

**ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF ALLIED HEALTH SCIENCE
DEPARTMENT OF NURSING AND MIDWIFERY**

**ASSESMENT OF MAGNITUDE AND FACTORS ASSOCIATED WITH UNINTENDED
PREGNANCY AMONG PREPARATORY HIGHSCHOOL STUDENTS,ADDIS
ABABA,ETHIOPIA**

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JUNE, 2015

ADDIS ABABA, ETHIOPIA

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Approval by the Board of Examiners

This thesis by Sara Kahsay is accepted by the Board of Examiners as satisfying thesis requirement for the Degree of Master of Science in Child Health Nursing.

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LIST OF ACRONYM

AAU	Addis Ababa University
AOR	Adjusted odds ratio
CI	Confidence Interval
COR	Crude odds ratio
ETB	Ethiopian Birr
HIV	Human Immunodeficiency Virus
OCP	Oral Contraceptive Pill
OR	Odds Ratio
PPS	Probability Proportion to Size
RH	Reproductive health
SPSS	Statistical Package for Social Science
SRS	Simple Random Sampling
STI	Sexually Transmitted Infection
WHO	World Health Organization

ABSTRACT

Background: Unintended pregnancies among adolescence become crucial health problem for all countries especially in Sub-Saharan Africa. Eventhough different prevention strategies were applied across the world, the problem still increasing in Africa, particularly in Ethiopia.

Objective: To assess the magnitude and associated factors of unintended pregnancy among preparatory school students in Addis Ababa.

Methods: School based cross-sectional study was employed. For descriptive statistics frequencies, percentage and mean was use. Bivariate and multiple logistic regression analyses were employed to examine the relationship between getting unintended pregnancy with its associated factors. Significant association was determined at 95%CI AOR.

Results: A total of 576 female students were participated making 100 %, response rate. The respondents' mean age was 17.79(± 0.076). 118(20.4 \pm 3%; 95% CI) of the students reported that had ever experienced an unintended pregnancy. Nearly all unintended pregnancy was aborted with proportion of 117(99.16%). Among all 288 (50% \pm 4) reported to have had sexual experience at the time of the study. The mean age at first sexual intercourse was 17 (± 0.12 , 95% CI); among sexually active students 266 (92%) used contraceptives while they had sex. Students drank alcohol were three times more experience unintended pregnancy compared to none drunkard [AOR=3; 95% CI: 1.86, 13]. Students who chewed Kchat were two times more experience unintended pregnancy AOR: 2.0; 95%CI (1.4, 3.0). Students who watched pornographic movies were three times more likely to experience unintended pregnancy AOR: 2.9; 95%CI (1.9, 4.4). Students who did not discuss about reproductive health were two times more likely to get unintended pregnancy AOR=2.38; 95% CI: 1.38, 4.13]; and students who had ever used contraceptive method were less experienced unwanted pregnancy AOR=0.065; 95%CI: 0.034, 0.121].

Conclusion: Students should get information about reproductive health from health professionals, trained teachers, peer promoters and Medias in order to prevent unintended pregnancy.

Key words: Unintended pregnancy, Preparatory student, Sexual behavior, associated factors

CHAPTER ONE

INTRODUCTION

BACKGROUND OF THE STUDY

Unintended pregnancy is a pregnancy that is either mistimed or unwanted at the time of conception. Unintended pregnancy among adolescents becomes crucial health problem in many countries, especially in developing countries. Even though different prevention strategies have been done by countries across the world, the problem still increasing especially in Africa, particularly in Ethiopia.

Adolescents are at increased risk for unplanned pregnancy, and the highest rate of unwanted pregnancy has been reported among individuals between the ages of 14–19 years [1]. In sub-Saharan Africa, it is estimated that 14 million unwanted pregnancies occur every year, with almost half occurring among women aged 15–24 years [1].

Ethiopia in the east of Africa where unwanted adolescent pregnancy is a health challenge, the Population under 18 is about 39 million of the total population estimated to 85; two million and 24 % of girls are giving birth before the age of 18. Several studies have shown that mean age of adolescents to become pregnant in Ethiopia is 16 years [2].

The major factors for unintended pregnancy differ among countries. There have been different factors associated with unintended pregnancy, sex without reliable contraception, sexual coercion, poor sexual communication between partners, poverty, promiscuity, fear of hormonal contraceptives, poor communication with parent about sex issues and poor school-based sexual education are some of the factors [3, 4]. Peer pressure, living arrangement, age of students, school performance, pocket money, substance use, watching pornographic video, place of family residence and parental educational status also have

been associated[5,6,7].

Unintended pregnancy associated with different health, economic, and social problems which have impact on family, community and country as a whole but the situation gets worse for those who are not physically and mentally matured, adolescent [8]. Early motherhood, unsafe abortion, and other pregnancy related complications which increased risk of morbidity and mortality both in the mother and the child are the major consequence of unintended pregnancy. In addition to this, early motherhood tends to affect female students academic performance, and eventually dropout from school. Which make them to have less work opportunity subsequently results in reducing their economic opportunity [9].

According to the Ethiopian ministry of health, abortion accounts for 60 % of gynecological and almost 30 % of all obstetric and gynecological admissions. And over half of 19 million women who annually seek abortions in Ethiopia are under 18. Deaths from pregnancy and abortion related causes are 1 in 7 women [2].

In 2007 Ethiopia (the Ministry of Health 2007) in collaboration with United Nations agencies launched a national strategy on adolescent and reproductive health that aims to address the problems of early marriages, teen pregnancies, rape, poor access to healthcare for 10 to 24 year old, poor use of contraception and abortions. The Adolescent and Youth Reproductive Health Strategy (AYRH) were planned to be implemented over 8 years as government's commitment to improving the reproductive health status of young Ethiopians.

In the meantime, according to health ministry unwanted pregnancy among youth is still a reproductive health problem in Ethiopia [2].

This is why this paper investigates the causes and magnitude of unwanted pregnancy among adolescents in Addis Ababa. By identifying the factors and magnitude of unwanted pregnancy among adolescents, it will contribute to increase the knowledge and practice of reproductive health among adolescents and make recommendations on how make awareness and empower youth in order to reduce unwanted pregnancy. [10]

1.2 STATEMENT OF THE PROBLEM

Sexuality and reproductive health are the most fundamental aspects of life because it is about enhancement of life and personal communication. Sexuality and sexual desire usually begins to intensify along with the onset of puberty.

One fourth of world population is between age 10 and 24. One third of the total population of sub Saharan Africa is aged between 10-24 years [11]. Ethiopia has a predominantly young population that makes up 30% of the total population [10]. Young people today marry later, and more start sex before marriage. Thus they face more risk of unwanted or unintended pregnancy [9].

The expression of sexual desire among adolescents influenced by family values and culture , religion they have grown up, social control, taboos and other kinds of social mores. Studies suggested that adolescents have limited knowledge about SRH and their natural process of puberty. This lack of knowledge about reproductive health may have negative consequences in life [11].

Unintended pregnancy among adolescents is a worldwide health problem that affects girls, their families and society. Even though the magnitude and consequence of unintended adolescent pregnancy different countries to countries it is the problem of all societies and countries around the world.

Worldwide, 38 % of pregnancies are unintended [2]. The average rate of births per 1000 young women aged 15-19 years is 65 in worldwide, with average rates of 25 in Europe, 56 in the Middle East and North Africa, 59 in Central Asia, 78 in Latin America, and 143 in Sub-Saharan Africa. About 14 million women 15–19 years old give birth each year, about 11 % of all births worldwide [2].

In sub-Saharan Africa, it is estimated that 14 million unwanted pregnancies occur every year, with almost half occurring among women aged 15–24 years [12].

Developing countries like Ethiopia unintended pregnancy among adolescence is a night mere. A household study of adolescents in Addis Ababa found that the median age at first pregnancy was 16 years, with 2 in 3 women becoming mothers before the age of twenty[2]

Unintended pregnancies are primarily caused by nonuse and/or failure of contraceptives [13], which implies that unintended pregnancy can be prevented by proper use of contraceptive.

Peer influence, poor school-based sexual education and poor parental involvement in preparing young people for safe sexual life are another factors which lead adolescent to unintended pregnancy[3]. Substance use, Living arrangement, age of students, school performance, having pocket money, watching pornographic video, place of family residence and parental educational status are also factors of unintended pregnancy[14,15].

Adolescence unintended pregnancy face many negative consequences in their life some of them with unintended pregnancies obtain abortions many of which are performed in unsafe conditions and others carry their pregnancies to term, in which the risks of morbidity and mortality higher than those for adult women [2].

Adolescence with unintended pregnancy wants to keep the condition in secret which make them to do induce abortion, most of the time unsafe. In addition to this maternal depression engaged in substance abuse, drop out of school, low birth weight, premature birth, poor psychological wellbeing are also documented [16].

Furthermore the economy of the country also affected because of the negative health outcome in both maternal and child. For example in United States of America (USA) because of unintended pregnancy and its poor related health outcomes the country spent between 7 and 15 billion dollars annually [17].

In this thesis will try to assess magnitude and what factors affect of unintended pregnancy among high school students.

The information attained from this study will help to improve reproductive health services for young people and to apply appropriate interventions based on the findings.

1.3 SIGNIFICANCE OF THE STUDY

Adolescent unintended pregnancy is worldwide problem, the problem is worse especially in developing countries like Ethiopia. In Sub-Saharan Africa 35 % of adolescence pregnancy is unintended pregnancy [18]. Unintended pregnancy is not only the family problem but it is community and country problem. Countries spent many dollars to address the health problem which is caused by unintended pregnancy. To identify the cause and magnitude of unintended pregnancy helps to tackle the problem because the cause might change from countries to countries. This problem is very broad problem which need multispectral integration in order to bring change. So the result of this study helps for families, health institutions, educational centers, policy maker and governments to see the gap and to address the problem and reduce morbidity and mortality of adolescent. It also helps to in power the female.

CHAPTER TWO

2.1 LITERATURE REVIEW

Pregnancy is a happy event for the women, husband, families, and community when it is wanted or intended. But millions of women around the world become pregnant unintended. Unintended pregnancy remains a serious health and social problem in worldwide, and has been associated with numerous risk factors evident in the young people's family, peer, school, and neighborhood contexts.

2.2 WHAT IS UNINTENDED PREGNANCY?

An unintended pregnancy is a pregnancy that is either mistimed or unwanted at the time of conception. Mistimed pregnancy is a pregnancy which has occurred without the plan of the woman for that specific time, which means she want the pregnancy when she is ready in the future. Unwanted pregnancy is a pregnancy without the wish of the women because she has child or children who are enough for her. [17, 18]. Based on this study the concern will be mistimed pregnancy because the study groups are unmarried adolescent high school students.

2.3 Prevalence of unintended pregnancy

Sexual activity is a natural process found in all human beings. This activity need proper time and conditions in order to avoid unnecessary out comes on individuals, family and the society. From these unnecessary outcomes unintended pregnancy is the major one.

Unintended pregnancies, defined as pregnancies that are mistimed or unwanted, it become significant public health concern especially in low- and middle-income countries because of the adverse consequence on health, social, and economic outcomes [19, 20].

Worldwide, 38% of pregnancies are unintended. In sub- Saharan Africa, unintended pregnancy accounts for more than a quarter of the 40 million pregnancies that occur annually [20].

unplanned pregnancy become the highest problem faced by adolescence, evidence shows that the highest rate of unwanted pregnancy occurred at the ages of 14–19 year[21].

The worldwide average rate of births per 1000 young women aged 15-19 years is 65, with average rates of 25 in Europe, 56 in the Middle East and North Africa, 59 in Central Asia, 78 in Latin America, and 143 in Sub-Saharan Africa [12]. About 14 million women 15–19 years old give birth each year, about 11 % of all births worldwide [11]. 95 %of these births occur in low- and middle-income countries.

In sub-Saharan Africa, it is estimated that 14 million unwanted pregnancies occur every year, with almost half occurring among women aged 15–24 years [2].

Evidence from sub-Saharan Africa indicates that 35% of pregnancies among 15–19 year olds were unplanned, unwanted or untimed and that the teenagers' relationships were unstable [22.]

Young women have higher likelihood of inconsistent or nonuse of effective family planning methods than older women and have greater risk to have mistimed than intended pregnancy [22-23]. Studies conducted in various developed and developing Countries revealed the consequence of unintended pregnancies can have serious health, social, and economic consequences.

A study conducted in Soweto, South Africa, found that 23% of pregnancies carried by 13–16 year old young women and 14.9% in the 17–19 year age range ended in abortion (11).

