ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES

MAGNITUDE OF RISKY SEXUAL BEHAVIORS AND ITS EFFECT ON SEXUALLY TRANSMITTED DISEASES AMONG UNDERGRADUATE STUDENTS OF ADDIS ABABA UNIVERSITY IN 2016, ETHIOPIA

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As members of the examining board of the final MPH open defense, we certify that we have read and evaluated the thesis prepared by Mahlet Belete entitled," Magnitude of riskysexual behaviors and its effect on sexually transmitted diseases among undergraduatestudents of Addis Ababa University in 2016, Ethiopia" and recommend that it is accepted as fulfilling the thesis required for the degree of **Master of Public Health.**

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ACRONYMS AND ABBREVIATIONS

AAU	Addis Ababa University
AAIT	Addis Ababa Institute of Technology
AIDS	Acquired Immune Deficiency Syndrome
AOR	Adjusted Odds Ratio
BDU	Bahirdar University
CoBE	College of Business and Economics
CoEBS	College of Educational and Behavioral Studies
CoHS	College of Health Science
CoLGS	College of Law and Governance Studies
CoHLSJC	College of Humanities, Language Studies, Journalism and Communication
CoNS	College of Natural science
COR	Crude Odds Ratio
CoSS	College of Social Science
CSWs	Commercial Sex Workers
EDHS	Ethiopian Demographic and Health Survey
EIABC	Ethiopian Institute of Agriculture, Building Construction and City Development
HIV	Human Immune Deficiency Virus
MDGs	Millennium Development Goals
RH	Reproductive Health
SBCoPVA	Skunder Boghossian College of Performing and Visual Arts
SD	Standard Deviation
SRH	Sexual and Reproductive Health
STD	Sexually Transmitted Disease
STIs	Sexually Transmitted Infections
UCAA	University college of Addis Ababa
USA	United State of America
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
UOG	University of Gondar

ABSTRACT

Introduction: Sexually transmitted diseases are among the most common illnesses in the world and have far reaching health, social and economic consequences. University students are young adults and vulnerable to sexually transmitted diseases due to exposure risky

sexual behaviors such as having multiple sexual partners, inconsistent condom use, having sex with commercial sexual partners and casual sexual partners, having sex after alcohol and having sex for gift or benefit. It is fundamental to understand the magnitude of risky sexual behaviors and its effect on sexually transmitted diseases among students of Addis Ababa University in wider perspectives so that the results could be used to take appropriate measures by different stakeholders involved in reproductive health programs.

Objective: To assess the magnitude of risky sexual behaviors and its effect on sexually transmitted diseases among undergraduate students of Addis Ababa University in 2016

Methodology: The study was conducted in all 10 colleges of Addis Ababa University on undergraduate students. A cross sectional study was used on 422 undergraduate students from March 2016 to April 2016.Multi- stage cluster sampling was used to select the colleges. The sample size of the study subjects was calculated by proportion to population size from each college. Systematic random sampling technique was applied to select the study participants. Data was entered and cleaned using EPI Info version 3.5.3 statistical software and exported to SPSS 21 for analysis. Odds ratio with 95% confidence interval was estimated to identify predictors of self-reported sexually transmitted diseases and risky sexual behaviours.

Result: A total of 422 undergraduate students were enrolled in the study with response rate of92% where 245 (63 %) were males. The median of age distribution was 21 years. The accommodation of 251 (64.7%) students was in the university's dormitory. One hundred fifty-eight students were sexually active in the past 12 months. Among the sexually active students 92(58.2%) had more than one sexual partner in the past 12 months and forty-two (23.3%) never used condom in their lives. The students who reported experiencing sexually transmitted diseases were 18%(95%CI; 14.2, 22.2).The Multivariate analysis indicated that the students who had multiple sexual partners and inconsistent condom users were 2.69 and 2.38 times likely to develop sexually transmitted diseases respectively.

Conclusion: There is high burden of STDs among undergraduate students of AAU. Magnitude of STDs was affected by having multiple sexual partners and inconsistent condom use among undergraduate students of AAU. Students experienced risky sexual behaviors such as having multiple sexual partners, inconstant condom use, having sex for benefit/gift, having casual sexual partners and having sex with commercial sex workers. Predisposing factors such as peer pressure, watching pornography Medias, going to nightclubs and having depression affected the magnitude of risky sexual behaviors among the study subjects.

1. INTRODUCTION

1.1Background

Sexually transmitted diseases are among the most common illnesses in the world and have far reaching health social and economic consequences. STDs are important because of their magnitude, potential complications and their interaction with HIV/AIDS. Disproportionately, they affect the health and social wellbeing of women by producing significant impact on their reproductive potential. STDs are caused by more than 30 pathogens viruses, bacteria, fungus, protozoa and ecto-parasites. Though there are 30 different kinds of organisms, they can be transmitted through unprotected sex; they tend to cause similar signs and symptoms. The common STDs are gonorrhoea, syphilis, chancroid, lymphogranulomavenerum, chlamidial infections and trichomoniasis. As their name implies the main means of communication is through penetrative sexual intercourse. Other modes of transmission include: mother to child, blood transfusion or other contact with blood or blood products. Not every act of unprotected sexual intercourse causes STD being passed from an infected individual. According to WHO report on Global incidence and prevalence of selected curable sexually transmitted infections, the total number of new cases in the world of the four STIs in 2008 in adults between the ages of 15 and 49 was estimated to be 498.9 million: 105.7 million cases of C. trachomatis, 106.1 million cases of N. gonorrhoeae, 10.6 million cases of syphilis and 276.4 million cases of T. vaginalis. In addition, at any point in 2008 it was estimated that 100.4 million adults were infected with C. trachomatis, 36.4 million with N. gonorrhoeae, 36.4 million with syphilis and 187.0 million with T. vaginalis. The total number of new cases in Africa of the four STIs in 2008 was estimated to be 92.6 million: 8.3 million cases of C. trachomatis, 21.1 million cases of N. gonorrhoeae, 3.4 million cases of syphilis and 59.7 million cases of T. vaginalis(1).

WHO defines youths as those in the age group of 15-24, which mostly includes the age that youths enter to universities. Evidence showed that nearly half of the global population was less than 25 years old and nearly 90% live in developing countries(2). Adolescents and young adults have an increased interest in the opposite sex, highly concerned with physical and sexual attractiveness, and are frequently changing relationships(3). As evidenced by different literatures early sexual debut among youths is influenced by a wide range of factors Including: -Age, sex, Residence, peer influence, parent youth communication

concerning reproductive health, exposure to sexual explicit media, alcohol drinking, khat chewing, and ever having a boy or a girl friend were associated with increased sexual debut, while living with parents was associated with decreased pre-marital sexual debut(4).University students are in the youth age category and are exposed to risky sexual behaviours such as unprotected sexual intercourse leading to HIV, other STIs and unwanted pregnancies(5). The risky behaviours may further be worsened by the fact that university students are too many in number, lack facilities for sexual and reproductive health services and live away from their parents and free from parental control. In addition, some are subjected to wide spread substance use and peer-pressure that aggravate the risky behaviours(6).

Ethiopia is one of the countries most affected by HIV/AIDS epidemic in Sub Saharan Africa. According to EDHS 2011, among women age 15-49 HIV prevalence was 1.9 percent, and among men age 15-49 and 15-59, HIV prevalence is 1.0 percent. For women, HIV prevalence increases with age to a peak of 3.7 percent at age 30-34. For men, HIV prevalence increases from 0.0 percent at age 15-19 to 3.0 percent at age 35-39 and drops thereafter. Overall, HIV prevalence is higher for women than men in most age groups. Majority of HIV infections are transmitted through unprotected sexual contact(7). A study in Wolayta Sodo University in Ethiopia indicated the prevalence of at least one STD associated syndromes in 12 months which was 19%(8). The presence of STI and having more than one sexual partner are the two most important factors contributing to the spread of the virus through heterosexual contact. Conventional HIV and STD infection share similar risk factors and several studies have demonstrated the synergy of the two conditions. Thus it is very critical to strengthen STD prevention and control program not only to improve quality of life and to overcome the complications caused by these infections but also to prevent the spread of HIV (16). Today Ministry of health in collaboration with donors is highly involved in STD prevention and control. However, a lot remains to be done to make the interventions more effective and sustainable.

1.2Statement of the problem

Most of undergraduate university students are youths (15 – 24). University/College students are often viewed as being at higher risks to acquire STDs/HIV infection and they are categorized under the Most At Risk Population Segments (MARPS) due to their inclination to be engaged in risky sexual behavior and their sense of non-vulnerability(9). According to CDC15- 24 year olds account for half of all new STD infections. Globally, university students are in the age range with the highest rates of new HIV infections(10). The university environment with its attendant relative lack of parental supervision, exposure to wide spread substance use and peer-pressure offers great opportunity for young people, who are bridging from adolescence to adulthood, to test the limits of their new found freedom through sexual experimentation(11, 12).Such experimentation frequently involves engagement in risky sexual activities such as multiple partnerships, inconsistent use of condoms, and having sex under the influence of alcohol or drugs (13).AAU is found in the capital city of Ethiopia this makes the students be exposed to different bars and night clubs, Shisha and khat houses, commercial sex workers (CSWs). Despite this, there were little studies conducted in Addis Ababa University on the assessment of magnitude of STDs and little has been explored about the relationship between the magnitude of STI and risky sexual behaviours in the context of higher education institutions in Ethiopia.

1.3 Significance of the study

This study will have a significant input for the stakeholders and policy makers involved in sexual and reproductive health problems including HIV/AIDS to design appropriate strategy or way of evaluation of prevention programs of STDs including HIV and associated risky sexual behaviors in the university. It also encourages other researchers to carry out a more extensive research in this particular area.

