. No

38. If 'YES' in no.37, state the reason for not getting the service

- A. The queue was long
- B. I had no money for the service
- C. I found friends and felt ashamed
- D. The service provider refused to give the service/ was harsh
- E. The clinic was closed

DECLARATION

I, the undersigned, declared that this thesis is my original work and has not been presented for a degree in this or any other university, and all source materials used for the thesis have been fully acknowledged.

Name of the student: Heaven Workneh, BSc, RM

Signature: _____

Place: Addis Ababa

Date of submission: _____

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

Advisor Name: Fekadu Aga, Bsc, Msc, Assistant Professor

Signature _____

Date _____