Even though the rate of adolescent pregnancy is increasing and become the major health problem developing countries especially Africa, the rate of adolescences pregnancy in South Africa dropped from 7.8% in 15- to 19-year-olds in 1996, to 6.5% in 2001(20).

But it is still a high number when it compare with those developed counties USA (5.3%), Brazil (4.5%), Australia (1.6%), Japan (0.4%) or Italy (0.6%) [11].

A nationally representative survey conducted in Ethiopia in 2008 revealed that an estimated

382,000 induced abortions were performed and 52,600 women were treated for complications of abortion. About 42% of pregnancies were unintended, and the unintended pregnancy rate was 101 per 1,000 women [24]. Another study which is done in the Ethiopian hospital showed that there was 50% unwanted pregnancies and from which 25.6% end induced abortion. Fifty-eight percent of the women who induced abortion terminated the current pregnancy either by seeking the help of untrained personnel or by themselves with no assistance [24]. A cross-sectional survey conducted in Harar, Eastern Ethiopia, showed 33.3% unintended pregnancies while induced abortion was found to be 14.4% (15).

Unintended pregnancy is a serious problem among adolescence in Ethiopia. A study done among adolescence in Addis Ababa showed that the median age at first pregnancy was 16 years, with 2 in 3 women becoming mothers before the age of twenty. From 957 female respondents 50% had been pregnant in the past and 74 % of these pregnancies resulted in abortions [12].

Knowledge and use of contraceptive among adolescents showed very wide variation among regions of Sub-Saharan Africa than other regions of the world. In conformation with this study among adolescent aged 15-19 in Nigeria revealed that 85% knows at least one modern method of contraception while only 11% of sexually active adolescent used modern contraceptive the rate for any methods was 27% [26]. Similar study in Nigeria has revealed that over 60% of urban adolescent have heard of at least one method but only 4.7% of sexually active adolescents practice contraceptive of which 3.5% of them practice modern methods [26]. Another study indicated 90% of Kenyan high school students knew at least one method, 49% of male and 42% of female student ever used contraceptives. The same study has also shown an increase in contraceptives use from 25% versus 28% during the first to 31% versus 29% during the last intercourse among male and female students respectively, however only 11% of ever users considered themselves as frequent users [25]. Different studies conducted to assess the knowledge and use of contraceptives among urban

adolescent in Ethiopia documented relatively high level of knowledge of contraceptive. In confirmation with this, report of studies conducted in Northern parts of the country revealed that 75% of students in North Gondar knew at least one method of contraceptive but only 5.1% of sexually active respondent ever used modern contraceptive methods (28). Studies conducted in the Southern region of Ethiopia revealed 75% out of school youth in Awssa were knowledgeable about condom and its use but only 27.6% of sexually active youth have used condom during the most recent intercourse [29]. A more comprehensive cross sectional study conducted in 55 urban parts of Ethiopia showed that 90% of sexually active male were aware of condom and 87% of sexually active female youth were aware of pill, however only 15% male and 39% of female respondent have ever used condom and pill respectively. The same study has documented that 12% of male and 10% of female has used periodic abstinence [25]. Similar study have also documented 98.1% of unmarried adolescent women have heard at least about one contraceptive method, 85% have positive attitude towards contraceptive while 57.4% reported to ever practice contraceptive, but only 30.7% of adolescent age 15-17 reported to ever practice contraceptive [25]. Community based survey in Nazareth also revealed that 95% of sexually active adolescents had information about at least one method of contraceptives and 78% of them ever used contraceptive. The same study indicated the level of contraceptive use was 38% during the first and 69% during the last intercourse (33). Different cross sectional study conducted in Addis Ababa has also documented high level of contraceptive knowledge among adolescents of the city. In confirmation with this a community based study conducted among 1542 young people aged 15-24 indicated that 98% of the study population was knowledgeable about at least one method of contraceptives (34). A school based study has also documented a high (96.5%) level of knowledge of at least one method of contraceptives, but only 27.5% of sexually active students had ever used any method (15). Another school based study among 1036 high school students in Addis Ababa revealed that 93.5% of female 94.8% male students were knowledgeable about at least one method of contraceptives (35).

Like most population surveys of unwanted pregnancy and abortion, it is likely that the levels observed in our study underestimate the incidence of both events, as some women are

unwilling to report having had an unwanted pregnancy or an abortion.

Our findings, as well as those from previous research on this issue, suggest that millions of Nigerian women have confronted an unwanted pregnancy at some point in their lives. An unwanted pregnancy that is carried to term can result in an enormous change in a woman's life, whereas the alternative—an abortion—carries substantial risks of morbidity and even mortality in this country where induced abortion is illegal under most circumstances.

The results indicate that 40.2% of students had experienced sexual intercourse at the time of the study. A number of studies conducted among adolescents in the age group of 10 to 19 years in different countries revealed that the prevalence of sexual activity was 48.7% in America, 38% in Italy, 46% in South Africa, 11% in Burkina Faso, 22% in Nigeria, and 56.6% in Turkey.

The majority of the respondents (78.5%) use contraception. However, use of a contraceptive method during each sexual encounter was inconsistent and sporadic. Less than half of the respondents (48.6%) use contraception always and most of the students (69.8%) use condoms. An adolescent's decision about whether to use contraception is complex. Although trends have improved, with more adolescents reporting the use of contraception, more frequently with continuing sexual intercourse but the consistent use of contraception remains a challenge for most adolescents [16].

Approximately half of all adolescent pregnancies occur within the first 6 months after the adolescent becomes sexually active, and one fifth of pregnancies occur within the first month [19].

Contraceptive use increases with age in both males and females. It is worth noting that younger teens are less likely to use contraceptives [19]. If a girl is under 15, when she has first intercourse, she is nearly twice as likely to become pregnant in the first 6 months of intercourse than if she is over age 17 [16]. The proportion of unintended pregnancies remains highest among women under age 20. In other words, about 85 percent of teenage pregnancies are unintended compared to percent of pregnancies among adult women

2.4 DETERMINANTS OF UNINTENDED PREGNANCY

Several studies have identified the predictors of unsafe sexual practices during the early adolescent years, such as individual, socio-demographic, familial, and relational characteristics, poverty, cultural and family patterns of early sexual experience and lack of school or career goals[25,26]. Another study stated that nonuse and/or failure of contraceptives is the primary cause of unintended pregnancy [11]. If contraceptives used properly and consistently there will not be unintended pregnancy [26].

Adolescence pregnancy has been associated with sex without reliable contraception due to ignorance, fear of parents finding out, shyness in going to the clinic and disapproval from the boyfriend. Sexual coercion, poor sexual communication between partners, poverty[27,29] alcohol consumption, fear of hormonal contraceptives and poor school-based sexual education also have been associated with unintended pregnancy[27,28].

A study conducted in Soweto, South Africa, found that 23% of pregnancies carried by 13–16 year old young women and 14.9% in the 17–19 year age range ended in abortion [6]. Several studies have identified the predictors of unsafe sexual practices during the early adolescent years, such as individual, socio-demographic, familial, and relational characteristics, poverty, cultural and family patterns of early sexual experience and lack of school or career goals [30].

Adolescent pregnancy interferes with young women's educational attainment, resulting in fewer job opportunities for young women [9]. Several studies have argued that young school girls engage in sex with older partners and have transactional sex, whereby gift or money are exchanged for sex[10–13]. Such relationships result in young women having little or no negotiating power with their partners to insist on condoms usage a situation which may result in high risk of becoming pregnant and contracting sexually transmitted infections (STIs), including HIV/AIDS [14, 15]. Access to reproductive health services is another factor which contributes to adolescent pregnancy since young people always want

to be able access sexual and reproductive health information and services without being exposed to public stigma [16]. Many studies have focused on the practices of adolescents in general and outcomes of their pregnancies, but very limited understanding of factors that place particular increased risk of adolescent's pregnancy [27].

Conceptual framework

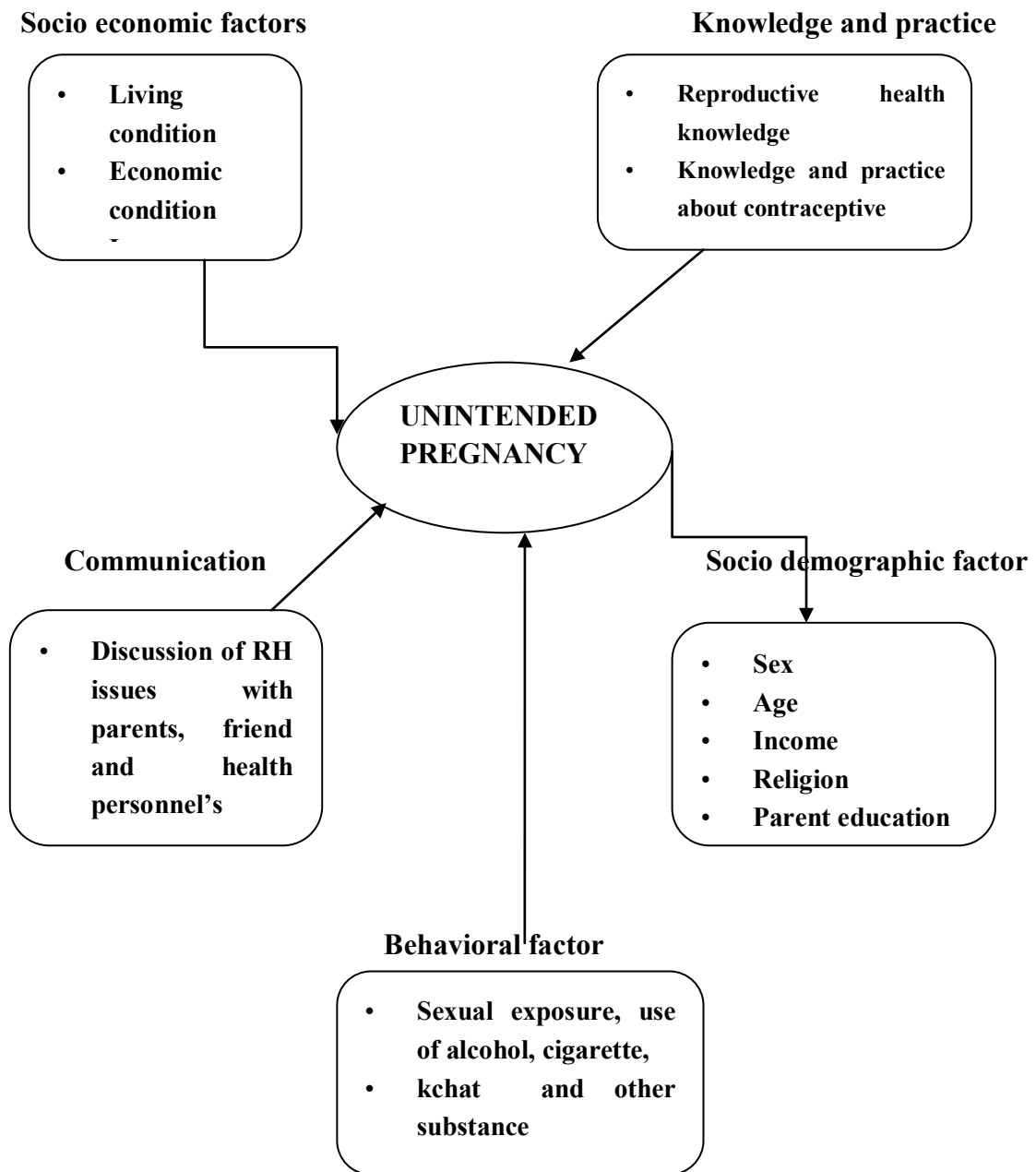


Figure1. Conceptual framework on factors of unintended pregnancy

CHAPTER THREE

OBJECTIVES OF THE STUDY

3.1 GENERAL OBJECTIVE OF THE STUDY

To assess the magnitude and associated factors of un- intended pregnancy among Addis Ababa Preparatory School students.

3.2 SPECIFIC OBJECTIVES

1. To determine the magnitude of unintended pregnancy among female students
2. To explore sexual behaviors and contraceptive uses of preparatory school female students
3. To assess the reproductive health history of Addis Ababa Preparatory School female students
4. To identify associated factors of unintended pregnancies among female student

CHAPTER FOUR

METHODS AND MATERIALS

4.1 STUDY AREA

A preparatory school based cross-sectional study was conducted from February to June 2015 in Addis Ababa, the capital of Ethiopia. According to the national census report of 2007, the projected population of Addis Ababa for the year 2012 was 3,048,631 and among those 52.4% were females (31). The City is administratively divided into ten sub-cities (Kifle- Ketemas) and one –hundred and sixteen districts/Woredas (31). There are 163 secondary schools (both government and non-government schools) in Addis Ababa City Administration. The number of students in government schools enrolled in the year 2013/2014 in the preparatory schools was 30,915 (32). From those students 18,019 were females.