2. LITERATURE REVIEW

2.1 Magnitude of STDs

Sexually transmitted Infections represent a large burden of disease worldwide with an annual incidence of about 333 million cases. A transversal study was conducted in Brazil between August of 2012 and July of 2013, in adolescents and young adults living in an urban settlement of the Midwest region of Brazil. Eligible subjects were those between the ages of 12-24 years, living in the settlement for at least 12 months. All eligible candidates were invited to participate in the study. Of all of the participants, 102 (97.1%) responded to some signs and symptoms of STDs. Of these, 19.6% (95% CI: 13.1-28.4) and 4.9% (95% CI: 2.1-11.0) reported urethral/vaginal discharge and genital ulcers, respectively. Considering the presence of at least one of these conditions, the overall prevalence of signs and symptoms of STDs in settlers was 20.6% (95% CI: 13.9-29.4)(14).

A study done in Portugal in 2014 on Sexually Transmitted Diseases: Knowledge and Perceived Prevalence of Symptoms in University Students on a sample of 1018 participants indicated that 16.8% of the respondents have symptoms that maybe indicative of a possible STD. From the total sample, the symptoms most frequently reported were "penile or vaginal discharge" (5%), "pain or burning in the throat"(3.63%), "burning sensation while urinating" (2.95%) and "burning sensation in the genitals"(2.36%)(15).

The 2011 EDHS asked respondents who had ever had sex whether they had had a disease that they acquired through sexual contact in the past 12 months. They were also asked whether they had any genital discharge and whether they had experienced a genital sore or ulcer in the past 12 months. 1 percent, each, of Ethiopian women and men reported having had an STDs in the past 12 months. Three percent of women and 2 percent of men reported having had an abnormal genital discharge, and 1 percent each of women and men reported having had a genital sore or ulcer in the 12 months. (16). A cross sectional study held on prevalence and associated factors of sexually transmitted infections among students of Wolaita Sodo University, Southern Ethiopia in 2011 on a total sample size of 447 among total of 5817 regular students indicated that self-reported at least one STD related syndromes from study subjects during the 12 months was 19.5% ; among them 52.9% had Genital ulcer/sores(males), 43.5% had urethral discharge, 20.6% Scrotal swelling, 28.6%

had vaginal discharge, 65% had Genital ulcer/sores (females)and 25 % had Lower abdominal pain(8).

2.2 Socio- demographic characteristics of STDs

The total number of new cases in adults of the four STDs in 2008 was estimated to be 498.9 million.Males accounted for 266.1 million or 53% of the new cases(1).Most university regular students are youths (young adults), a group often characterized by increased interest in the opposite sex, highly concerned with physical and sexual attractiveness, and are frequently changing relationships. They are highly exposed to all sorts of problems which go much deeper into different and complex issues and situations. A study conducted on University students in Kampala, Uganda 70% were sexually active among the study participants as reflected by the responses to the age at first intercourse and the number of sexual partners in life. Male students had a lower average age at first sexual intercourse (mean 16.1 years) than females (mean 17.8 years). They were also proportionately more sexually active than females(17).

This cross-sectional study conducted among students of Jimma University located 350 kms southwest of Addis Ababa on risky sexual behavior and predisposing factors in 2009 used both quantitative and qualitative methods on a sample of 1263 students. Above a quarter, 267(26.9%) of respondents ever had sexual intercourse (32.5% of males and 12.7% of Females). Male respondents were about three times more likely to ever had sexual intercourse as compared to females (OR=3.31; 95%CI: 2.26, 4.86). The mean age at first sexual intercourse was 17.7±2.7 years (17.8±2.5 for males and 17.4±3.7 for females) similar among males and females (p=0.29). The median age at first sex was 18 years. Among those who ever had sexual intercourse, more than three-quarter, 121(75.6%) (79.0% males and 54.5% females) had their first sexual intercourse during their secondary school. Majority, 170(68.0%) of them had first sexual intercourse with boyfriend or girlfriend. Nearly half, 127 (48.1%) had their first sexual intercourse with individuals of the same age (50.9% for males and 30.6% for females) females were more likely to have first sex with individuals who were about five years or older(5).

2.3 Risky sexual behaviors

2.3.1 Multiple sexual partners

The United States has the highest rate of sexually transmitted diseases (STD's) compared to other countries. Research has demonstrated that sexual risky behaviour increases in adolescence and peaks in early adulthood. This behaviour leads to an increased number of sexual partners which in turn leads to an increase in STI's. (29)A study done in New York to examine college-aged students in 2014 on sexual risk taking behavior and their knowledge with total sample of 770 showed that 33.5% of respondents have had sexual intercourse with between two and five people; 15.5% between six and ten;9.5% between eleven and twenty; and 7.1% over twenty(18).

A retrospective study held on sexually transmitted infections and associated syndromes assisted in the primary health care in Northeast, Brazil analysed 5148 consultation forms and medical records of patients assisted in a primary health care who presented at least one genital syndrome from 1999 to 2008 was considered as dependent variables, the genital syndromes and serology for syphilis and HIV and as independent variables the socio-demographic and behavioural aspects. it showed that among the clients experiencing STD related symptoms, 12.4% reported having two or more sexual partners and among them 67.3% were men(19).

A study done in Asia on Predictors of STDs Among Asian and Pacific Islander Young Adults in 2007 on 1183 respondents showed that those who had more than one sexual partner were3 times more exposed to STDs which is2.52(1.27 – 4.48)(20)

Percentage of young women age 15-24 who had sexual intercourse with more than one sexual partner in the past 12 months, by background characteristics according to EDHS 2011 from the age 18 to 19 was 0.5% and from the age 20 to 24 was 0.6%andamong all young men age 15-24, the percentage who had sexual intercourse with more than one sexual partner in the past 12 months and, among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse for the ages from 18 to 19 was 0.7% and for the ages from 20 to 24 was 1.6 % (7).

A cross sectional study conducted on undergraduate students in Mizan-Tepi University in Ethiopia on 2015 on a total sample size of 965 indicated that among Students, 63.36% of the respondents had sex in the campus in the last 12 months and among them, 42.1% of

students reported to have multiple sexual partners. In this study females were found 2.2 times more likely at risk to have sex in the campus(21).

2.3.2 Condom non use

The most commonly reported STD's issues for college students in the US are human papilloma virus. (HPV), chlamydia, gonorrhoea, and genital herpes, trichomoniais and HIV. And the reasons behind these STDs are very low condom use among the students. An exploratory descriptive design study done in New York with the objective of examining college-aged students' sexual risk taking behavior and their knowledge level showed high incidence of no condom use which was approximately 50.9%(18).

According to a study conducted on students at 5 different campuses in the United States and Canada between November of 2004 and February of 2007, only 11 (1.8%) subjects who always used condoms recounted an STD in the past 6 months. However, thirty-one (9.3 %) usual condom users had STDs and 42 (5.9%). Subjects who used condoms half the time or less reported an STD. Students who always used condoms were significantly less likely to report an STD compared to less frequent users.(22)

A study done in Philadelphia with title of Prevalence, Correlates, and Sexually Transmitted Infection Risk Related to Coitus Interruptus Among African-American Adolescents showed that inconsistent condom users were 2(1.06 – 4.66) times likely to develop STDs than those who use condom inconsistently(23)

A descriptive cross sectional study done on Knowledge, attitude and practice about sexually transmitted diseases towards prevention of STDs among 400 non-medical students of Mekerere University in Uganda included undergraduate resident students registered as residents far the 1993/94 academic years were selected for the study. The percentage of condom use was 58% and 9% among sexually active males and females respectively and percentage of intercourse with a new partner without a condom use was 34% in males and 14% in females(17).

A cross sectional study conducted on the perception of HIV risk and factors associated with risk perception was done in University of Gondar in Northwest in Ethiopia among health science students between February and April, 2012. There were a total of 2,500 health science undergraduate students at UOG during the study period. The sample size was 384 students determined using single population proportion statistical formula. Among

the sexually experienced students, 60 (55%) males and 93(89.2%) females were reported inconsistence condom use in the last 6 months. The distribution of condom use in the last sexual intercourse varies between age groups as 25(62%) of those age ≤19 years, 55(39%) of those age 20-24, and 5(23.8%) of those age 25 years and older were used it(24).

2.3.3 Exchanging sex for money/gifts/ benefits

A cross-sectional descriptive survey was carried out among medical students on Knowledge and Attitudes of Students at a Caribbean Offshore medical school towards sexually transmitted infections and use of condoms in 2010. Qualitative data were collected from medical students in their preclinical years at the Spartan Medical School. In this study, 4% of the respondents admitted to sexual intercourse with commercial sex-workers(25).

According to EDHS 2011, 5 percent of men age 15-49 have paid for sexual intercourse at some point in their lives, and 1 percent did so in the past 12 months. Men age 40-49 (13 percent), those who were previously married (20 percent), and urban men (10 percent) were more likely than other men to have ever paid for sexual intercourse. Among regions this proportion ranges from 2 percent of men in Somali and Harari to 15 percent in Gambela. The proportion of men who ever paid for sex increases with increases in men's education and wealth. There is little variation by background characteristics in the percentage of men who paid for sex in the past12 months. Thirty percent of men who paid for sex in the past 12 months reported condom use at last paid sexual intercourse(7).

A Cross sectional quantitative study conducted in Bahirdar city which is the capital city of Amhara regional state with the aim of assessing the prevalence and correlates of exchanging sex for money (gifts) for HIV/AIDS infection among private college students enrolled all regular students attending their education in the day program of private colleges in 2011/12 academic year who were eligible for this study. The findings of this study indicated that 50.7% of the study respondents were sexually active and among them, the prevalence of exchanging sex for money (gift) was 27.8%.(26).

2.3.4 Casual Sexual partner

A cross sectional study conducted on Knowledge and Attitudes of Students at a Caribbean Offshore Medical School towards sexually transmitted infections and use of condoms in 2010 indicated that 21.5 % had sex with casual sex partners (25).

A study done in Wolayta Sodo University indicated that having sex with casual sexual friend/ sex for any benefit has a statistically significant association with risks of STDs and/or HIV infection. In line with its theoretical/clinical significance, those students who have had casual/benefit based sexual intercourse with their first sexual partner were about 4 times more likely to have risks for STDs and/or HIV infection when compared to those who have permanent sexual friend/spouse(8).