4.2 STUDY DESIGN AND PERIOD

School based cross-sectional study was conducted to assess the magnitude and associated factors of un- intended pregnancy among preparatory school students in Addis Ababa from February to June, 2015.

4.3 SOURCE POPULATION

All regular and governmental Addis Ababa Preparatory School female students who are registered for 2014/15 academic year were the source population for the study.

4.4 STUDY POPULATION AND SAMPLES

Study populations were preparatory school students from the source population selected by multi-stage sampling procedure.

4.4.1 INCLUSION CRITERIA

- Regular preparatory school female students
- Age 15-19 years
- who learned in governmental schools

4.4.2 EXCLUSION CRITERIA

- Those who were married students
- Those students who were not present at the time of data collection
- Those who were evening students.
- Students who were not able to fill the question

4.5 SAMPLE SIZE DETERMINATION

The sample size was determined by using a single population proportion formula.

The following assumption was made to determine the sample size: To obtain the minimum sample size, the population proportion for the un-intended pregnancy among Addis Ababa Preparatory School was taken to be 35% [10], with the margin of error 5% and 95% confidence interval, and finally by considering a design effect of 1.5 and adding 10% for non-response rate compensation.

Therefore, the minimum sample size was calculated as follows;

$$n = \frac{(z_{1-\frac{\alpha}{2}})^2 \times p(1-p)}{d^2}$$
$$n = \frac{(1.96)^2 \times 0.35(1-0.35)}{(0.05)^2} = 349$$

Where,

- n = the required sample size
- $z_{\frac{\alpha}{2}}$ = critical value for normal distribution (standard curve) at 95% confidence level which equals to 1.96 (z value at $\alpha =0.05$, two tailed)
- p = the proportion of unintended pregnancy among preparatory school students
- d = the margin of error (0.05 (5%) desired precision)

By adding a 10 % (52) non-response rate and a design effect 1.5 to the study sample the final study sample were included a total number of 576 preparatory school female students.

4.6 SAMPLING PROCEDURE AND TECHNIQUES

A multi-stage sampling technique was employed in order to select the study units.

First, from the 10 sub-cities 5 sub-cities selected randomly using lottery method. These were Akaki kality, Nifasselk lafto, Bole, Arada and Lideta .Second, from the chosen sub-cities 5 woredas selected. From each selected woredas, Deraretu Preparatory School, Bole Preparatory School, Ginbot20 Preparatory School, Dagmawe Minillike Preparatory School and Balech Abanefeso Preparatory School selected randomly. Next, study participants' were selected from each selected preparatory schools proportionally and from each school samples were randomly using lottery method. The whole process were facilitated and arranged with the help of schools directors and teachers

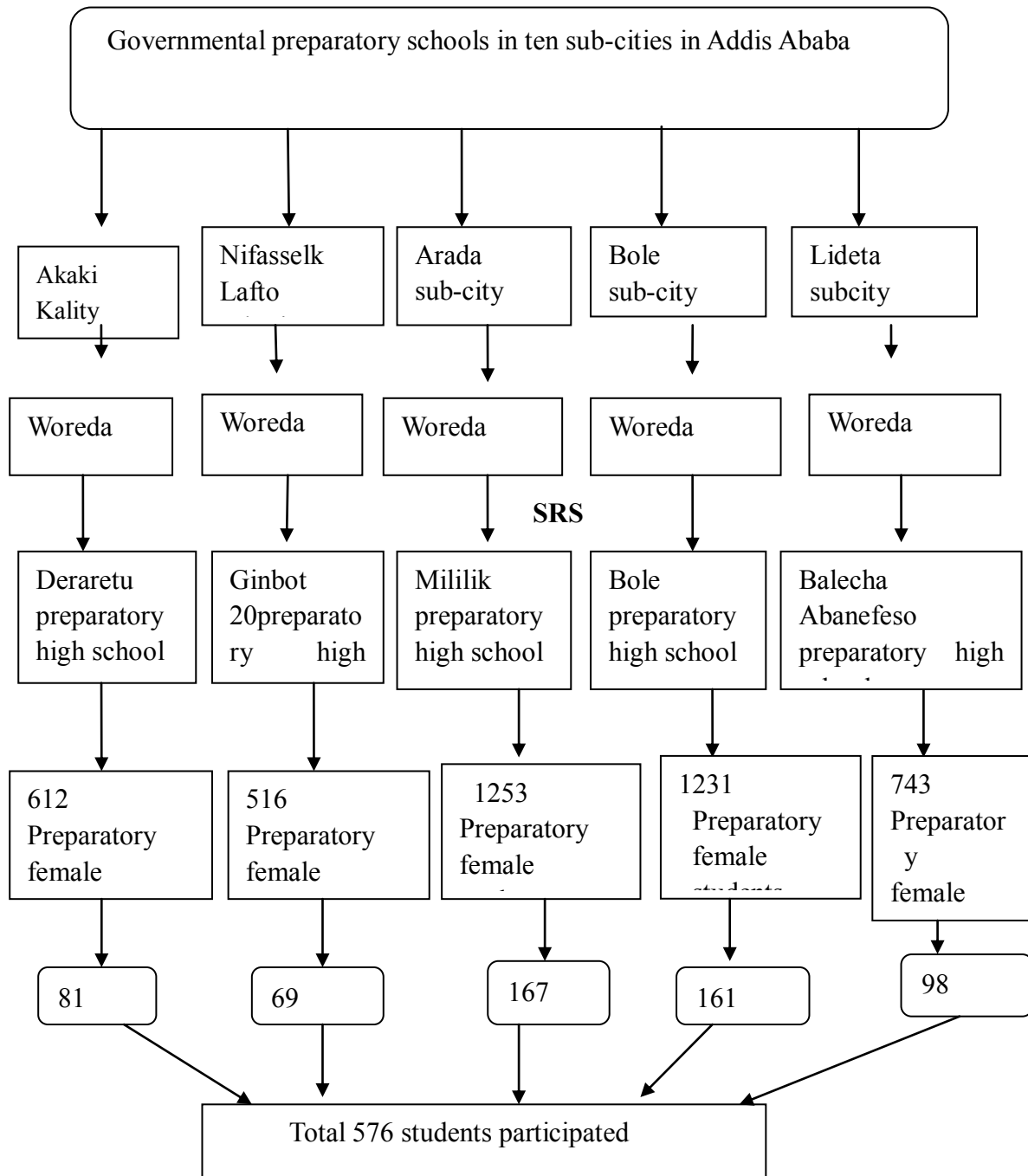


Figure 2.Sampling Procedure and Techniques in Schematic Illustration

4.7 DATA COLLECTION MATERIALS AND PROCEDURES

Data were collected using a self-administered close-ended questionnaire. It was prepared in English and translated into Amharic. The Amharic version was again translated back to English to check for consistency of meaning. The questionnaires included socio-demographic characteristics; unintended pregnancy history, and sexual activities and contraceptive use history of the students.

The questionnaires were partially adopted from previously done researches (10) to include all possible variables that address the objective of the study.

4.8 DATA COLLECTOR

For administering the semi-structured questionnaires three data collectors and one supervisor recruited. The entire data collector and the supervisor were females in order to make the respondents comfortable. There was training for the data collectors and supervisors which helps them to know about the objective, relevance of the study, the right of the respondents and the importance of informed consent.

4.9 STUDY VARIABLES

4.9.1 DEPENDENT VARIABLES

- getting of unintended pregnancy, yes/no

4.9.2 INDEPENDENT VARIABLES

- Socio demographic (age, marital status, religion, school, stream, grade, Parental education and income and aliveness, school)
- Contraceptive knowledge and utilization
- Sexual exposure/ behavior and substance uses
- Discussion of reproductive health issue with others

4.10 DATA PROCESSING AND ANALYSIS

The collected data were checked for incompleteness and inconsistency by supervisors and investigators. The data were edited, entered and cleaned by the principal investigators using EPI Data version 3.1. Then the data were exported and analyzed using SPSS for widow version 20. Descriptive statistics were computed to determine the frequencies, percentages and mean of the dependent and or independent variables. Bivariate analyses were carried out to examine the relationship between unintended pregnancy and explanatory variables. Variables that were statistically significant (with p-value <0.2) at the bivariate level were included in the multivariate logistic regression to control confounding variables and determine only the independent determinants of unwanted pregnancy among students. Statistically significant association between dependent and independent variables were measured using adjusted odds ratio at 95% confidence interval

4.11 DATA QUALITY CONTROL AND MANAGEMENT

To get a clear and representative final result, the quality of the data were assured thoroughly; data collectors gave a clear directions to the study subjects while they were answering to the prepared close-ended questionnaires so that the possible ambiguities that may arise were minimized.

The structured questionnaires were pre- tested before the actual data collection and checked for the clarity and consistency. The data collection tools were interpreted with the local Amharic language version for the fast and easy collection of the proposed data.

From the very beginning, data collectors and supervisors have had full course of training regarding the basic principles of data collection procedures. The principal investigator and supervisor made a day to day on site supervision during the whole period of data collection. At the end of each day, the questionnaires were reviewed and checked for completeness, accuracy and consistency by the supervisor and investigator and corrective discussion were undertaken with all the data collector team members. Following discussion, corrective directions were given on how to eliminate or minimize

4.12 PRE-TESTING

The structured questionnaires were pretested on 10 % (52) of the total sample size in one preparatory school students outside of the selected preparatory schools. Based on problems identified on the pre-test the questionnaires were revised. The data collected for pre-test were not included in the actual data of the study.

This was done to decrease any inconveniences and possible ambiguities of the prevailing data collection tools, and to increase validity and reliability of the tools before undertaking the actual data collection in the planned time period.

4.13 ETHICAL CONSIDERATION

Ethical approval was obtained from the department of Nursing and Midwifery College of Health Science, Addis Ababa. The permission letter was obtained from the department of Nursing and Midwifery to the selected preparatory schools in order to have appropriate support during data collection.

The study participants were informed about the aim of the study, confidentiality of their responses and the importance of providing the right information. There was not any identifying name on the questionnaire and the information gathered in this study was remained confidential and ensured that it was handled exclusively by the investigators and no one were able to recognize them in the report.

4.14 DISSEMINATION OF THE RESULT

The primary objective of this study was for partial fulfillment in the requirements to degree of master in maternity and reproductive health nursing. The result was submitted to the Department of Nursing and Midwifery College of Addis Ababa, Ministry of women and child, Ministry of Education, Addis Ababa Preparatory Schools and other stakeholders. It will be presented at professional, local, national and international meetings and publication in peer reviewed at national or international journals will be attempt.

Operational Definitions

- Adolescents who are preparatory school students and whose age is between 15-19 years.
- Associated factors: Are factors that influence unintended pregnancy among preparatory school students such as demographic characteristics, substance uses, sexual behaviors, contraceptive use and knowledge, and reproductive health
- Contraceptives: Are methods which helps to prevent unintended or unwanted pregnancy
- Preparatory school students: Students who are attending in grade 11th and 12th
- Substances: Any non-medical drugs used by study subjects such as alcohol, kchat, tobacco, cannabis, heroin, cocaine, and marijuana to alter their mood or behavior.
- Unintended pregnancy is a pregnancy that is either mistimed or unwanted at the time of conception

CHAPTER FIVE: RESULTS

This chapter presents the findings of the study that was carried out in five schools of Addis Ababa preparatory School. A total of 576 female adolescents aged from 16-19 years participated in the study.

5.1 SOCIO-DEMOGRAPHIC INFORMATION

A total of 576 female adolescent study participants gave complete response to the questionnaires, making it a response rate of 100 %.

A total of 576 female adolescents aged from 16-19 years participated ,and the respondents' mean age was 17.79(± 0.076 , 95% CI) years , it is seen that in table one all the respondents are adolescents in the age of 16-19; of the participants 222(38.4%) were between 16 and 17 years old; and 354(61.6%) were between 18 and 19 years old. From the total respondents, 361(62.7%) were Orthodox Christians; 99(17.2%) were Muslims, 85(14.8%) were protestant; and 31(5.4%) were Catholics.

One hundred sixty one (28%) were Tigray ethnically. One hundred forty one (24.5%), 141 (24.5%), and 103(17.9%) were Amhara, Oromo and Others, respectively.