2.3.5 Sex with Commercial sex workers

A quantitative surveys design employed in north Gondar adheres to use descriptive survey research type for its purpose is describing risky sexual behaviors among adolescent students. The study shows that almost one-fourth of adolescent students had sexual experiences and 9.2 % of students had sex with CSWs and of these students, 30 % of them did not always use condom whenever they have sex with prostitutes. But most 70% students always used condom when they have sex with prostitute(10).

An institution based descriptive cross sectional study was conducted in Haramaya University in eastern Ethiopia on patterns of sexual risk behavior among undergraduate students. It enrolls students from all regions of the country and had around 14,000 in-campus students at the time of the study, March to April, 2010. The study showed that risky sexual behavior is common among the participants. Among the male students that ever had sex in the 12 months before the study period, a significant proportion (38%) had sexual intercourse with commercial sex workers without using a condom(27).

2.4 Predisposing factors

2.4.1 Pornography films (Exposure to sexual explicit media)

In China, sexual health and behaviors of young people have become a growing public concern. A self-reported questionnaire survey on youth sexual behaviors was conducted among 1,500 university students in 2011 at Hefei. There are nine comprehensive public universities in Hefei. Four universities were randomly selected from the nine universities. According to the study 57.4% (86.2% of males versus 15.6% females) students viewed pornography and among these 6% viewed daily(28).

A recent study in Cameroon on Prevalence and correlates of HIV-risky sexual behaviors among students attending the Medical and Social Welfare Center of the University of Maroua in 2011 demonstrated among emerging adults in college that more frequent viewing of

pornography is associated with a higher incidence of potentially risky sexual behaviour (hooking up) and a higher number of unique hook up partners via sexual scripts. The study has also shown that more frequent viewing of pornography is associated with having had more previous sexual partners of all types, more one occasion sexual partners ("one night stands"), and plans to have a higher number of sexual partners in the future. Pornography viewing was frequent (80.3 %) with a significant male predominance ($p < 0.0001$) according to the study done in Cameroon(29).

A cross-sectional study conducted in Bahir Dar University (BDU) in 2013 on total of 817 full time undergraduate students indicated that watching porn videos was noted in 534 (65.4%) of respondents. The highest proportion 421 (77.2%) was found in males. (5)And a study in MizanTepi university study on Risky Sexual Behaviour and Predisposing Factors to HIV/STI among Students showed, students that view Pornography film were 2.8 times more likely to have multiple sexual partners(21).

2.4.2Peer pressure

A comparative cross-sectional design triangulated with qualitative study was conducted on assessment of risky sexual behaviors and risk perception among youths in Western Ethiopia on the influences of family and peers. From the total respondents, 59.2% of in-school and 64.1%of out-of-school youths, of which almost three fourth,72.2% of in-school and 68.6% out-of-school youths were males and reported as they have had pressure from their peer groups to engage in sexual activities. Youths who had peer pressure to have sexual intercourse and those who had friends already engaged in sexual intercourse were more likely to have sexual experience (AOR = 1.96; 95% CI: 1.21, 3.04) and (AOR = 1.41; 95% CI:0.24, 0.91) respectively. And having pressure from peer to have sex was significantly associated with having multiple sexual partners (AOR = 2.82; 95% CI: 1.62, 2.49)(30).

2.4.3Substance use (alcohol and drug use)

Drug abuse has become increasingly common in China over the last 2 to 3 decades. According to a cross-sectional survey conducted in southwest China in 2007. 504 drug users were recruited mainly from detoxification centres. About one-third (34.3%) of participants reported recent risky drug use behaviour, which was defined as injecting drugs

in the past 3 months, and more than one-fifth (21.6%) reported recent risky sexual behaviour, or had multiple sexual partners(31).

A cross sectional hospital-based survey was conducted on prevalence and behavioural risk factors for STDs/HIV among attendees of the Ministry of Health hospitals in 2014 in Kingdom of Saudi Arabia between 2013 and 2014. The study showed that oral drug users were 5 times at risk of developing STDs than those who did not use drugs (31).

A cross sectional study designs of both qualitative and quantitative approaches was conducted in 5 randomly selected preparatory schools on Living with parents and risky sexual behaviours among preparatory school students in Jimma zone, South west Ethiopia. A total of 273 students were randomly selected and enrolled in the study. This study showed that alcohol users had sexual experience 4 times than those who do not drink(32).

Sexual intercourse when one or both partners are under the influence of alcohol is risky because the couple may not be fully aware of their actions, which may lead to failure to use a condom. All eligible women and men who have ever had sex were asked if they or their partner drank alcohol or chewed chat the last time they had sexual intercourse in the past 12 months according to EDHS 2011. And among the study subjects, 1 percent of women and 4 percent of men age 15-49 drank alcohol the last time that they had sex in the past 12 months. By comparison, 5 percent of women chewed chat the last time that they had sex during the past 12 months as did 17percent of men (30). A cross-sectional study was conducted among students of Jimma University in November 2009 using both quantitative and qualitative methods. The study was done on sample size of 1263 students. A pretested and structured self-administered questionnaire was used to collect the quantitative data. According to the study, Substance use was a significant predictor of risky sexual behaviour of students and current substance users were about three times more likely to ever have sexual intercourse as compared to non-users(27).

2.4.4 Knowledge about STDs

An institution based cross sectional study was conducted from May-June 2012 in Madawalabu University on risks for STDs/HIV infection on a total of 390 students. This study showed that 68 (42.5%) of the students among the sexually active ones were knowledgeable about STIs (38).

2.4.5 Religiosity

A study conducted on associations between religiosity and sexual and contraceptive behaviors on 2010 included 572 female adolescents aged 13 to 21, recruited via a hospital-based adolescent clinic and community-wide advertisements.Frequently attending religious services was significantly associated with sexual debut. Concerning the influence of religious beliefs on decisions about having sex, most (74.1%)had a religious affiliation and over half (52.8%) reported that their religious beliefs impact their decision to have sex reported that their religious beliefs affect them completely, while 47.2% reported no influence. Those who never had intercourse were more likely to report that their religious beliefs affected their decisions regarding sex. Multivariate analyses showed that, compared with those with low religiosity, those with high religiosity were less likely to have had sexual intercourse. (OR=0.23, 95% CI=0.14, 0.39). Among sexually active participants, those with high religiosity were less likely to have had an STD (OR=0.42, 95% CI=0.22, 0.81), or to have had multiple (≥4) lifetime partners (OR=0.38, 95% CI=0.21, 0.68) compared to those with low religiosity. (34).

Study done in Dessie Ethiopia revealed that, youth who didn't Pray/or go to church/mosque regularly/not at all were significantly associated with early sexual initiation than those who start sexual intercourse at older age(16).

2.4.6 Depression

A study conducted in USA on the intersection of violence, substance use, depression, and STDs by testing a Syndromic Pattern among patients attending in an Urban STD Clinic in 2010 showed that a count of the number of psychosocial problems (CSA, depression, binge drinking marijuana use, and partner violence. The syndromic indicator was marginally associated with a greater odd of being diagnosed with an STD, (Odds Ratio = 1.09; Confidence Interval 1.00 – 1.20)(35).

2.5 Conceptual frame work

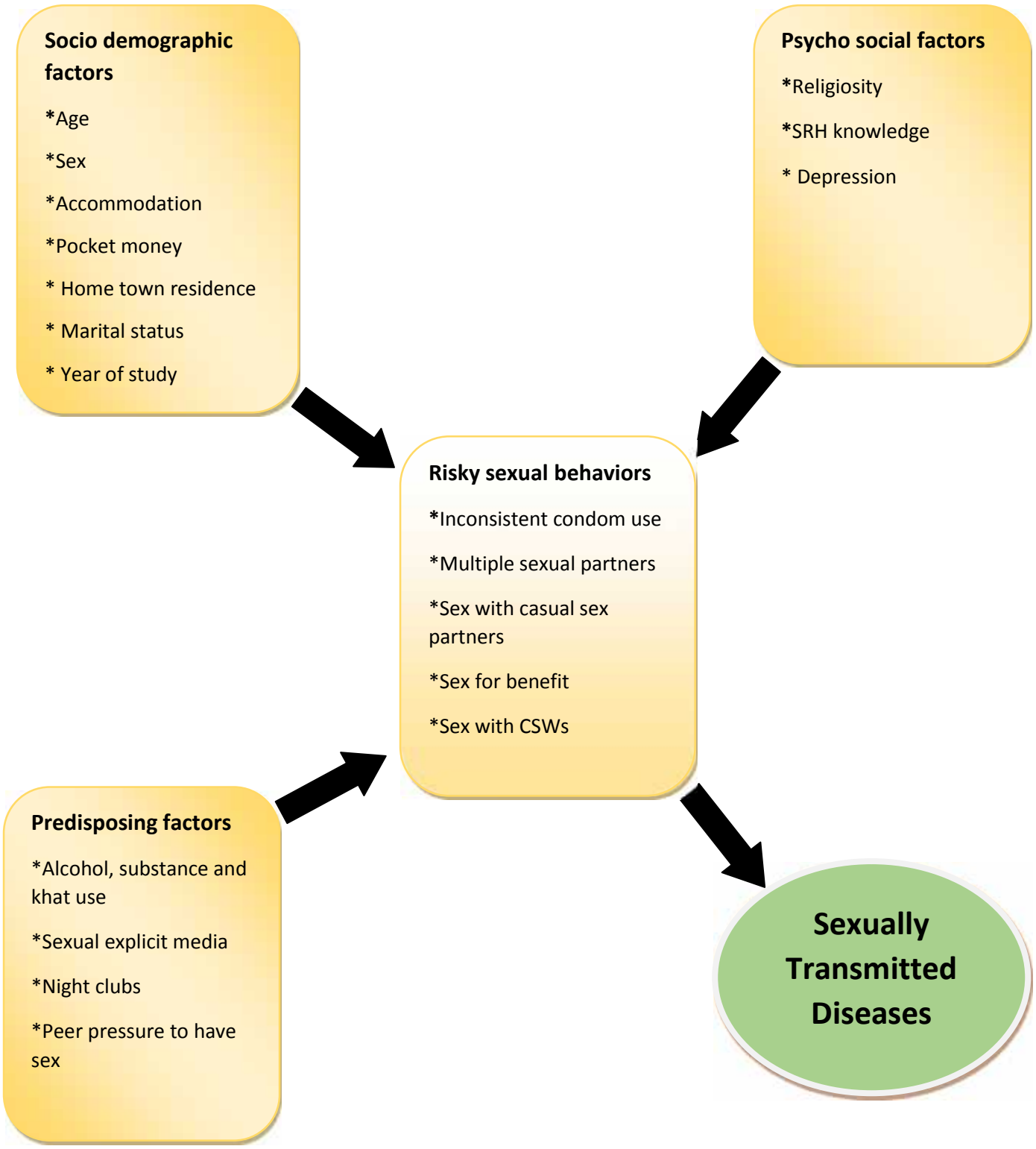


Figure 1: Conceptual framework for the study of the magnitude of risky sexual behaviors and its effect on sexually transmitted diseases among the study subjects, 2016