Out of 576 female students 277(48%) were in social stream, and 299(51.9%) were natural stream students. Three hundred nineteen (55.4%) were grade 11th students .The rest 257(44.6%) were grade 12th students.

One hundred sixty four(28.5%) students were from Minillik Preparatory School ,162(28.1%) ,99(17.2%) ,82(14.2%),and 69(12%) were from Bole ,Balcha ,Ginbot 20 and Derartu Preparatory Schools ,respectively.

Out of five hundred seventy six 501 (86.9%) of study participants' father were alive. Out of these (501) students' father 48(8.3%) were illiterate. And 82 (14.2%), and 193(33.5%) students' father had primary, and secondary educational level, respectively.

There were about one hundred eighty two (31.0%) students' fathers had college and above educational levels. With regards to students' father job, the majority of students' father were privet employees, 252(43.8%); and 211(38%) were government institution employees. The

majority students' fathers earned more than three thousands birr, 205 (33.6%).

Out of the total participants' mother 531(92.2) were alive. Out of these mothers 47(8.4%) were illiterate; and 192(36.2%), 205(32.6%), and 85(16.8%) had primary, secondary and college and more educational levels. Like students' father the majority students' mother were privet employees; and 171(31.7%) mothers were house wife.

The majority participants' mother had not income at all, 147(25.5%); and 121(21%) mothers' earned greater than 3000 Ethiopian birr. [Table-1]

Table1: Socio-demographic characteristics of female students in Addis Ababa Preparatory Schools, June, 2015 (N=576)

<i>Demographic Characteristics</i>	<i>f</i>	<i>%</i>
Age		
16-17	222	38.4
18-19	354	61.6
Total	576	100
Religion		
Orthodox	361	62.7
Protestant	85	14.8
Catholic	31	5.4
Muslim	99	17.2
Total	576	100.0
Ethnicity		
Amhara	141	24.5
Tigray	161	28.0
Oromo	103	17.9
Other	141	24.5
Total	576	100
Stream		
Social	277	48.1
Natural	299	51.9
Total	576	100
Grade		
11 th	319	55.4

12 th	257	44.6
Total	576	100.0
School		
Bole	162	28.1
Minilik	164	28.5
Balcha	99	17.2
Ginbot20	69	12.0
Derartu	82	14.2
Total	576	100.0
Father'slifestatus		
Alive	501	86.9
Died	75	13.0
Total	576	99.7
Father's educational status(N=501)		
Illiterate	48	8.3
Primary school	82	14.2
Secondary school	193	33.5
Collage and more	182	31.0
Total	501	100
Father'sjob		
Governmental	211	38.6
Privet employees	252	43.8
Merchant	13	4.3
Farmer	18	6.1
Other	3	5.5
Total	501	100
Father'ssalary		
600-1000	47	10.1
1001-2000	59	13.2
2001-300	63	14.9
>3001	205	33.6
Don't know	123	23.7
Total	501	100
Mother'slifestatus		
Alive	531	92.2
Died	45	7.8

Total	576	100
Mother's educational status (N=531)		
Illiterate	47	8.4
Primary	192	36.2
Secondary	205	32.6
Collage more	85	16.8
Total	531	100
Mother's job		
Government	83	16.4
Private	200	35.7
Merchant	64	12.4
Farmer	8	1.4
House wife	171	31.7
Other	5	1.9
Total	531	100
Mother's salary		
<600	5	.9
600-1000	41	7.1
1001-2000	73	12.7
2001-3000	37	6.4
>3000	121	21.0
Nosalary	147	25.5
Don't know	107	18.6
Total	531	92.2

5.2 SEXUAL BEHAVIOR AND SUBSTANCE USE OF FEMALE STUDENTS IN ADDISABABA PREPARATORY SCHOOLS

Among all study participants, 288 (50± 4%; 95% CI) reported to have had sexual experience at the time of the survey.

The mean age at first sexual intercourse was 17(±0.1, 95%CI). Among the sexually active students, 216(75%) had their first sexual intercourse within the age of 16-17.

Nearly one -fourths sexually active students had experienced their sexual activities within the age of 18-19. And a few students had experienced sexual intercourse before the age of 15, 6(2.01%).

One hundred eleven (38.5%) of the sexually active respondents claimed that the main reason for their first sexual intercourse was felt in love.

And eighty seven (30.2%) of sexually active students claimed that the main reason for their first sexual intercourse was due to rape. To get benefit was the third most selected main reason for students' sexual intercourse, 83(28.8%). Sexual desire took the least main reasons for students' first sexual intercourse, 7(2.4%).

Of the sexually active students, most students had only one sexual partner, 193 (33.5%). While 78(13.5%) had two sexual partners, and 17(2.4%) sexually active students had had three and more than three sexual partners.

More than two-thirds of the study participants did not drink alcohol, 437(75.9%). Out of the total study participants only 139(24.1%) female students drink alcohol.

From the total respondents, 131(22.7%) study participants smoked cigarette; and 445(77.3%) study participants did not smoke cigarette. Ninety seven (16.8%) students chewed kchat, and the rest eighty three percent study participants did not chew kchat.

Of the total study participants; two hundred thirty four study participants watched pornographic movies while 342(59.4%) of the respondents never watched pornographic movies. See tabl-2 below.

Table2: Sexual behavior and substance use history of Addis Ababa Preparatory School Female Students, Addis Ababa. June 2015. (N=576)

<i>Sexual Behavior and Substance use</i>	<i>f</i>	<i>%</i>
Have you ever had sexual intercourse?(N=576)		
Yes	288	50.0
No	288	50.0
Total	576	100.0
At what age did you first have sexual intercourse?(N=288)		
14-15	6	2.01
16-17	216	75
18-19	66	22.9
Total	288	100
What was your main reason for sexual intercourse at the first time you had it?		
Sexual desire	7	2.4
Rape	87	30.2
Felt in love	111	38.5
Benefit	83	28.8
Total	288	100
Number of sexual partners ever experienced		
One	193	33.5
Two	78	13.5
Three	14	2.4
More than three	3	0.2
Total	288	100
Alcohol		
Yes	139	24.1
No	437	75.9
Total	576	100.0
Cigarette		
Yes	131	22.7
No	445	77.3

Total	576	100.0
Kchat		
Yes	97	16.8
No	479	83.2
Total	576	100.0
Watching pornographic movies		
Yes	234	40.6
No	342	59.4
Total	576	100.0

5.3 PREGNANCY HISTORY OF THE STUDY PARTICIPANTS, JUNE, 2015 (N=576)

Overall, 118(20.4(\pm 3.3) %; at α 95% CI) of the study participants reported that they had ever been experienced an unintended pregnancy at the time of the study. The proportion of respondents who had never had an unintended pregnancy was 458(79.6%).

The mean age of first pregnancy among study participants was 17 (\pm 0.12, 95%CI). From the pregnant study participants, 70(59.3%) students got their pregnancy at the age of 17. Twenty eight study participants were pregnant at the age of 18; and 18(15.3%) of the study participants had gotten their pregnancy at the age of sixty. Out of the total pregnant adolescent students 45(38.2%) pointed out that never think of pregnancy was their major reasons for not to control the unintended pregnancy. Other unintended pregnant study participants reported that failure of condom was the major reasons for their unintended pregnancy (31.5%); and 29(24.57%) of pregnant students reported that their irregular practice of sexual intercourse practice was their major reasons for the occurrences of the unintended pregnancy.

Out of all the unintended pregnancy almost all were aborted 117(99.16%). Only one participant gave birth. It was reported that a big number of abortions were taking place at the clinic 97(82.1%); and 20(16.9%) of the respondents aborted in traditional ways. [Table-

Table 3: Pregnancy history of the study participants, a study in Addis Ababa Preparatory School Students, June, 2015(N=576)

<i>Variables</i>	<i>f</i>	<i>%</i>
Have you ever gotten pregnancy(N=576)		
Yes	118	20.4
No	458	79.6
Total	576	100.0
First pregnancy age(N=118)		
15	2	1.7
16	18	15.3
17	70	59.3
18	28	23.7
Total	118	100
Why did not control the pregnancy(=118)		
Forgetting pills	7	5.9
Failed of condom	37	31.35
It was Irregular sex	29	24.57
Never think of it	45	38.2
Total	118	100
Result of the pregnancy(N=118)		
Birth	1	0.84
Abortion	117	99.16
Total	118	100
Place of abortion(N=117)		
Clinic	97	82.1
Traditional	20	16.9
Total	117	100

5.4 REPRODUCTIVE HEALTH HISTORY AND RELATED ISSUES OF ADDIS ABABA PREPARATORY SCHOOL FEMALE STUDENTS, JUNE, 2015 (N=576)

The mean age of at menarche among study participants was age13.2 ((±0.1, 95% CI).

Of the total study participants, 393(68.2%) had seen their menarche within the age of13-15. Twenty eight percents of the study participants had seen at menarche by the age of 12. A few study participants reported that they saw their menarche within the age of sixty and seventy.

Among the study participants only149 (25.9%) study participants knew when pregnancy occurs in related to menstruation cycle. The rest 74%of the study participants did not know when pregnancy begins in related with menstruation cycle.

Five hundred seven participants (88%) had discussed about reproductive health; and only twelve percents so did not. The majority of the study participants discuss about reproductive health with their friends, 303(59.76%); eighty four females (16.56%) discussed the issue with their mothers, and 42(8.3%), and 27(5.32%) talked with their sisters and fathers, respectively. [Table- 4]

Table 4: Reproductive health related history of Addis Ababa Preparatory School Students, June, 2015(N=576)

<i>Variables</i>	<i>f</i>	<i>%</i>
Menarche age		
10-12	165	28.6
13-15	393	68.2
16-17	18	3.2
Total	576	100
During regular menstruation when Pregnancy occurs?		
During menstruation	13	2.3
Within a week after menstruation	101	17.5
Within two to three weeks after menstruation	149	25.9
Don't know	313	54.3
Total	576	100.0
Reproductive health discussion		
Yes	507	88.0
No	69	12.0
Total	576	100.0
With whom do you discuss?(N=507)		
Mother	84	16.56
Father	27	5.32
Sister	42	8.3
Friend	303	59.76
Teacher	24	4.7
Health workers	27	5.53

5.6 STUDENTS KNOWLEDGE ON CONTRACEPTIVES

Out of all the study respondents, almost all of them 574 (99.7 %) have heard about contraceptives, the information was mostly received from media 493(85%) and the contraceptive method that was known by the majority was condom 574(100) followed by oral pills, 573(99.6%). [Table-5]

Table 5: Student knowledge on contraceptive

<i>Variables</i>	<i>f</i>	<i>%</i>
Did you hear about contraceptive(N=576)?		
Yes	574	99.7
No	2	0.3
Total	576	100.0
What contraceptive do you know(N=574)		
Oral (N=574)	573	99.6
Injection	435	75.6
Implant	352	61.2
Condom	574	99.7
Calendar	308	53.5
Where did you get from the information?(N=574)		
Media	493	85.7
Health work	113	19.5
Family and peer	289	50.3
Reproductive health school club	77	13.5

5.6 STUDENTS' PRACTICE OF CONTRACEPTIVES

Two hundred sixty six students (92%) meaning almost all sexually active students used contraceptives during they had sex. Of the total respondents, those who reported to have ever used contraceptives 121 (45.48%) are using condoms followed by emergency contraceptives 89(33.45%); and 56(21%) of the respondents used other contraceptive methods (inject able and pills). [See table -6]

Table 6: Practice of contraceptives among preparatory students (N=574)

<i>Variables</i>	<i>f</i>	<i>%</i>
Do you use contraceptive?(N=574)		
Yes	266	46.2
No	308	53.5
Total	574	100
What did you use?(N=266)		
Pills	38	14.28
Condom	121	45.48
Injection	18	6.76
Emergency contraceptives	89	33.45
Where did you get from them?(N=266)		
Health center	69	26
Privet clinic	21	8
Pharmacy	176	66
Youth center	0.0	0.0
Total	266	100

5.7 FACTORS ASSOCIATED WITH UNINTENDED PREGNANCY

In this study, socio-demographic characteristics' of students and their parents, sexual behaviors and substance use, reproductive health knowledge, contraceptive knowledge and use were considered as associated factors of the dependent variable, getting unintended pregnancy.

First, each independent variable was entered in the bivariate logistic regression independently then all variables at the same time which showed significant association in the bivariate logistic regression at p-value <0.2 were passed to the multivariate logistic regression to control confounding variables and to identify the independent factors of unintended pregnancy among the above mentioned independent variables.