3. OBJECTIVE

3.1. General objective

To assess the magnitude of risky sexual behaviors and its effect on sexually transmitted diseases among undergraduate students of Addis Ababa University, Ethiopia 2016

3.2 Specific objectives

- To assess the magnitude of risky sexual behaviors among undergraduate students of Addis Ababa University in Ethiopia 2016
- To assess the magnitude of sexually transmitted diseases among undergraduate students of Addis Ababa University in Ethiopia 2016
- To assess effect of risky sexual behaviors on the magnitude of sexually transmitted diseases among undergraduate students of Addis Ababa university, Ethiopia 2016

4. METHODOLOGY

4.1 Study area and period

The study was conducted in all 10 colleges of Addis Ababa University from March 2016 to April 2016. Addis Ababa is the capital city of the Federal Democratic Republic of Ethiopia. Since its founding in 1950 as the country's first university, Addis Ababa University (AAU) has been committed to excellence and has contributed to overall development of the country. At present the university has 10 colleges, 4 institutes that run both teaching and research, and 6 research institutes that predominantly conduct research. Within these academic units, there are 55 departments, 12 centers, 12 schools and 2 teaching hospitals. There are total of 48,673 students and among them 20,263 are undergraduates and 1,733 PHD students. The colleges have the following undergraduate student numbers: college of social sciences (CoSS) 1209, college of humanities, language studies, journalism and communication(CoHLJC) 860, Ethiopian Institute of Architecture Building Construction and Development (Lideta) 2126, college of business and economics (CoBE) 2772, college of law and governance studies(CoLGS) 350, college of education and behavioral studies(CoEBS) 511, college of natural and computational studies(CoNCS) 2194, College of Veterinary Medicine and Agriculture 103, Skunder Boghossian college of performing and visual arts 625, college of health sciences(CoHS) 3023 and Addis Ababa institution of technology(AAIT) 6062. And the schools under the colleges are Alle school of fine arts and design, school of allied health sciences, school of commerce, school of earth and planetary sciences, school of information science, school of journalism and communications, school of medicine, school of pharmacy, school of public health, school of social work, Yared school of music and Yoftahe Nigussie school of theatrical arts. (AAU main campus registrar 2016)

4.2. Study design

This study used cross sectional study.

4.4. Source Population

All AAU Undergraduate Students studying in all 10 colleges of Addis Ababa University

4.5. Study population

AAU Undergraduate Students studying in 10 colleges of Addis Ababa University during the study period.

Exclusion criteria: Post-graduate, extension, summer, advance standing, distance learning and masters 'students were excluded during data collectionand critically ill students were also excluded during data collection.

4.6. Sample size determination

Sample size was calculated for the three objectives as shown below.

For objective 1

Sample size calculation for objective 1 was calculated for each risky sexual behaviour as shown below.

Table 1 Sample size determination for risky sexual behaviors

Risky sexual behaviors	%of cases exposed	CI	Degree of precision	Calculated sample size by adding 10% non-response rate
Multiple sexual partners	52.6	95%	5	422
Inconsistent Condom use	25.4	95%	5	321
Casual sex partner	24.8	95%	5	316
Sex with CSW	13.9	95%	5	203
Sex after alcohol	28.3	95%	5	343

For objective 2

The sample size of this study was determined using a proportion to single population formula:

$n = (Z\frac{\alpha}{2})^2 \frac{P(1-p)}{d^2}$ Where $Z\frac{\alpha}{2} = 95\%$ level of confidence (1.96),

p= proportion of magnitude of Sexually transmitted infection syndromes with assumptions of: expected prevalence 19.5% of STI among Wolayta Sodo University students(8), confidence level of 95%, degree of precision 5%. The actual number of subjects enrolled in the sample were 266 with 10% none response rate.

Objective 3

Table 2 Sample size determination for the effect of risky sexual behaviors on STDs

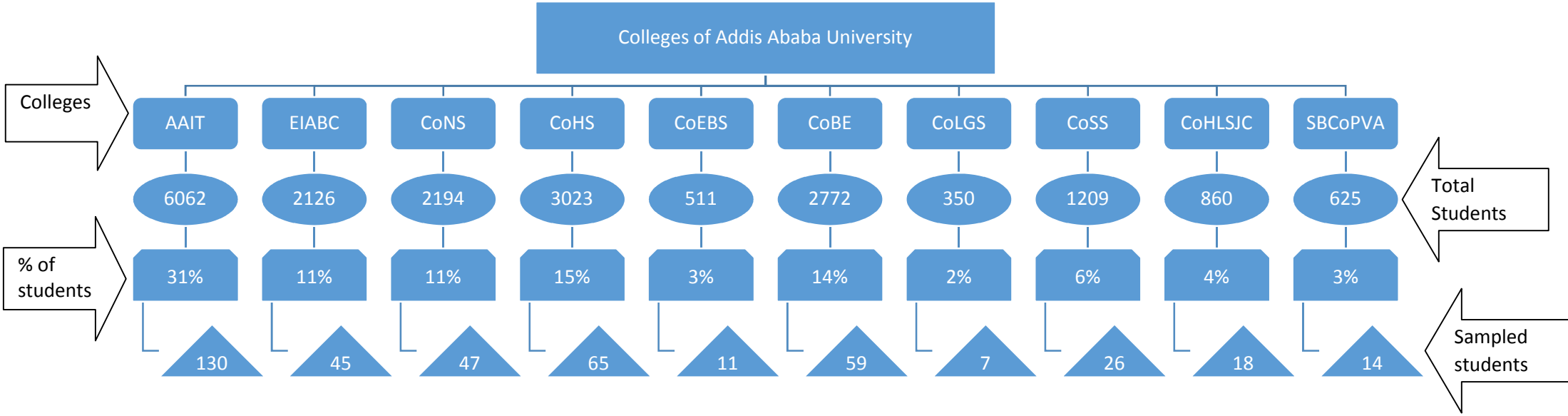
Risky sexual behaviours	% of cases exposed	% of controls exposed	Power	CI	Allocation ratio	Sample size for group 1	Sample size for group 2	Calculated sample size by adding 10% non-response rate
Multiple sexual partners	64	44.4	80%	95%	1:5	293	59	388
Inconsistent Condom use	55.6	35.8	80%	95%	1:5	300	60	396
Casual sex partner	35.9	10.9	80%	95%	1:5	164	33	217
Sex with CSW	23.4	3	80%	95%	1:5	68	14	91

In the above sample size determination Power 80%, confidence interval 95%, magnitude of STD among Wolaita Sodo University students 19.5% and allocation of 1:5 was used since the prevalence we used is 19.5%.

The sample size for the three objectives was compared and specific objective one which provides a large sample size was taken as sample size for this study. Therefore, the minimum sample size of students required undertaking the study is 422 considering a non-response rate of 10%.

4.6.1 Sampling procedure

Multistage sampling Method was used to select the study subjects in this study. The sample size of the study subjects was calculated by proportion to population size from each college of the University according to the data from the registrar as shown on the figure below. The schools in each college were selected by a lottery method. Departments were selected by a lottery method as well where one department were selected from each school. The sampling fraction was calculated for each batch according to the number of students and the sample provided. The first unit to be selected is taken at random from the first sampling fraction. Then the other students were selected accordingly using systemic sampling.


Colleges of Addis Ababa University
Colleges
AAIT
EIABC
CoNS
CoHS
CoEBS
CoBE
CoLGS
CoSS
CoHLSJC
SBCoPVA
6062
2126
2194
3023
511
2772
350
1209
860
625
Total Students
% of students
31%
11%
11%
15%
3%
14%
2%
6%
4%
3%
130
45
47
65
11
59
7
26
18
14
Sampled students

4.7 Data collection tool and procedures

The data from participants was collected using a structured facilitator guided self-administered questionnaire after orientation was given to the students about the questionnaire. The questionnaire has 6 parts. Socio demographic factors, knowledge assessment about STDs, sexual behaviours among the students, predisposing factors of STDs, self-reported STDs among students of AAU and assessment of depression. Ethiopian national guideline for the management of STIs using syndromic approach by Ministry of health and HIV/AIDS prevention and control office and EDHS 2011 were used to develop the first 5 parts of the questionnaire. A student who reported experiencing one or more of risky sexual behaviours such as having multiple sexual partners, sexual contact with causal sexual partner or commercial sex worker, or have experience of unprotected sex (inconsistent condom use), having sex for benefit/gift and sex after alcohol or substance use was reported as experiencing risky sexual behaviour. Males who reported experiencing genital ulcer or sores, burning sensation on urination, urethral discharge, or scrotal swelling were reported as having STDs. Female students with history of genital ulcer or sores, vaginal discharge, burning sensation on urination, or lower abdominal pain were reported as experiencing STDs (36).