For data clarity and simplicity the researcher presents significant associated factors in the multivariate logistic regression under different sub headings instead of presenting them together. .

5.7.1 RELATIONSHIP BETWEEN DEMOGRAPHIC FACTORS WITH THE MAGNITUDE OF UNWANTED PREGNANCY

In the bivariate logistic regression from students' and parents' demographic characteristics age, religion, stream, school and father's (life status, educational level, and salary), mother's (life status, educational level and salary) had significant association with unintended pregnancy at 95% CI crude odds ratio. However, in multivariate logistic regression students 'stream, school, students' father and mother life status, and mother's educational level had only significant association with students' unintended pregnancy.

As regards to students' stream (social and natural), social students were 54% less likely to have had unwanted pregnancy than those who were natural steam students [AOR=0.46; 95%CI=0.23, 0.92].

There was a statistically significant association between students' learning school. Those who were a student of Minillik and Ginbot20 Preparatory School were less likely to be pregnant as compared with Derartu Preparatory School students. Students who learned in Minillik Preparatory School were 89% less likely to be pregnant [AOR=0.11; 95%CI=0.03, 0.39]. In similar way students of Ginbot 20 were 84% less likely to develop unintended pregnancy [AOR=0.16; 95%CI=0.04, 0.63].

In related to students' family demographic characters tics, father's and mother's life status had statistically significant association with students' unintended pregnancy. Students those whose father died were three times more likely to be pregnant than those fathers alive [AOR=2.79; 95%CI=1.57, 4.94]. Students those whose mothers died also nine times more likely to experience pregnancy than those whose mothers alive [AOR=8.68; 95%CI=4.23, 17.80].

Regarding to the level of students' mother education, students who came from college and more mothers were less likely to get pregnancy [AOR=0.07; 95%CI=0.01, 0.56]; and students whose mothers secondary schools in education were also less likely to experience pregnancy as compared with students whose mothers were illiterate [AOR=0.16; 95%CI=0.04, 0.66]. [See table -7]

Table 7: Multivariate logistic regression analysis for the association between socio-demographic characteristics of students and their unintended pregnancy in Addis Ababa Preparatory School students, June, 2015.

<i>Demographic Characteristics</i>	<i>OR (CI, 95%)</i>			
	<i>Unwanted pregnancy</i>		<i>COR</i>	<i>AOR</i>
	<i>Yes</i>	<i>No</i>		
Age				
16-17	30	189	1	1
18-19	87	270	0.49(0.31,0.77)*	0.44(0.16,1.20)
Religion				
Orthodox	63	298	1.96(1.17,3.26) *	0.93(.37,2.33)
Protestant	12	73	2.52(1.19,5.32) *	2.07(0.457,9.43)
Catholic	13	18	.57(.24,1.32)	0.41(0.10,1.62)
Muslim	29	70	1	1
Stream				
Social	77	200	.40(.26,.61)*	.46(.23,.92)*
Natural	40	259	1	1
Grade				
11 th	57	262	1.4(.93, 2.10)	.75(.31,1.86)
12 th	60	197	1	1
School				
Bole	26	136	.26(.09,.79)*	1.15(.29,4.47)
Minilik	45	119	.13(.04,.39)*	.11(.03,.39)*
Balcha	20	79	.20(.06,.62)*	.47(.12,1.86)
Ginbot 20	22	47	.11(.03,.33)*	.16(.04,.63)*
Derartu	4	78	1	1
Father'slifestatus				
Died	86	415	3.40(2.03,5.69)*	2.79(1.57,4.94)*
Alive	31	44	1	1
Father's educational status				
Illiterate	30	154	1	1
Primary school	19	63	.64(.34,.65)*	.56(.16,1.97)

Secondary school	35	156	.86(.51,.87)*	.89(.40,2.01)
Collage more	4	45	2.19(.73,2.19)	5.27(.65,42.50)
Father's salary				
600-1000	5	42	1.06(.36,3.15)	3.439(.53,22.1)
1001-2000	18	43	.30(.13,.66)*	0.39(.12,1.24)
2001-300	7	57	1.03(.39,2.71)	2.02(.54,7.55)
>3001	43	164	.48(.25,.93)*	0.86(.34,2.20)
Don't know	14	110	1	1
Mother's lifestatus				
Died	88	443	9.12(4.75,17.51)*	8.68(4.23,17.80)*
Alive	29	16	1	1
Mother's educational status				
Illiterate	4	81	1	1
Primary	27	165	.30(.10,.89)*	0.27(.05,1.31)
Secondary	46	159	.17(.06,.49)*	0.16(.04,.66)*
Collage more	11	36	.16(.04,.54)*	0.07(.01,.56)*
Mother's salary				
<600	0	5	_____	_____
600-1000	6	35	.87(.31,2.46)	0.75(.12,4.75)
1001-2000	17	56	.49(.22,1.08)	0.53(.16,1.70)
2001-3000	10	27	.40(.16,1.01)	0.76(.19,2.99)
>3000	17	104	.92(.43,.97)*	1.24(.429,3.56)
No salary	24	123	.77(.37,1.57)	0.83(.32,2.18)
Don't know	14	93	1	1

***statistically significant at 95% CI**

5.7.2 THE ASSOCIATION BETWEEN STUDENTS' SEXUAL BEHAVIOR AND UNINTENDED PREGNANCY

There was a positive association between alcohol drinking, kchat chewing and watching pornographic movies with ever having unintended pregnancy. Students who aged 16-17 at first sexual intercourse were less likely to be pregnant than those whose age ranged from 18-19years [AOR=0.22; 95%CI=0.10, 0.99]. Students who mentioned sexual desire as their main reason for sexual intercourse activity were less likely to experience unintended

pregnancy reasons than students who reported benefits as their major sexual reasons [AOR=0.05; 95%CI=0.01, 0.6]. Students who reported falling in love five times more likely pregnant than those who report to get benefits as their major reasons for rushing to sex [AOR=4.7; 95%CI=1.38,16]

Study participants who drank alcohol were three times more likely to experience unintended pregnancy as compared to those who did not drink alcohol [AOR=3; 95% CI: 1.86, 13].

Students who chew kchat were two times more likely to experience unintended pregnancy as compared to those who did not chew [AOR=2.0;95%CI=1.4, 3.0].

Students who watch pornographic movies were three times more likely to experience unintended pregnancy than those who were not [AOR=2.9; 95%CI=1.9, 4.4]. However ,in this study in related to substance use smoking cigarette did not positively associated with unintended pregnancy; those students who smoked cigarette 60% less likely experience unintended pregnancy [AOR=0.45; 95% CI: 0.19,0.9]. [See table -8)

Table 8. The association between sexual behavior and students' substance use with their unintended pregnancy

<i>Sexual behavior</i>	<i>Unwanted pregnancy</i>		<i>OR (CI, 95%)</i>	
	<i>Yes</i>	<i>No</i>	<i>COR</i>	<i>AOR</i>
At what age did you first have sexual intercourse				
14-15	3	3	0.20(.04,1.12)	0.79(.06,9.14)
16-17	103	113	0.22(.11,.44)*	0.32(.10,.99)*
18-19	11	55	1	1
What was your main reason for sexual intercourse at the first time you had it?				
Sexual desire	6	1	0.08(.01,.70)*	0.05(.01,61)*
Rape	28	59	1.0(.53,1.93)	1.88(.61,5.7)
Falling in love	56	55	0.47(.26,.85)*	4.7(1.38,16)*
Benefit	27	56	1	1
Alcohol				
Yes	101	421	7(3,13)*	3(1.86,13)*
No	16	38	1	1
Cigarette				
Yes	73	58	1	1
No	44	401	.08(.05,.14)*	0.45(.19,0.9)*
Kchat				
Yes	55	417	2.2(1.6, 3.0)	2.0(1.4, 3.0)*
No	62	42	1	1
Watching pornographic movies				
Yes	109	124	3.8(2.6, 5.6)*	2.9(1.9, 4.4)*
No	8	334	1	1

*statistically significant at 95% CI

5.7.3 THE ASSOCIATION OF REPRODUCTIVE HEALTH ISSUES AND HISTORY, CONTRACEPTIVE KNOWLEDGE AND USE WITH STUDENTS' UNINTENDED PREGNANCY

Knowledge of pregnancy occurrences in related with menstruation cycle was an independent determinant of unintended pregnancy among students.

Students who were not knowledgeable were nearly two times more likely to get pregnancy than those who did not know [AOR=1.6; 95% CI: 1.02, 2.3].

Students' who did not discuss reproductive health information were two times more likely to get unintended pregnancy [AOR=2.38; 95% CI: 1.38, 4.13].

Respondents who were not exposed to hear about contraceptive were nearly 16.4 times more likely to report unintended pregnancy compared to those who were exposed to hear about contraceptive information [AOR=16.4; 95% CI: 8.6, 31].

The association between contraceptive use and unwanted pregnancies was found to be statistically significant. Students who had ever used a contraceptive method were less likely to have experienced an unwanted pregnancy than those who had never practiced contraception methods [AOR=0.065; 95% CI: 0.034, 0.121]. See table-9

Table 9. Multivariate logistic regression analysis for the association between reproductive health history, contraceptive knowledge and use with unintended students' unintended pregnancy

Reproductive	<i>OR (CI, 95%)</i>			
	<i>Unwanted pregnancy</i>		<i>COR</i>	<i>AOR</i>
	<i>Yes</i>	<i>No</i>		
During regular menstruation when Pregnancy occurs?(N=576)				
Knowledgeable	39	110	1	1
Not knowledgeable	78	349	1.6(1.02,2.46)*	1.6(1.02,2.3)*
Reproductive health discussion				
Yes	93	414	1	1
No	24	45	2.37(1.37,4.09)*	2.38(1.38,4.13)*
Did you hear about contraceptive				
Yes	101	400	1	1
No	16	57	16(8.3,29)*	16.4(8.6,31)*
Do you use contraceptive?(N=574)				
Yes	103	163	.06(.03, .12)*	.065(.034,.121)*
No	12	296		1

***statistically significant at 95% CI**

CHAPTER SIX: DISSCUSSION

6.1 MAGNITUDE OF UNINTENDED PREGNANCY AMONG FEMALE PREPARATORY SCHOOL STUDENTS

This study was conducted to determining the magnitude of unintended pregnancy and associated factors among Addis Ababa Preparatory School female students’.

In this study, 576 representative samples were selected from five Addis Ababa Preparatory Schools using multistage probability sampling techniques along with simple random sampling techniques.

In this study, 118(20.4(\pm 3.3) %; at α 95% CI) of the study participants reported that had ever experienced an unintended pregnancy at the time of the study. Out of all the unintended pregnancy almost all were aborted with the proportion of 117(99.16%). This meant only one unintended pregnant participant gave birth.

This finding is comparable to a survey study conducted in southwestern states of Nigeria, 20% of youths females reported having had an un-wanted pregnancy.

This current result is also in agree with what had been reported from other studies e.g. a study done in Tanzania which showed that 22.1% magnitude of unintended pregnancies were present among the female youths[18].

In this current study, the proportion or magnitude of unintended pregnancy among adolescent preparatory school students is lower than a study result done in the Ethiopian hospitals that showed that there was 50% unwanted pregnancies among female youths and from which 25.6% end induced abortion [24].

And it has also smaller magnitude as compared with a cross-sectional survey study conducted in Harar, Eastern Ethiopia, showed that 33.3% unintended pregnancies while induced abortion was found to be 14.4% [15].

This study also not coincides with a study done among adolescents in Addis Ababa which showed that from 957 female respondents 50% had been pregnant in the past and 74 % of these pregnancies resulted in abortions [12].

Other study suggested that the proportion of unwanted pregnancy and induced abortion among youths is very high, as it reported that 33 % of all the female youths had unwanted pregnancies, most of these unwanted pregnancies ended up into abortion with the proportion of 88 % [16]. Our current study did not incorporate with this study findings in related to the magnitude of adolescents' unintended pregnancy, however it has similar in related to magnitude of induced abortion among adolescents.

However, the magnitude of unintended pregnancy in this study is not as high as previous studies revealed; it is likely that the levels observed here in this study might be underestimated the magnitude of unintended pregnancy among preparatory students, this is might be due to unwillingness of adolescent female students to report having had an unintended pregnancy or an abortion.

The mean age of the first unintended pregnancy among study participants was 17 (± 0.12 , 95% CI). From the pregnant study participants, 70(59.3%) students got their unintended pregnancy at the age of 17.