Patient health questionnaire (PHQ-9) scoring and interpretation guideline was used for the last part of the questionnaire where the scores from 1-4 reported as minimal depression, 5-9 as mild depression, 10-14 as moderate depression and 15-19 as moderately severe depression (37).

4.8 Data quality management

To ensure the quality of the data the principal investigator conducted training for two days. The facilitators received training on the objectives, relevance of the study, data collection, confidentiality of information and informed consent.Students were also oriented about the importance of the study. Data Pre-test was conducted on 50 studentsbefore the actual data collection to see for the accuracy of responses and to estimate time needed for data collection after the questionnaires developed in English were translated to local language Amharic.Two facilitators who have BSC in nursing participated on the process.

4.9 Data processing and analysis

After the data collection is completed; the quantitative data was checked for completeness and consistencies, then entered and cleaned by the investigator using EPI Info version 3.5.3 statistical software and exported to SPSS 21 for analysis. Data was presented using frequency tables. Bivariate analysis was used to examine the association between outcome variable and each explanatory variable of the study while multivariate analyses was employed to identify independent predictors of sexually transmitted diseases and to control for all possible confounders using binary logistic regression. Odds ratio with 95% confidence interval was estimated to measure the strength of the association. Maximum care was taken as a result; codes capture the meaning of each respondent as accurate as possible**.**

4.10 Measurement variables

Dependent Variables

Sexually transmitted diseases

Independent variables

- Socio demographic characteristics
    - Age
    - Sex
    - Marital status of students
    - Year of study (I, II, III…)
    - Home town residence
    - Current accommodation
    - Pocket Money
- Sexual behaviors
    - condom use
    - Multiple sexual partners
    - Sex with casual sex partner
    - Sex with commercial sex workers
    - Sex after alcohol and substance use
    - Sex for benefit/gift
- Exposure factors
    - Peer influence on sexual matters
    - Substance use like: -drug, Alcohol, khat…
    - Exposure to sexual explicit media
    - Going to night clubs
- Psycho social factors
    - Religious influence
    - Depression
    - Knowledge on STDs

4.11 Operational definitions

Sexually transmitted diseases– Undergraduate students of AAU experiencing at least one of the STD symptoms such as genital ulcer or sores, burning sensation on urination, urethral discharge, or scrotal swelling in males and experiencing genital ulcer or sores, vaginal discharge, burning sensation on urination, or lower abdominal pain in females.

Risky sexual behaviors –Undergraduate students of AAU who experienced at least one of risky sexual behaviors such as having multiple sexual partners, sexual contact with causal sexual partner or commercial sex worker, or have experience of unprotected sex (inconsistent condom use), having sex for benefit/gift and sex after alcohol or substance use.

Inconsistent Condom use–Undergraduate students of AAU not using condom 100% of the time during every sex act.

4.12 Ethical consideration

Ethical approval for the research was obtained from Addis Ababa University, College of Health Sciences, and School of Public Health Research Ethics Committee. Official letters written by the university was given to Addis Ababa University administrative so that permission was secured at all levels. The respondents were informed the necessary explanation about the purpose and the procedure of the study and their right to participate or not to participate in the study. Confidentiality of the information was assured by omitting names of study participants from the questionnaire.

4.13Dissemination of results

Final result of this paper will be given to School of Public Health, Addis Ababa Health Bureau and City government HIV/AIDS prevention and control organization and also given for other governmental and non-governmental organizations responsible in reproductive Health Services. Publication in a reputable journal and presenting it in conferences are considered.

5. RESULT

5.1 Socio-demographic characteristics of the study subjects

A total of 422 undergraduate students were enrolled after fulfilling the inclusion criteria, out of which 30 students refused to participate and 4 students didn't fill the questionnaires fully which makes the non-response rate 8%. The most common reason for non-participation was time due to exams. Complete data were obtained from 388 undergraduate students. Majority of participants 245 (63 %) were males, and 143 (37 %) were females. The median of age of the students was 21 and one hundred ninety-two (49.4 %) of the study subjects were in the age group between 18 and 20 years. One hundred ninety (30.7 %) and fifty-nine (15.2%)of the study subjects were from Addis Ababa institute of technology and college of health science respectively. A large proportion 114(29 %) of the study subject were from study year one, ninety-four (24%), seventy-one (18.3%) and one hundred nine (28.3%) were from year two, three, four and above respectively. One hundred twenty-two (31.4%) of the students go to church/mosque every day while 50 (13%) of the students never had history of going. The current accommodation of 251 (64.7%) students was in the university dormitory. Nineteen (4.9%) of the students were married while seven (1.8%) of them were divorced or widowed. Home town residence of 74 (19.4%) were from rural areas. From the total sample size, the reported amount of pocket money from 0 to200birr were 83(21.4%), from 201to 500 birr were 137(137%), from 501 to 1000 birr were 120(30.9) and those who get more than 1000birr were 48(12.4%).

Table 3 Socio-demographic characteristics of the study subjects, 2016

VARIABLES	**No**(n=388)	**%**
Age		
18-20	192	49.4
21-23	160	41.3
≥24	36	9.3
Sex		
Male	245	63
Female	143	37
Batch		
Year I	114	29
Year II	94	24
Year III	71	18.3
Year IV and above	109	28.7
Home town		
Urban/ regional	102	26.3
Urban zonal	212	54.6
Rural	74	19.4
Current accommodation		
Dormitory	251	64.7
With family/relative	127	32.7
Rent	10	2.6
Pocket money		
0-200	83	21.4
201-500	137	35.3
501-1000	120	30.9
> 1000	48	12.4
Frequency of going to church /mosque?		
Daily	122	31.4
Once in a week	161	41.5
Once in a month	55	14.2
Never	50	12.9

5.1.1 Effect of socio-demographic characteristics on magnitude of risky sexual behaviors among the study subjects, 2016

The bivariate analysis indicated that the students who were 24 or more years old were 3.4 times likely to experience risky sexual behaviors than those who are 20 and below years old students. The students who live by renting house were 4.29 times and those who live in dormitories were2.12 times to experience risky sexual behaviors than those who live with family. Sex of the study subjects, amount of pocket money and frequency of going to religious places did not have significant associations with the magnitude of risky sexual behaviors.

Table 4 Effect of socio-demographic factors on magnitude the study subjects, 2016

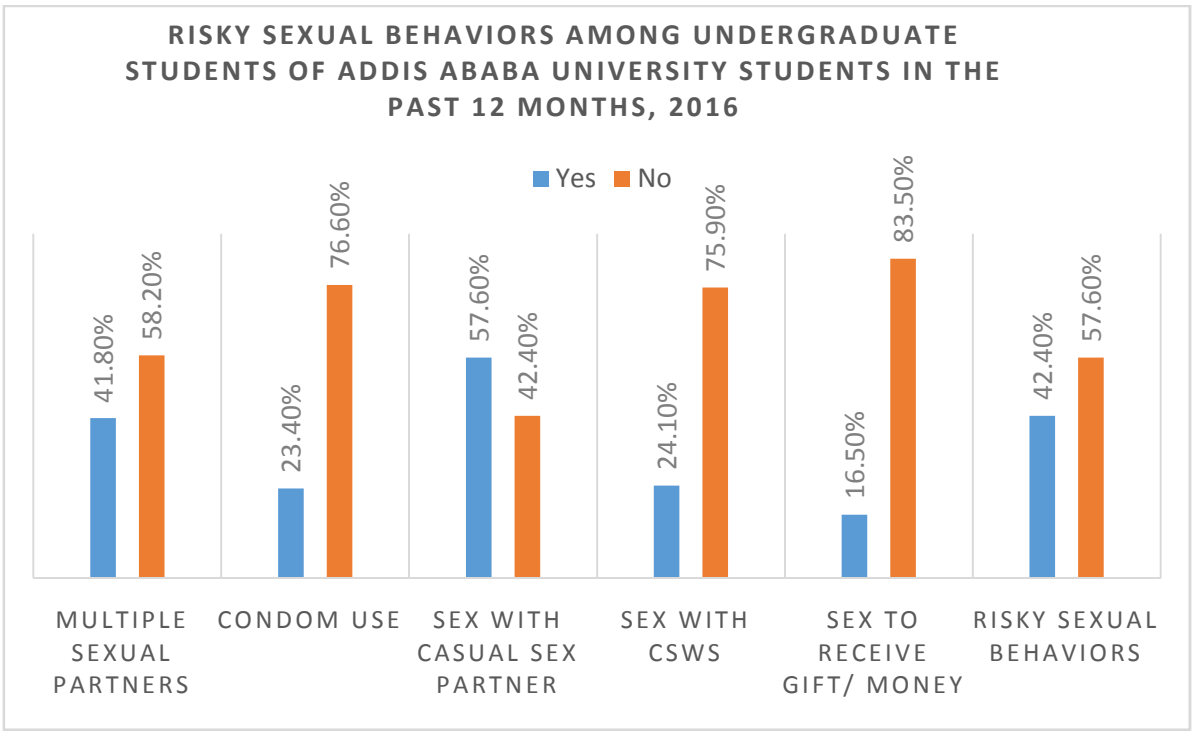
Variable (n=388)	**Risky sexual behaviors**		**Crude OR (95% CI)**
	Yes	No	
Age in years			
18-20	40	152	1.00
21-23	55	105	1.99(1.23,3.2) *
≥24	17	19	3.4(1.62,7.13) *
Sex			
Male	88	157	0.36(0.22, 0.59)
Female	24	119	1.00
Current accommodation			
Rent	5	5	4.29(1.15,16.01) *
Dormitory	83	168	2.12(1.27,3.55) *
With family/relative	24	103	1.00
Pocket Money			
0-200	26	57	1.00
201-500	47	90	1.15(0.64, 2.05)
501-1000	19	101	0.412(0.21, 0.81)
> 1000	20	28	1.57(0.75, 3.26)
How often do u go to church /mosque?			
Daily	28	94	1.00
Once in a week	36	125	1.145(0.64, 2.05)
Once in a month	19	36	0.41(0.21,0.81)
Never	29	21	1.57(0.79,3.28)

5.2 Knowledge about STDs among the study subjects

Among the respondents, 343 (88.4%) of the study subjects knew at least one symptom of STDs. The most mentioned way of STD transmission was unsafe sex by students of 314 (80.9%). Students who replied condom use for prevention of STDs were 230 (59%). Those who said STD can be prevented by washing or douching were 21 (5.4%). The study also showed that 341(87.9%) of the students knew at least one of the STDs where 275(70.9%), 283(72.9%), 30 (7.7%) of the students replied gonorrhea, cancroids and hepatitis B respectively. Two hundred one (51.8 %) study subjects knew at least one complication of untreated STD. This generally indicated that 54.9% of the study subjects were knowledgeable about STDs while the rest have poor knowledge based on the mean score of the respondents.

Table 5 STD Knowledge of undergraduate Addis Ababa University Students, Ethiopia, 2016

Variables	**No**(n=388)	**%**
Symptoms of STDs		
Genital discharge	93	24
Genital ulcer	135	34.8
Burning sensation on urination	4	1
Scrotal swelling	17	4.4
Lower abdominal pain	21	5.4
Don't know	45	11.6
Transmission of STDs		
Unprotected sex	314	80.9
Mother to child	16	4.1
Kissing	38	9.8
Blood transfusion	22	5.7
Clothes	20	5.2
Don't know	73	18.8
Prevention of STDs		
Condom	230	59.3
Washing/douching	21	5.4
Being faithful	103	26.5
Abstinence	144	37.1
Don't know	108	27.8
STDs		
Gonorrhea	275	70.9
Cancroids	283	72.9
Herpes	39	10
Hepatitis B	30	7.7
HIV	162	4.8
Syphilis	224	57.7


RISKY SEXUAL BEHAVIORS AMONG UNDERGRADUATE STUDENTS OF ADDIS ABABA UNIVERSITY STUDENTS IN THE PAST 12 MONTHS, 2016
Yes
No
41.80%
58.20%
23.40%
76.60%
57.60%
42.40%
24.10%
75.90%
16.50%
83.50%
42.40%
57.60%
MULTIPLE SEXUAL PARTNERS
CONDOM USE
SEX WITH CASUAL SEX PARTNER
SEX WITH CSWS
SEX TO RECEIVE GIFT/ MONEY
RISKY SEXUAL BEHAVIORS

5.4 Predisposing and psychosocial factors among the study subjects

The study indicated that among the total students157 (40.5%) of the students were exposed to peer pressures and 164 (42.3%) students had history of going to night clubs. Majority of the students had good knowledge about STDs (54.9%). According to the PHQ depression measurement used, Forty-seven (12.1%) students experienced moderate depression while 120 (30.9%) had mild depression in the past 12 months.

Table 6 predisposing and psychosocial factors among undergraduate students of Addis Ababa University, 2016

Predisposing and psychosocial factors (n=388)	**Number**	**%**
Peer Pressure	157	40.5
Going to night clubs	164	42.3
Watching sexual explicit media	177	45.6
Knowledge		
Poor	175	45.1
Good	213	54.9
Depression		
Minimal	221	57.0
Mild	120	30.9
Moderate	47	12.1
Sex after alcohol/substance	50	12.9

5.5 Effect of predisposing and psychosocial factors on the magnitude of risky sexual behaviors among the study subjects

The study indicated that among the students who had peer pressure to have sex 68.8% had risky sexual behaviors. And they were 5.39 times (95%CI: 3.35, 8.68) at risk of experiencing risky sexual behaviors than those who did not have pressures from their peers. Among the students who went to nightclubs 55.5% of the students had risky sexual behaviors and they were 12.05 times (95%CI: 6.99,20.78) likely to experience risky sexual behaviors than those who never go there. The study subjects who watched sexual explicit medias were 5.9 times (95%CI: 3.59, 9.68) likely to be exposed to risky sexual behaviors than those who do not have such history. Having sexual intercourse after alcohol and having knowledge about STDs didn't have effect on the magnitude of risky sexual behaviors.

Table 7 Effect of predisposing and psychosocial factors on the magnitude of risky sexual behaviors on undergraduate students of Addis Ababa University, 2016

Variables	**Risky sexual behaviors**		**Crude OR (95% CI)**
	Yes	No	
Peer Pressure			
Yes	77	35	5.39 (3.35,8.68) *
No	35	196	1.00
Going to night clubs			
Yes	91	73	12.05(6.99, 20.78) *
No	21	203	1.00
Watching sexual explicit media			
Yes	84	93	5.9(3.59, 9.68) *
No	28	183	1.00
Sexual intercourse after alcohol			
Yes	24	26	1.39(0.7, 2.7)
No	43	65	1.00
Knowledge			
Good	58	155	1.00
Poor	54	121	1.19(0.77, 1.85)
Depression			
Minimal	34	187	1.00
Mild	52	48	4.2(2.5, 7.03) *
Moderate	26	21	6.8(3.45, 13.46) *

5.6 Effect of associated factors on the magnitude of risky sexual behaviors on the study subjects, 2016

The multivariate analysis indicated that the students who were 24 years and above were 3.39 times likely to have risky sexual behaviors. Regarding accommodation, those who lived in dormitories were 2.78 and times and those who live in rented house were 3 times likely to have risky sexual behaviors. The students who had peer pressures to have sex were 2.27 times likely to experience risky sexual behaviors. The study subjects who went to night clubs were 8.2 times to have risky sexual behaviors. The students who watched sexual explicit media and had moderate depression were 1.88 and 5.48 times likely to have risky sexual behaviors respectively.

Table9 Multivariate analysis of associated factors on the magnitude of risky sexual behaviors on undergraduate students of Addis Ababa University, 2016

Variables	**Crude OR (95% CI)**	**Adjusted OR (95% CI)**
Age in years (n=388)		
18-20	1.00	1.00
21-23	1.99(1.23,3.2)	2.044 (1.09, 3.82) *
≥24	3.4(1.62,7.13)	3.39(1.22, 9.41) *
Current accommodation (n=388)		
Rent	4.29(1.15,16.01)	2.78 (0.54, 14.38) *
Dormitory	2.12(1.27,3.55)	3.01 (1.52, 5.96) *
With family/relative	1.00	1.00
Peer Pressure		
Yes	5.39 (3.35, 8.68)	2.27 (1.25, 4.14) *
No	1.00	1.00
Going to night clubs		
Yes	12.05(6.99,20.78)	8.21(4.34, 15.5) *
No	1.00	1.00
Watching sexual explicit media		
Yes	5.9(3.59, 9.68)	1.88(1.0, 3.54) *
No	1.00	1.00
Depression		
Minimal	1.00	1.00
Mild	4.2(2.5,7.03)	3.28 (1.7, 6.29) *
Moderate	6.8(3.45,13.46)	5.48 (2.3, 12.81) *

5.7 Self-reported STD syndromes in the past 12 months among the study subjects

The number of students who were ever diagnosed with STD in health facility were 28(7.2%) and among them 20(5.2%) were diagnosed in the past 12 months. Within the last 12 months seventy 18% (95%CI; 14.2, 22.2).respondents reported experiencing STD syndromes. Out of these 41(58.6%)were males and 29(41.4%)were females.

Table 8 Self-reported STD syndromes in the past 12 months among undergraduate students of Addis Ababa University, 2016

Variables	No	%
Self-reported STDs (n=70)		
Males	41	58.6
Females	29	41.4
Symptoms in Males (n=41)		
Urethral discharge	22	53.6
Genital ulcer or sore	14	34
Burning sensation/pain on urination	30	73
Scrotal swelling	5	12
Symptoms in Females (n=29)		
Vaginal discharge	15	57.1
Genital ulcer or sore	6	20.7
Burning sensation/pain on urination	14	48.3
Lower abdominal pain	30	103
At least one self-reported syndromes (n= 388)		
Yes	70	18
No	318	82

5.8Effect of Risky sexual behaviors on the magnitude of STDs among the study subjects, 2016

According to the bivariate analysis having multiple sexual partners is strongly associated with STD symptom reports. Among those who reported having multiple sexual partners, 37.5% had experienced STD symptoms. Twenty-three (34.3%) of the students who had casual sexual partners reported experiencing at least one STD symptom in the past 12 months. The study subjects who had sex for gift/benefit were 2.54 times likely to develop STD symptoms (CI95%; 1.67, 4.67) than those who did not have such experience.

Table 9 Effect of Risky sexual behaviors on the magnitude of STDs among undergraduate students of Addis Ababa University in the last 12 months, 2016

Variables	**Self-reported STDs**		**Crude OR (95% CI)**
	Yes	No	
Number of sexual partners (n=158)			
Single	19	47	1.00
Multiple	48	44	2.69(1.38,5.28) *
Ever used condom (n=158)			
Never	13	24	1,12(0.4,2.7)
Sometimes	37	32	2.38(1.23,5) *
Always	17	25	1.00
Ever had casual sexual partner (n=158)			
Yes	44	47	1.79(0.93,3.4)
No	23	44	1.00
Ever had sex with CSWs (n=158)			
Yes	20	18	1.73(0.53,3.59)
No	47	73	
Ever had sex for benefit/gift (n=158)			
Yes	16	10	2.54(1.67,4.67) *
No	51	81	1.00

*Significant

5.9Effects of associated risky sexual behaviors on the magnitude of sexually transmitted diseases among the study subjects

Among the total students who had risky sexual behaviors 78.6% of the study subjects reported experiencing STD symptoms in the last 12 months. The Multivariate analysis indicated that having multiple sexual partners and inconsistent condom use had significant associations with self-reported STD symptoms. The students who had multiple sexual partners were 2.56 times likely to experience STD symptoms [AOR; 95%CI; 1.09, 4.68] and the students who use condoms inconsistently were 2.45 times likely to develop STD symptoms [AOR; 95%CI; 1.13,5.32].