In this study, out of the total pregnant adolescent students 45(38.2%) pointed out that never think of pregnancy was their major reasons for not to control the unintended pregnancy. Other pregnant study participants reported that failure of condom as their major reasons for the unintended pregnancy (31.5%).

6.2 SEXUAL BEHAVIOR AND CONTRACEPTIVE USES OF PREPARATORY SCHOOL FEMALE STUDENTS

Among all study participants, 288 (50, $\pm 4\%$ at α 95% CI) reported to have had sexual experience at the time of the study.

Our study is consistent with a number of studies conducted among adolescents in the age group of 10 to 19 years in different countries revealed that the prevalence of sexual activity was 48.7% in America, 38% in Italy 46% in South Africa, and 56.6% in Turkey. The disparity may be due to different sample characteristics, different cultural background, different socioeconomic environment, and due to substance use

The mean age at first sexual intercourse was 17 (± 0.12 , 95% CI) which is similar with studies carried out in Tanzania and Nigeria they reported that students had sexual intercourse in their late adolescent with mean age 17.2 ± 1.8 , and 16.5 years respectively .

This is also similar and closer to other studies that were carried out in Awassa and Addis Ababa, 17.7 ± 2.0 years, and 17.7 ± 2.3 years, respectively in relation to adolescents' first sexual initiation.

Of the sexually active students, 193 (33.5%) sexually active students had only one sexual partner, while 78(13.5%) had two sexual partners, and 17(2.4%) sexually active students had three and more than three sexual partners. This is consistent with a study done in Tanzania, 17.6% of the students had multiple sexual partners. The current study implied that students in their earlier age before marriage have many sexual partners. This means that adolescents who begin sexual activity early are more likely to have more sexual partners, and exposed more to the risk of sexual transmitted diseases, and might have high probability of getting unintended pregnancy.

Out of the total study participants 139(24.1%) female students drink alcohol.

From the total respondents, 131(22.7%) study participants smoked cigarette; and ninety seven (16.8%) students chewed kchat. Of the total study participants two hundred thirty four

(39.6%) study participants watched pornographic movies.

Out of all the study respondents, almost all of them 574 (99.7 %) have heard of the contraceptive information, and this information was mostly obtained from media 493(85%); and the contraceptive method that was known by the majority students was condom 574(100) followed by oral pills 573(99.6%).

In this study, among the sexually active students 266 (92%) used contraceptives during they had sex. Of the total respondents, those who reported to have ever used contraceptives 121 (45.48%) are using condoms followed by emergency contraceptives 89(33.45%); and 56(21%) of the respondents used other contraceptive methods (inject able and pills). This result implies that students in preparatory schools are good in using contraceptive methods while they have sexual intercourse. The current study is consistent with a study which showed that the majority of the respondents (78.5%) used contraception; and most used contraceptive was condom (69.8%) [13]. Another study in confirmation with this study result in northern parts of the country revealed that 75% of students in North Gondar knew at least one method of contraceptives but only 5.1% of sexually active respondent ever used modern contraceptives methods (28).

Community based survey in Nazareth also revealed that 95% of sexually active adolescents had information about at least one method of contraceptives and 78% of them ever used contraceptives.

Different cross sectional study conducted in Addis Ababa has also documented high level of contraceptive knowledge among adolescents of the city. In confirmation with this a community based study conducted among 1542 young people aged 15-24 indicated that 98% of the study population was knowledgeable about at least one method of contraceptives (34).

A school based study has also documented a high (96.5%) level of knowledge of at least one method of contraceptives, but only 27.5% of sexually active students had ever used any method (15). Another school based study among 1036 high school students in Addis Ababa revealed that 93.5% of female 94.8% male students were knowledgeable about at least one method of contraceptives (35).

The current study on the contrary to the previous studies showed that high levels of contraceptive use among the students (92%). As this study indicated that the magnitude of unintended pregnancies among students were 20%, which may resulted from this high level uses of contraceptives of the adolescents' in time of sexual intercourse.

6.3 ASSOCIATED FACTORS OF UNINTENDED PREGNANCY

In the multivariate logistic regression students' stream(social and natural), school, students' father and mother life status, and mother's educational level, drinking alcohols, smoking cigarette, chewing kchat, watching pornographic movies, age at first sexual intercourse, knowledge of pregnancy in related to menstruation cycle ,discussion on reproductive health , knowledge and practice of contraceptive were significantly associated with students' unintended pregnancy.

As regards to students' stream (social and natural), social students were 54% less likely to have unwanted pregnancy than natural steam students [AOR=0.46; 95%CI=0.23, 0.92].

There was also a statistically significant association between students learning school. Those who were a student of Minillik and Ginbot20 preparatory School had less likely to be pregnant as compared with Derartu Preparatory School. Students who learned in Minillik Preparatory School were 89%less likely to be pregnant [AOR=0.11; 95%CI=0.03, 0.39]. In similar way students of Ginbot 20were 84% less likely to develop pregnancy [AOR=0.16; 95%CI=0.04, 0.63]. This implied that being social or natural student is an independent factor for unintended pregnancy among students, and it implied that there is unequal distribution of unintended pregnancy among Addis Ababa Preparatory Schools.

In related to students' family demographic characteristics, father's and mother's life status had statistically significant association with students' unintended pregnancy. Students those whose fathers died were three times more likely to be pregnant than those fathers alive

[AOR=2.79; 95%CI=1.57, 4.94].

Students whose mothers died also nine times more likely to experience pregnancy than those whose mothers alive [AOR=8.68; 95%CI=4.23, 17.80]. This implied that not having alive parents is one predictor of being unintended pregnant. The result of the current study consistent with previous results which lead the researcher insisted future researchers to investigate this association between parents' died and unintended pregnancies among adolescent female students.

Regarding to the level of students' mother education, students who came from college and more mothers were less likely to get pregnancy [AOR=0.07; 95%CI=0.01, 0.56]; and students whose mothers were secondary school in education were also less likely to experience pregnancy as compared with students whose mothers were illiterate [AOR=0.16; 95%CI=0.04, 0.66]. This means that the relationship between level of students' mothers education and students to be unintended pregnant is negative, when mothers' level of education increases, getting unintended pregnancy decreases.

In this study the respondents age is not associated with unintended pregnancy among adolescent students. This is not consistent with the study conducted in Tanzania, it showed that female youths aged 15-18years were more likely to have unwanted pregnancies and induced abortion with the proportion of 80 % (P value of 0.039) compared to the counterparts aged 14- 15years.

But in this study students age at first sexual intercourse was significantly associated with students' unintended pregnancy, students whose age ranged from 16-17 at their first sexual intercourse were less likely to be pregnant than those whose age ranged from 18-19years at first sexual intercourse [AOR=0.32; 95%CI=0.10, 0.99]. This implies that students who practiced sexual intercourse earlier in their life are less likely to be pregnant unintended.

There was a positive association between alcohol drinking, smoking cigarette, kchat chewing and watching pornographic movies with ever having unintended pregnancy.

In the current study participants who drank alcohol were three times more likely to

experience unintended pregnancy as compared to those who did not drink alcohol [AOR=3; 95% CI: 1.86, 13]. This might be due to the consumption of alcohol that may blur their decision making on utilization of contraceptive to avoid pregnancy. In confirmation with this study, a student based study conducted among Madawalabu University students revealed that those female students who drink alcohol last week before the study were 8.4 times more likely to have had unwanted pregnancy than those who never drank alcohol last week [34].

Students who chew kchat were two times more likely to experience unintended pregnancy as compared to those who did not chew [AOR=2.0;95%CI=1.4, 3.0].

Students who watch pornographic movies were three times more likely to experience unintended pregnancy than those who were not [AOR=2.9; 95%CI=1.9, 4.4].

However, in this study in related to substance use smoking cigarette did not positively associated with unintended pregnancy; those students who smoked cigarette 60% less likely experience unintended pregnancy [AOR=0.45; 95% CI: 0.19,0.9].

Students' who did not discuss reproductive health information were two times more likely to get unintended pregnancy [AOR=2.38; 95% CI: 1.38, 4.13].

Unintended pregnancies may be prevented by using contraceptive methods, such as the oral contraceptive pills, the long-term hormonal injections, condoms, tubal ligation or a vasectomy. In this study, the contraceptive utilization result is very good. This might be due to the increased awareness of preparatory school students in particular and females in general in the country about modern contraceptives.

Respondents who were not exposed to hear about contraceptives were nearly 16.4 times more likely to report unintended pregnancy as compared to those who were exposed to hear about contraceptive information [AOR=16.4; 95% CI: 8.6, 31]. This is comparable with the study which indicated that those who ever heard about contraceptive were 93% less likely exposed for unwanted pregnancy as compared to those who didn't heard about contraceptives. This might be due to those who heard about the different contraceptive methods could use it when they encounter sexual intercourse for the

prevention of unwanted pregnancy and other sexually related risks.

The association between contraceptive use and unwanted pregnancies was found to be statistically significant. Students who had ever used a contraceptive method were less likely to have had experienced an unwanted pregnancy than those who had never practiced contraception methods [AOR=0.065; 95% CI: 0.034, 0.121].

CHAPTER SEVEN:

STRENGTHES AND LIMITATIONS OF THE STUDY

7.1. STRENGTH OF THE STUDY

- A high response rate of respondents, 100%
- Intensive training of data collectors and supervisors
- Most of the questionnaire adapted from previous studies review and contextualized according to the objective and pretested in the local context

7.2. LIMITATION OF THE STUDY

- All students might not give genuine answers to the questions they were asked. This might underestimate the prevalence of both unintended pregnancies and risky sexual behaviors since this study touches very sensitive and private or personal issues. The behavioral outcomes are based on self-reported information so that the possibility of reporting errors and biases cannot be ruled out.
- Another weakness is the use of cross-sectional data and this makes it difficult to establish causality.
- The study included only female regular preparatory students

CHAPTER EIGHT: CONCLUSIONS AND RECOMMENDATIONS

8.1. CONCLUSIONS

The prevalence of unintended pregnancy among preparatory school students is 118 (20.4(\pm 3) %, at α 95% CI). Out of all the unintended pregnancy almost all were aborted.

There was high level utilization of contraceptives (92%) among female students and its association with the rate of unwanted pregnancy was found to be statistically significant.

Among all the study students, 288 (50(\pm 4) %, at α 95% CI) reported to have had sexual experience at the time of the study. In this study students' stream (social and natural), school, students' father and mother life status, and mother's educational level, drinking alcohols, smoking cigarette, chewing kchat, watching pornographic movies, age at first sexual intercourse, knowledge of pregnancy in related to menstruation cycle, discussion on reproductive health, knowledge and practice of contraceptives were significantly associated with students' unintended pregnancy. In the current study students who drank alcohol were three times more likely to experience unintended pregnancy as compared to those who did not drink alcohol [AOR=3; 95% CI: 1.86, 13]. Students who chew kchat were two times more likely to experience unintended pregnancy as compared to those who did not chew kchat [AOR=2.0; 95% CI=1.4, 3.0]. Students who watch pornographic movies were nearly three times more likely to experience unintended pregnancy than those who were not [AOR=2.9; 95% CI=1.9, 4.4]. However, in this study in related to substance use smoking cigarette did not positively associated with unintended pregnancy; those students who smoked cigarette were 55% less likely to have had experienced unintended pregnancy [AOR=0.45; 95% CI: 0.19, 0.9]. Students' who did not discuss reproductive health information were two times more likely to get unintended pregnancy [AOR=2.38; 95% CI: 1.38, 4.13]. Respondents who were not exposed to hear about contraceptive methods were nearly 16.4 times more likely to report unintended pregnancy compared to those who were exposed [AOR=16.4; 95% CI: 8.6, 31]. Students who had ever used contraceptive methods were less likely to have had experienced an unwanted pregnancy than those who had never practiced contraception methods [AOR=0.065; 95% CI: 0.034, 0.121].

8.2. RECOMMENDATIONS

Based on the findings from the study, the researcher would like to recommend that:

- Prior, students should be encouraged to practice premarital abstinence
- Programs promoting safe sexual behavior should be priority area and it should be integrated with other behavioral change interventions.
- Students should be given basic knowledge of sexuality and contraception before the age they likely to engage in sexual activities and effective channels of communication should be used to inform and educate adolescents using health professionals including the authors, trained teachers, trained peer promoters and medias.
- Create public awareness (with emphasis on parents, teachers and service providers) to create supportive environment to inform adolescents about sexuality, encourage abstinence and reduce barriers to the use of contraceptives by sexually active adolescents.
- Further studies should be conducted including students to identify whether they are facing similar barriers to use contraceptives, parents and teachers on their knowledge and attitude towards adolescents' contraceptives use and providers of different delivery points on their knowledge about and attitude towards adolescent sexuality and contraceptives needs and how they feel about adolescents contraceptives use.
- Teaching the community on the consequences that follow kchat chewing, alcohol consumption and cigarette smoking such as unintended pregnancy and other sexually transmitted diseases.
- Intervention activities to bring about behavioral changes among the students on the danger of use of Kchat, alcohol and watching pornographic movies are recommended.
- Government and policy makers are recommended to consider reproductive health education as part of the education curricula in school.