Table 10Multivariate analysis of effects of associated risky sexual behaviors on the magnitude of sexually transmitted diseases in the last 12 months on undergraduate students of Addis Ababa University, 2016

Variables	**Crude OR (95% CI)**	**Adjusted OR(95%CI)**
Number of sexual partners (n=158)		
Single	1.00	1.00
Multiple	2.69(1.38,5.28)	2.56(1.09,4.68) *
Ever used condom (n=158)		
Never	1,12(0.4,2.7)	1.46(0.57,3.74)
Sometimes	2.38(1.23,5)	2.45(1.13,5.32) *
Always	1.00	1.00
Ever had sex for benefit/gift (n=158)		
Yes	2.54(1.67,4.67)	1.95(0.78, 4.9)
No	1.00	

*Significant

5. DISCUSSION

This study investigated the magnitude of risky sexual behaviors and its effect on sexually transmitted diseases among undergraduate students of Addis Ababa University. The effect of socio-demographic characteristics, psycho social factors and predisposing factors on the risky sexual behaviors was also investigated. From the total sample 180(46.4%) students had sexual experience in their life time and among these, 158 (87.8%) had sex in the past 12 months where 112(70.9%) are males and 46(29.1%) are females.

According to this study,70(18%) of undergraduate students of Addis Ababa University reported experiencing possible sexually transmitted disease syndromes in the past 12 months where a study conducted in Wolaita Sodo University reported prevalence of 19.5%.A study conducted in Portugal university students indicated self-reported STD symptoms to be 16.8%. The results might be similar because the studies are conducted in universities and the environment in the campuses might be similar.

The Risky sexual behaviors that had strong associations with the magnitude of STDs were having multiple sexual partners and inconsistent use of condom. The study subjects who had multiple sexual partners were 2.56 times likely to have STD symptoms and those who were using condom inconsistently were 2.45 likely to develop STD symptoms according to the multivariate analysis.

In this study, among the total students, 30.4% had multiple sexual partners and among these students 52% reported STD symptoms with odds of developing the symptoms 2.7 times than those who had single sexual partner. A study conducted in Wolayta Sodo University indicated that 26% of the students who had multiple sexual partners reported STD symptoms (20). A study conducted in New York on college aged students investigated that those who had multiple sexual partners were 65.6% (18) and a study done in Asia on Predictors of STDs among Asian and Pacific Islander on Young Adults showed that those who had more than one sexual partner were 3 times more exposed to STDs which is similar with the study conducted in AAU (20).

This study also showed that eighty-four (53.6%) of sexually active students were using condoms inconsistently and a Study conducted in Gondar University in Ethiopia indicated that there were 40% inconsistent condom users (24). The reason that students at AAU have greater

number of inconsistent condom users is because Addis Ababa is the capital city of the country, students have relatively better access to alcohol and substances which might make them forget to use condoms. A study conducted in 5 colleges of United States and Canada indicated that 42 (5.9%) subjects who used condoms half the time or less reported experiencing STD symptoms. Students who always used condoms were significantly less likely to report an STI compared to less frequent users (22).

The odds of having STDs by the students who were having sex for money or benefit most of the time was 2.54 times than those who do not have sex for money. A cross sectional study conducted in Philadelphia indicated that the odds of adolescents who had sex for money to have STDs was6.36 (4.52 – 8.93) than those who do not have such history (33).

Ninety-one (57.6%) of AAU university students among sexually active students had casual sexual partners in this study. A study conducted in Caribbean Offshore medical school showed that 25.1 %students had casual sexual partners (25).The difference might be because the students in the Caribbean have better pocket money and they prefer to go CSWs and the monthly pocket money of AAU students is minimal so they face money problems to go to CSWs they prefer to have casual sexual partners than CSWs.

This study indicated that among the socio-demographic characteristics, age and accommodation affected the likelihood of the study subjects to have risky sexual behaviors in the past 12 months. The students who were 24 and above years olds were 3.39 times likely to have risky sexual behaviors. This might be due to the reason that the students get used to the campus environment so they might not be afraid of having sexual experiences and they might have longer exposure to peer pressure to have risky sexual behaviors.

Among the 251 students who lived in the university dormitories, 83 (33%) of them had risky sexual behaviors and are 3 times likely to have risky sexual behaviors than those who live with family. This is because young adults want to try new things and being away from family and living in dormitory gives them freedom to do whatever they want and makes it easier for them to be exposed to be influenced and they can stay late out night times and are prone to risky sexual behaviors.

Among the students who go to night dancing clubs 55.5% reported having risky sexual behaviors which is 8.21 times than those who do not go to night clubs. When students go to

night clubs, they might be prone to drink alcohol, use substances and also prone to have sex with CSWs or other casual partners then they might forget to use condom then be exposed to STDs.

This study indicated that 54.9% of the students had good knowledge about STDs and the students who had risky sexual behaviors among the students with poor knowledge were 54 (30.8%). Institutional based study conducted in Medawalabu university indicated that 68 (42.5%) of the students were knowledgeable about STDs (38).

The odds of the AAU students with moderate depression to report having risky sexual behaviors was 8.21 times than those who had minimal or no depression. A study held in USA indicated that those who experienced depression and other psychological problems were 1.09 (1.00 – 1.20) times likely to develop STDs (35). Those who are in USA have better and accessible entertainment stations and they have trend of getting treatments when developing depression than those who are in developing countries but in AAU there are no or minimal recreational facilities in the campuses so they might go to places that could expose them to STDs.

6. STRENGTH AND LIMITATION OF THE STUDY

Strength of the study

1. The facilitators were qualified nurses and well experienced with data collection related to STD cases.
2. Its self-administered questionnaire so the students can feel free and answer accordingly with minimal denial response.
3. All undergraduate students were included with appropriate sample size procedure and analysis methods.

Limitation of the study

1. Some Symptoms caused by other diseases might be considered as STDs and normal symptoms like genital discharge might be considered as STD Symptom by the students.
2. STDs are usually asymptomatic in females than males so those who have STDs but who do not show the symptoms would not report having STDs.
3. The numbers may be underestimates because respondents may be embarrassed or ashamed to report having STD symptoms.

7. CONCLUSION

The following conclusions can be made by taking the limitations of this study in to account:

1. There is high burden of STDs among undergraduate students of AAU.
2. Magnitude of STDs was affected by having multiple sexual partners and inconsistent condom use among undergraduate students of AAU.
3. Students experienced risky sexual behaviors such as having multiple sexual partners, inconstant condom use, having sex for benefit/gift, having casual sexual partners and having sex with commercial sex workers.
4. Predisposing factors such as peer pressure, watching pornography medias, going to nightclubs and having depression affected burden of risky sexual behaviors.

8. RECOMMENDATION

1. Governmental and non-governmental organizations working on SRH services should work onbetter access to information, education and communication on SRH issues to the University students and peer to peer communicationinterventions should be conducted on these issues.
2. The University should provide free attractive entertainment facilities or services for the studentsto prevent the students from going to places that exposes them to risky sexual behaviors.
3. The University should avail improved facilities for sexual and reproductive health services.
4. The university should provide condom promotion in all colleges of the university to bring the culture of consistent condom use by the students.

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10. ANNEX

Annex-1 Questionnaire for survey instruments

Information sheet

Dear respondent, my name is …….working as data collector in thisstudy to assessrisky sexual behaviors and its effect on the burden of sexually transmitted diseases on Addis Ababa University students .Dear respondents here are lists of questioners with differentsections ,which are designed for research work to be conducted in partial fulfillment of master Degree in public health by MahletBelete from Addis Ababa university public Healthdepartment .I am going to ask you some very personal questions that some people find itdifficult to answer . Your responses are completely confidential. Your name will not be written on this questioner, and will never be used in connection with any of the information youprovide. you don't have to answer any question that you do not want to answer, and you can end to participate in the study any time you want. However, your honest response to these questions will help us to better understand the risky sexual behaviors and its effect on the burden of sexually transmitted diseases on Addis Ababa University students. We would greatly appreciate your help in responding to these questions. It will takeabout 30 minutes and there is no benefit or payment that you get for your participation in this Study. But your honest &genuine response to each question will play a major role in theattainment of the objective of the study. There for we thank you in advance and greatlyappreciate your help. Do you understand all that has been said so far?If you have questions regarding this study or would like to be informed of the results after its completion, please do not hesitate to contact;

Contact Address of the Investigator: Address: MahletBelete

Cell phone: +251 (0) 923 14 15 57 or +251 (0)941 46 98 31

E-mail: mahletbelet@gmail.com

Consent form

I the selected participant heard the information in the study information sheet & understood the purpose, benefit and what is required from me if I take part in the study. I understood that all the information regarding me like name and all answers given by me must not be transferred to a third party. I also understand that I can decide whether or not to take part in the study or even withdraw from the study at any time. So I am willing to participate in the study.

Participant signature_____

Date_____

Data collector's name_____

Data collector's Signature_____

Date_____

May I continue the Data collection?