Reference

1. Williamson LM, Parkes A, Wight D, Petticrew M, Hart GJ. Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. *ReproductiveHealth*. 2009;6(3) doi:10.1186/1742-4755-6-3. [PMC free article] [PubMed]
2. Dixit P, Ram F, Dwivedi LK. Determinants of unwanted pregnancies in India using matched case-control designs. *BMC Pregnancy Childbirth*. 2012;12:84.[[PMC free article](#)] [[PubMed](#)]
3. Meyer-Weitz A, Steyn M, Ghama S. A situational analysis: existing information, education and communication strategies regarding adolescent sexuality in the Piet Retief district, Mpumalanga, 1999. Available from <http://www.hst.org.za/uploads/files/adolescent.pdf> (Accessed 20/05/2010)
4. Marston C, King E. Factors that shape young people's sexual behavior: a systemic review. *Lancet* 2006;368(9547):1581-6.
5. Hong Y, Li L, Yongyi B, Xunyu X, Shiyue L, Jay E. Family and peer influences on sexual behavior among female college students in Wuhan. *Chin Women Health*.2010;50(8):767-782. doi: 10.1080/03630242.2010.530926. [[PubMed](#)]
6. Assefa S, Dessalegn W. Premarital sexual practice among school adolescents in Nekemte Town. *East Wollega Ethiop J Health Dev*. 2008;22(2):169.
7. Amsale C, Yemane B. Peer pressure is the prime driver of risky sexual behaviors among school adolescents in Addis Ababa. *Ethiopia World J AIDS*. 2012;2:159-164. doi: 10.4236/wja.2012.23021.
8. Berhane Y, Mekonnen Y, Seyoum E, Gelmon L, Wilson D. HIV/AIDS in Ethiopia an epidemiological synthesis. 2008.
9. Barbara S, Wesley H, Cynthia B, Annabel S. Premarital sex, schoolgirl pregnancy, and school quality in rural Kenya. *Stud Fam Plann*. 2001;32(4):285-301. doi: 10.1111/j.1728-4465.2001.00285.x. [[PubMed](#)]

10. Federal Democratic Republic of Ethiopia Ministry of Health. National Adolescent and Youth Reproductive Health Strategy .2007-2015 Spdf
11. Sime A, Wirtu D. Premarital sexual practice among school adolescents in Nekemte town East Wollega. *Ethiop J Health Dev.* 2008;22(2):167–173.
12. Williamson LM, Parkes A, Wight D, Petticrew M, Hart GJ. Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. *Reproductive Health.* 2009;6(3) doi:10.1186/1742-4755-6-3. [PMC free article] [PubMed]
13. Bradley SEK, Croft T, MEASURE DHS. The Impact of Contraceptive Failure on Unintended Pregnancy and Abortion. <http://paa2010.princeton.edu/papers/101669>. 2013. 9-20-2013.
14. Yi S, Poudel KC, Yasuoka J, Palmer PH, Yi S, Jimba M. Role of risk and protective factors in risky sexual behavior among high school students in Cambodia. *BMC Public Health.* 2010;10:477. doi: 10.1186/1471-2458-10-477.
15. Frehiwot B, Yigeremu A, Reta A, Wuleta L, Tamrat A, Tewodros G. Khat and alcohol use and risky sex behaviour among in-school and out-of-school youth in Ethiopia. *BMC Public Health.* 2010;10:477. doi: 10.1186/1471-2458-10-477.
16. McEneaney MJ, Hong GA. Preventing unintended pregnancy. *J Nur Pra.* 2009;5(6):431–439. doi:10.1016/j.nurpra.2009.02.014.
17. Nakku JN, Nakasi G, Mirembe F. Postpartum major depression at six weeks in primary health care: prevalence and associated factors. *Afr Health Sci.* 2006;6:214. [[PMC free article](#)] [[PubMed](#)]
18. National Bureau of Statistics (NBS) [Tanzania], ICF Macro. Tanzania demographic and health survey 2010. Dar es Salaam, Tanzania: NBS and ICF Macro; 2011.
19. Dixit P, Ram F, Dwivedi LK. Determinants of unwanted pregnancies in India using matched case–control designs. *BMC Pregnancy Childbirth.* 2012; 12:84. [[PMC free article](#)] [[PubMed](#)]

[article](#)] [[PubMed](#)]

20. Singh S, Sedgh G, Hussain R. Unintended Pregnancy: Worldwide Levels, Trends, and Outcomes. *Stud Fam Plann.* 2010;41:241–250. [[PubMed](#)]
21. Gipson JD, Koenig MA, Hindin MJ. The effects of unintended pregnancy on infant, child, and parental health: A review of the literature. *Stud Family Planning.* 2008;39:18–38. [[PubMed](#)]
22. Mkhwanazi N. Teenage pregnancy and HIV in South Africa. In: Schlyter A, editor. *Body politics and women citizens: African experiences.* pp. 83–92. Retrieved from <http://www.sida.se/Documents/Import/pdf/Sida-Studies-No-24Body-Politics-and-Women-Citizens.pdf> at 14 December 2011.
23. Bankole A, Malarcher S. Removing barriers to adolescents' access to contraceptive information and services. *Stud Faming Planning.* 2010;41(2):117–124. [[PubMed](#)]
24. Ethiopian Demographic and Health Survey (EDHS), 2005. Preliminary report. Central statistical agency, Addis Abeba, Ethiopia.
- 25 Klein JD, American Academy of Pediatrics Committee on Adolescence Adolescent pregnancy: Current trends and issues. *Pediatrics.* 2005;116(1):281–286. [[PubMed](#)]
26. Pedrosa AA, Pires R, Carvalho P, Canavarro MC, Dattilio F. Ecological contexts in adolescent pregnancy: The role of individual, socio demographic, familial and
27. Vundule C, Maforah F, Jewkes R, Jordaan E. Risk factors for teenage pregnancy among sexually active black adolescent in Cape Town. *S Afr Med J* 2001;91(1):73–80.
28. Jewkes R. Facts belie fiction of teenage pregnancy. *Sunday Independent.* 2007 Apr 8. Available from <http://www.sundayindependent.co.za> (Accessed 23/04/2007).
29. Meyer-Weitz A, Steyn M, Ghama S. A situational analysis: existing information, education and communication strategies regarding adolescent sexuality in the Piet Retief district, Mpumalanga, 1999. Available from <http://www.hst.org.za/uploads/files/adolescent.pdf> (Accessed 20/05/2010)

30. Klein JD, American Academy of Pediatrics Committee on Adolescence Adolescent pregnancy: Current trends and issues. *Pediatrics*. 2005;116(1):281–286. [PubMed]
31. Addis Ababa City Administration Finance and Economic Development Bureau. Socio-Economic Profile of Addis Ababa for the year 2011/12. Addis Ababa: Sub-Process PsaA; 2013.
32. Ethiopian Federal Ministry of Education. Ministry of Education. 2013. Education Statistics: Annual Abstract.
33. Okonofua FE et al., Assessing the prevalence and determinants of unwanted pregnancy and induced abortion in Nigeria, *Studies in Family Planning*, 1999, 30(1):67–77.
34. Madan Mohan Laddunuri, PhD. *The Sexual Behavior of Secondary School Adolescent Students in Tanzania: Patterns and Trends*
35. Motuma Getachew Erena, Amene Abebe Kerbo. Unwanted Pregnancy and Associated Factors among Female Students of Madawalabu University Bale Zone, Oromia Region South East, Ethiopia. *Science Journal of Public Health*. Vol. 3, No. 1, 2015, pp.50-55. doi: 10.11648/j.sjph.20150301.19
36. Andualem Derese, Assefa Seme, Chalachew Misganaw. Assessment of Substance Use and Risky Sexual Behaviour among Haramaya University Students, Ethiopia. *Science Journal of Public Health*. Vol. 2, No. 2, 2014, pp. 102-110. doi: 10.11648/j.sjph.20140202.19

ANNEXS

Addis Ababa University, college of health science, department of nursing and midwifery consent form for the study on factors and magnitude of unintended pregnancy among high school students.

I am working as data collector in this research (study). The purpose of the study is to assess factors and magnitude of unintended pregnancy among high school students, in order to generate useful information for planning appropriate reproductive health strategies and interventions for high school students. To attain this purpose your genuine participation in filling the questionnaire with truth information is very important and highly appreciated.

We would like to assure you, your name will not be written on this form and all the information gathered will be kept strictly confidential. You have full right to refuse, to take part of, or to interrupt the study at any time. But the information that you will give us is quite useful to achieve the study and to bring change in reproductive health in services for high school student.

Thank you!

Are you willing to participate in the study?

Yes _____ No _____

Name and signature of data collector

Name _____ signature _____ date _____

Supervisors/ Editors Remark:

Supervisor's Name and signature _____

Contact person's/ principal investigator's name and address

Name Sara Kahsay

Telephone 09-13-017215

E-mail yangsara017215@yahoo.com

ANNEX 1: ENGLISH VERSION QUESTIONNAIRE

Instruction: Circle the code number given parallel to the answer you choose and for questions that you give direct answer, write the answer in the space provided.

Part I: socio demographic and academic characteristics of the respondents among high school female students

Ser.No.	Characteristics	Responses	Skip to
1	How old are you?	Age in a complete years	
2	What is your religion?	Orthodox-----1 protestant -----2 catholic-----3 Muslim -----4 Others_____99	
3	What is your ethnic origin?	Amhra -----1 Tigray -----2 Oromo-----3 Others specify_____99	
4	What is your department?	Social.....1 Natural.....2	
5	What is your grade?	9.....1 10.....2 11.....3 12.....4	
6	Is your father alive?	yes-----1 no-----2	if no skip to 10
7	If yes, what is the Educational status of your father	Illiterates-----1 Elementary school----2 secondary school-----3	

		college and above ----4	
8	If yes, what is your father's Work status?	Governmental employed-----1 private employed- -----2 trader-----3 farmer-----4 Others, specify_____99	
9	What is your father's monthly income?	<200 ETB-----1 200-400 ETB-----2 401-600 ETB-----3 601-1000 ETB-----4 > 1000 ETB----- 5	
10	Is your mother alive?	yes----1 no----2	If no skip to 14

11	If yes, what is educational Status of your mother?	Illiterates-----1 Elementary school----2 secondary school-----3 college and above ----4	
12	What is your mother's works Status?	Governmental employed-----1 private employed----- 2 trader ----- 3 farmer ----- 4 house wife-----5 Others,specify_____99	
13	What is your mother's monthly income?	<200 ETB-----1 200-400 ETB-----2	

		401-600 ETB-----3	
		601-1000 ETB-----4	
		>1000 ETB-----5	

Part II: Reproductive health related characteristics among high school female students

Ser. No.	Characteristics	Responses	Skip to
1	At what age have your menses for the first time?	Age in completed years ____	
2	If a woman has regular menstrual Cycle when do you think pregnancy is most likely to occur?	During the menstrual flow --1 The first week of menstrual cycle ---- 2 The second & third week of menses--3 I don't know-----98	
3	Have you ever had sexual intercourse?	yes -----1 no-----2 no response----88	If no skip to
4	If yes, at what age did you have the first sexual intercourse?	Age is completed years _____	
5	If yes, why did you have the first sexual intercourse?	marriage -----1 forced sex/rape ----- -2 love-----3 to get some advantage from partner-----4 to get mark/grade-----5 others,specify _____ 99	

6	How many sexual partners have you ever had in your life time?	one-----1 two-----2 three-----3 more than three----4	
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7	Have you ever been pregnant?	yes-----1 no-----2 no response-----88	if no skip to 14
8	If yes, how many times?	one-----1 two-----2 three-----3 more than three----4	
9	At what age was your first pregnancy?	Age is completed years ____	
10	Was your pregnancy wanted?	yes-----1 no-----2	If yes skip to 12
11	If your pregnancy is not wanted, how do you fail to prevent the pregnancy?	forced sexual intercourse-----1 forget to take pills-----2 condom slippage/breakage----3 infrequent sex-----4 perceived not to become pregnant-----5 others,specify_____99	
12	What was the outcome of your Pregnancy?	child birth-----1 Induced abortion -----2	

13	Have you had communication about reproductive issues with anyone else?	yes-----1 no-----2	
14	If the answer Q13 is yes, with whom had discussed the issue? (More than one answers possible).	with mother-----1 with father-----2 with sister-----3 with friends-----4 with school teacher-----5 with health person-----6 others, specify_____ 99	
15	Is there any service provided Regarding reproductive health in the school?	yes-----1 no-----2 I don't know-----98	
16	Have you ever been forced/coerced to have sex against your will?	Yes -----1 No -----2	
17	Do you and your parents discuss about unwanted early youth pregnancy and its adverse effect?	Yes.....1 No.....2	
18	Have you ever heard about any Contraceptive method?	Yes.....1 No.....2	
19	If yes, which one do you know? (More than one answers possible).	oral pills-----1 Injec tables-----2 Implant-----3 condom-----4 calendar/rhythm---5	
20	If yes, what was the source of Information?	Television/radio-----1 health workers -----2 family/ friends-----3 formal education-----4 RH clubs-----5	

		health institution-----6 others, specify _____99	
--	--	---	--

21	Have you ever used any Contraceptive method in the past?	Yes-----1 No-----2 no response-----88	
22	If the above questions yes, from where did you get the service?	public health institution-----1 private clinics -----2 pharmacy -----3 youth center -----4 others , specify _____99	
23	Do you use any substance or pornography to spend the time with your friends?	Yes.....1 No.....2	
24	What do you use?	Alcohol.....1 Cigarette.....2 Chat.....3 pornography.....4 Others, specify.....99	

ANNEX 2: AMHARIC VERSION QUESTIONNAIRE

የግለሰብ የስምምነት ቅፅ

ለአዲስ አበባ ዩኒቨርሲቲ የነርስ እና ሚድዋይና ትምህርት ቤት የድንገተኛ ፅንሰ ምክንያቶችና የችግሩን ጭነቀት ለማወቅ ሁለተኛ ደረጃ ትምህርት ቤት የሚደረግ ጥናት የግለሰብ ስምምነት ቅፅ

እኔ በዚህ ጥናት የምሰራው የመረጃ ሰብሳቢነት ነው። የዚህ ጥናት አላማ በአዲስ አበባ ከተማ የሁለተኛ ደረጃ ትምህርት-ቤት የሴት ተማሪዎች የድንገተኛ ፅንሰ መፈጠር ምክንያቶች እና የችግሩን ጥልቀት ዳሶ በሚያገኘው ሃሳብ ለሁለተኛ ደረጃ ተማሪዎች የስነ ተዋልዶ ጤና አገልግሎት ዕቅድና እስትራቴጂ ለመቀየስ እንዲሁም ተግባራዊ ሥራዎች ለመስራት ይጠቅማል። ይህ አላማ ለማሳካት የእናንተ ቀናና ትክክለኛ መልልስ መጥይቁን በመመሙላት የምታደርጉት ተሳትፎ በጣም ጣሚና የሚደነቅ ነው።

ለማረጋገጥ የምንወደው የእናንተ ስም በዚህ ቅፅ መሙላት (መጻፍ) አያስፈልግም እንዲሁም ከእናንተ የሚሰበሰበው ሃሳብ ምስጢርነቱ የተጠበቀ ነው። በዚህ ጥናት ጠቅላላ ላለመሳተፍ በከፊል መሳተፍ ወይም በማንኛውም ጊዜ የማቋረጥ መብታችን የተጠበቀ ነው። ነገር ግን ከእናንተ የምንናገኘው ጠቃሚ ሀሳብ ጥናቱን ለማሳካትና ለዩኒቨርሲቲ ተማሪዎች በስነ ተዋልዶ ጤና አገልግት ለውጥ ለማምጣት በጣም ጠቃሚ ነው።

አመሰግናልሁ!!!

ለመሳተፍ ፍቃደኛ ነሽ?

- 1. አዎ
- 2. አይደለሁም

መመርያ መልስ ለሚሆኑ ፊት-ለፊት ያሉ ቁጥሮች አክባቡ የዕጉፍ መልስ ለሚያስፈልገው ደግሞ በክፍት ቦታው መልስ ጻፊ።

ክፍል አንድ፡-ማህበራዊና አካዳሚያዊ ሁኔታዎች በተመለከተ

ተ. ቁ	ባህሪያት	መልስ የሚሆኑ ዝርዝሮች	ማለፍ
1	እድሽህንገት ነው? ዓመት	
2	ሃይማኖት ሽምግል ነው?	አርቶዶክስ 1 ፕሮቴስታንት 2 ካቶሊክ 3 ሙስሊም 4 ሌላ አይነት 99	
3	የትውልድ ሐገር ሽ	አማራ 1 ትግራይ 2 ኦሮሞ 3 ሌላ አይነት 99	
4	የምትማረበት ፋካሊቲ	ሶሻል 1 ናጅራል 2	
5	ስንተኛ ክፍል ነሽ	
6	አባት ሽብህ ይወት አሉ ወይ?	አዎ 1 የለም 2	መልስ ሽያጭ ለምክርታው ወደቁ ጥር 9
7	አባት ሽብህ ይወት ካሉ የትምህርት ደረጃዎቹ የውህንድስና ነው?	ያልተማሩ 1 አንደኛ ደረጃ 2 ሁለተኛ ደረጃ 3 ኮሌጅና ከዛ በላይ 4	
8	ሥራቸው ምን ድነው	የመንግስት ሰራተኛ 1	

		የግልሥራ 2 ነጋዴ3 ገበሬ4 ሌላከሆነይገለፅ99	
9	እባት-ሽበወርምንያህልገቢያገኛለሁ?	ከ600 ብርታች1 ከ601 - 1000 ብር2 ከ1001 – 2000 ብር3 ከ2001 –3000ብር 4 ከ3001ብርበላይ5 ገቢያለውም 6 አላውቅም7	
10	እናት-ሽበህይወትአለሁ?	አዎ የለችም.....	መልስየለችምከሆነወደ
11	እናት-ሽበህይወትካለ-የትምህርት-ደረጃቸውእንዴትነው?	ያልተማሩ 1 አንደኛደረጃ2 ሁለተኛደረጃ3 ኮሌጅናከዛበላይ4	
12	ስራቸውምንድነው?	የመንግስት-ሠራተኛ..... 1 የግልሥራ	

		2 ነጋዴ3 ገበሬ4 የቤትአመቤት 5 ሌላከሆነይገለፅ99	
13	እናትሽበወርምንደህልገቢያገኛሉ?	ከ600 ብርታች1 ከ601 - 1000 ብር2 ከ1001 – 2000 ብር3 ከ2001 – 3000 ብር4 ከ3001ብርበላይ5 ገቢየላትም 6 አላውቅም7	

ክፍልሁለት፡- ስነተዋልደበተመለከተመጠይቅ

ተ. ቁ	ባህሪት	መልስየሚሆኑዝርዝሮች	ማለፍ
1	ለመጀመሪያደባወርአበባሽበስንትዓመትሽአየሽ (ጀመረሽ)	ዕድሜበዓመትይገለፅ	
2	አንዲትሴትየተስተካከለየወርአበባዊካለትመቼነውአርግዝናሊከሰትየሚችለው?	በወርአበባወቅት 1 የወርአበባከጀምራትበአንድሳምንትውስጥ 2 የወርአበባከጀመራትበሁለትናበሶስትሳምንትውስጥ 3 አላውቅም 98	
3	የግብረሰጋግንኙነትአድርገሽታውቅያለሽ?	አዎ 1 አለድረኩም 2 መልስአልሰጥም 88	
4	ሰጥያቁ	3	

	አዎከሆነመልስሽለመጀመሪያዎብረስጋግንኙነትያደረግሽውበስንትአመትሽነው?	ዕድሜበዓትይገለፅ	
5	የግብረሰጋግንኙነትያደረግሽበትምክንያትምንነበር	ትዳር 1 አስገድዶመድፈር 2 ፍቅር 3 አንዳንድጥቅምለማግኘት 4 ማርክ (ግራድ) ለማግኘት 5 ሌላካለይጠቀስ 99	
6	በእድሜሽውስጥከምንይህልሰዎችጋግብረስጋግንኙነትአድርገሻል?	አንድ1 ሁለት 2 ሦስት 3 ከሦስትበላይ 4	
7	አርግዘሽታውቂያለሽ	አዎ 1 አርግገዬአላውቅም 2 መልስአልሰጥም 88	
7	ለመጀመሪያጊዜስታረግገርእድሜሽስንትነበር?	ዕድሜሽበአመትይገለፅ	
8	እርግዘናሽፈልገሽውነው	አዎ 1 አልፈኩትም 2	
9	ለጥያቄ 11 መልሽስአልፈኩትም (ያልተፈለገእርግዘና) ከሆነእርግዘናእንዴትመከላከልአልቻልሽም?	አስገድዶመድፈርስለነበር 1 የወለድመቆጣጠርያኪኒን በመርሳት2 ኮንዶምመውለቅ /መቀደድ 3 አልፎአልፎየሚረግግግብስጋግንኙነትስለነበር 4 አላረግዝምየሚልሃሳብስለነበረኝ 5 ሌላካለይግለፅ 99	
10	የዕርግዘናየመጨረሻውጤትምንነበር	ልጅተወለደ 1 እርግዘናውእንዲወጣተደረገ /ውርጃ/ 2	
11	የዕርግዘናውጤትውርጃከሆነውርጃውየተፈፀመውየትነው?	ክሊኒክ /ሆስፒታል 1 ሰፈርፅንስየሚያስወርዱሰዎ 2 ሌላካለይጠቀስ 99 መልስአልሰጥም 88	
12	ስለተዋልዶሁኔታዎችከሰዎችጋርተነጋግረሽ (ተወያይተሽ) ታውቂያለሽ?	አዎ 1 ተወያይቼአላውቅም 2	
13	አዎከሆነምልስሽከማንጋር? በላይመልስመስጠትይቻላል።	h1 ከእናትጋር1 ከአባትጋር2	

		ክእህት ጋር3 ክንደኛ ጋር4 ክአስተማሪ ጋር5 ክጤና በሰሙያ ጋር 6 ሌላካለይጠቀስ 7	
14	በትምህርት ቤት ውስጥ የሰነተ ዋልዲያ ጤና ይሰጣል?	አዎ 1 አይሰጥም 2 አላውቅም 98	
15	ክቤተሰቦች ሽጋር ስላል ተፈለገ ስለሚያመጣው ጉዳት ይደረግልህ?	አዎ 1 አይ 2	
16	ስለ ፅርግዝና መካከይ ዘይዎች ስምተሽታው ቂያለሽ?	አዎ 1 አላውቅም 2	
17	መልስ ሽህዎ ከሆነ ስለ የትኛው ታውቂያለሽ?	የሚሞገግ1 መርፎ 2 በክንድሮቹ ውስጥ 3	
18	መረጃው ንክየት ነው ያገኘህ?	ክቴሌቪዥን (ክፎዲዮ)1 ክጤና ባለሙያ2 ቤተሰብ/ግዳጅ/3 ክትምህርት ቤት4 ክስነተ ሞሳይክ ብብ5 ክጤና ጽ/ቤት6 ሌላ 99	
19	የወሊድ መቆጣጠሪያ ተጠቅመሽታው ቂያለሽ ወይ?	አዎ 1 አይ 2 መሰል ስለሰጥኝ 88	
20	የላይኛው አዎ ከሆነ መከላከያው ንክየት ነው የምትወስዷል?	ክጤና ባለሙያ1 ክግንኙነት2 ክፍር መሳሪያ3 ክወጣቶች መሳሪያ4 ሌላ99	
21	የአነቃቂ ገጽ ምን ዓይነት ወሊድ ጠፋ ምን እንደ ጊዜ ማሳለፊያ ተጠቅሟል?	አዎ 1 አይ 2	
22	መልስ ሽህዎ ከሆነ ምን ዓይነት ነው?	ስለ ጉዳት 1 ሲገቡ 2 ጣት 3 ሌላ 99	

ANNEX – 3

Assurance of Principal Investigator

I, the undersigned, declare that I have done this thesis work myself using the materials, methods and literature, and have tried to fully acknowledge all help.

Name of the candidate: sara kahsay

Signature _____

I, the undersigned, have supervised the candidate while he has been writing this thesis proposal.

Name of advisor: _____

Signature _____