Yes_____

No _____

Questionnaire

completed_____

Partially completed_____

Participant refused_____

Other (Specify)_____

Cheeked by Supervisor

Supervisor name_____

Supervisor Signature_____

Date_____

English questionnaire form

Questioners prepared to study risky sexual behaviors and its effect on the burden of sexually transmitted diseases on undergraduate studentsof Addis Ababa University, Ethiopia, 2016

Encircle your appropriate answer

Section I Socio demographic data

No	Questions	Coding category
101	Age	Age in Year_____
102	Sex	1. Male 2. Female
103	Faculty	----------
104	Study year	----------
105	Do you attend church /Mosque? If yes, how often?	1. Daily 2. More than twice in a week 3. Once a week 4. Once in two weeks 5. Once a month 6. Once in 6 months up to one year 7. Never
106	Marital status	1. Single 2. Married 3. Divorced/Widowed/Separated
107	How much is your monthly pocket money?	_____Birr
108	Home town residence	1. Urban 2. Rural
109	Current accommodation	1. University dormitory 2. Living with parents/ relatives 3. Rent

Section II Sexual and reproductive health knowledge

110	Apart from AIDS, have you heard about other infections that can be transmitted through sexual contact?	1. Yes 2. No 3. Don't know
111	What are the signs and symptoms of sexually transmitted diseases in a man/woman?(multiple answers are acceptable)	1. ---------- 2. ---------- 3. ---------- 4. ---------- 5. ---------- 6. ----------
112	What are routes of STDs transmission? (multiple answers are acceptable)	1. ---------- 2. ---------- 3. ---------- 4. ---------- 5. ---------- 6. ----------
113	How can we prevent sexually transmitted diseases? (multiple answers are acceptable)	1. ---------- 2. ---------- 3. ---------- 4. ---------- 5. ----------
114	Which diseases are STDs? (multiple answers are acceptable)	1. TBC 2. Gonorreha 3. Chalmydia 4. Hep B 5. Hep C 6. HIV 7. Herpes 8. Don´t know 9. Others
115	What are complications of STDs if untreated? (multiple answers are acceptable)	1. Premature birth 2. Still birth 3. Ectopic pregnancy 4. Miscarriage 5. Cervix cancer 6. Don't know

Section III Symptoms of Sexually transmitted diseases

116	Have you ever been diagnosed of sexually transmitted diseases?	1. Yes 2. No
117	Have you been diagnosed of sexually transmitted disease during the past 12 months?	1. Yes 2. No

Have you ever experienced the following symptoms in the past 12 months?

		Yes	No
118	headache		
128	Discharge from penis/ vagina		
120	Abdominal cramp		
121	Genital ulcer or sores		
122	Swelling of the feet		
123	Scrotal swelling		
124	Lower abdominal pain (for females)		
125	Pain during urination		

Section IV Sexual behaviors of study subjects

126	Age of first sexual experience	----------years old
127	Ever had sexual history during the last 12 months?	1. Yes 2. No
128	Ever had more than one sexual partner in your life?	1. Yes 2. No
129	How many sexual partners did you have in the last 12 months?	1. None 2. 0ne 3. Two 4. Three 5. Four 6. Five and more

130	Have you ever used condom in your life?	1. Yes 2. No
131	How often did you use condom in the last 12 months?	1. Never 2. Sometimes 3. Most of the time 4. Always
132	Have you ever had sex with casual sex partner in the last 12 months?	1. Never 2. Sometimes 3. Most of the time 4. Always
133	Have you ever had sex with commercial sex workers in the last 12 months?	1. Never 2. Sometimes 3. Most of the time 4. Always
134	Have you ever had sex to receive gift or money in the last 12 months?	1. Never 2. Sometimes 3. Most of the time 4. Always
135	Have you ever had sex after drinking alcohol, chewing khat or using substance in the last 12 months?	1. Never 2. Sometimes 3. Most of the time 4. Always
136	How often did you use condom when you had sex after using alcohol/drug /chat	1. Never 2. Sometimes 3. Most of the time 4. Always

Section V Exposing factors

137	Have you ever encountered pressurefrom your friends to have sexualintercourse?	1. Yes 2. No
138	Do you go to night clubs?	1. Sometimes 2. Most of the time 3. Always 4. Never

139	Do you watch sexual explicit media (pornography films, magazines...)	1. Daily 2. weekly 3. monthly- 4. every 3 months 5. never
140	Do you drink alcohol?	1. Sometimes 2. Most of the time 3. Always 4. Never
141	Do u use substance or chew khat?	1. Sometimes 2. Most of the time 3. Always 4. Never

Have you ever experienced the following symptoms in the past 12 months?

		Sometimes	Most of the time	Always	Never
142	Not being happy of what you do				
143	Loss of interest, moodiness or hopelessness				
144	Sleeping too little or too much				
145	Tiredness or lack of energy				
146	Loss of appetite or eating too much				
147	Bad feeling about yourself, Carelessness, loss of interest in family				
148	Have you ever had trouble concentrating (for example not giving attention for you and your family)?				
149	Have you ever been too slow or too fast than usual while moving or talking till being noticeable by other people?				
150	Have you ever had thoughts of harming yourself?				

የጥናቱመግለጫ

የመጠይቅቁጥር----------ጤናይስጥልኝስሜ----------ይባላል::

በጥናቱውስጥበመረጃ መሰብሰብ ሂደት ላይ አስተባባሪ ሆኜ ነውየምሠራው::የጥናቱርዕስአስኒወሲባዊባህሪያትናየአባላዘርበሽታስርጭትላይያላቸውተጽእኖበአዲስአበባዩኒቨርሲቲሲሆን ጥናቱምበማህሌትበለጠበአ/አዩንቨርስቲየህ/ሰብጤናክፍልየድህረምረቃፕሮግራምማሟያየሚሆንነው::በዚህመጠይቅውስጥ የተለያዩንዑስክፍሎችያሉትጥያቄዎችየተካተቱሲሆንየጥናቱዓላማበአዲስአበባዩኒቨርሲቲመደበኛተማሪዎችያለውንየአባላዘር በሽታስርጭትናከዚህጋርየተገናኘአስኒወሲባዊባህሪለማጥናትሲሆንጥናቱከአባላዘርበሽታዎችጋርኤችአይቪንጨምሮየተያያዙ የወጣቶችጤናችግሮችንለመፍታትበተለይምከአስኒወሲባዊባህሪጋርበተያያዘጉዳይየሚመጡየጤናችግሮችየሚያደርሱትንህ መምእንዲሁምስርጭትለመቀነስይረዳል::ተሳትፎአችሁበፈቃደኝነትላይየተመሠረትነው::በመጠይቁውስጥበጣምሚስጢራ ዊየሆኑእናግላዊየሆኑጉዳዬችተካተዋል::ያላችሁንተሞክሮብታካፍሉንየጠቀስናቸውንናሌሎችንምየወጣቶችችግርለመፍታት እጅግበጣምጠቃሚነው::ጥያቄውንለመሙላትሃያደቂቃያህልሊወስድይችላል::

ጥናቱንአስመልክቶእርስዎየሚሰጡትማንኛውምመረጃበሚስጢርየሚጠበቅበመሆኑበማንኛውምመንገድለሶስተኛአካልአሳል ፎአይሰጥምወይምአይጋለጥም::

ማንነትዎእንዳይታወቅምስምዎበጥያቄውወረቀትላይአይመዘገብምበጥናቱላይበመሳተፍዎየተለየጥቅምአይኖርምነገርግንበጥ ናቱላይበመሳተፍዎለሚጠየቁትጥያቄበዕውቀትላይየተመሠረተናተገቢየሆነመረጃመስጠትዎበወጣቶችዙሪያያለውንየአባላዘር በሽታጋርተያይዞላሉችግሮችላይተገቢውንአገልግሎትበመስጠትከፍተኛለውጥያስገኛሉ::በመጨረሻምለሚሰጡትለየትኛው ምአይነትምላሽአመሰግናለሁ::

መጠየቅ(ማነጋገር)የምትፈልጉትነገርካለ-ማህሌትበለጠ (የጥናቱባለቤት)

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ፈቃድመጠየቂያቅጽ

እኔተሳታፊየሆንኩከላይየተገለጹትንበሙሉሰምቼአለሁ፤አላማውንናጥቅሙንምተረድቼአለሁ፤ሚስጥርእንደሚጠበቅናለሶስ ተኛአካልእንደማይተላለፍተገንዝቤአለሁ፤ስለዚህበጥናቱለመሳተፍፈቃደኛነኝ ::

አዎእሳተፋለሁፊርማ.... ቀን.....

ፈቃደኛአይደለሁምፊርማ.... ቀን.....

አስስባባሪ ስም---------- ፊርማ---------- ቀን.....

ትክክለኛውንአማራጭመልስ/ሺ

ክፍል 1.አጠቃላይመረጃ

ተ.ቁ	ጥያቄ	አማራጭ
101	እድሜ	---------- አመት
102	ጾታ	1. ወንድ 2. ሴት
103	ፋከልቲ	----------
104	ሥንተኛአመትተማሪነህ/ሽ?	----------ኛአመትተማሪ
105	ቤተክርስቲያን / መስጊድትሄዳለህ/ ጂአለወይምትከታተላለህ /ዪአለሽ?	1. በየቀኑ 2. በሳምንትአንድጊዜ 7. ሌላካለይጠቀስ 3. በ2 ሣምንትአንድጊዜ 4. በወርአንድጊዜ 5. በ 6 ወርአንድጊዜ 6. አልሄድም
106	የጋብቻሁኔታ	1. ያላገባ/ች 2. ያገባ/ች 3. የተፋታ/ች/ የሞተበት/ባት/ የተለያየ/ች
107	በወርምንያህልብርታገኛለህ?	_____ብር
108	የመጣህበት /ሽበትአካባቢከየትነው?	1. ከተማ- የክልል/ የዞን 2. ገጠር
109	በአሁኑጊዜየትእየኖርክ/ሽነው?	1. የዩኒቨርሲቲውዶርም 3. ከቤተሰብ/ ዘመድጋር 4. ኪራይ

ክፍል2. ስለስነ-ጾታናስነ-ተዋልዶያላቸውንእውቀትለመረዳትየቀረቡጥያቄዎች

110	የአባላዘርበሽታምልክቶችምንምንናቸው?	1. ---------- 2. ---------- 3. ---------- 4. ---------- 5. ---------- 6. ----------
111	የአባላዘርበሽታመተላለፍያመንገዶችምንድንናቸው?	1. ---------- 2. ---------- 3. ---------- 4. ---------- 5. ---------- 6. ----------
112	የአባላዘርበሽታንእንዴትመከላከልይቻላል?	1. ---------- 2. ---------- 3. ---------- 4. ---------- 5. ---------- 6. ----------
113	የበግብረስጋግኙነትየሚተላለፉትየትኞቹናቸው?(ከአንድበላይመልስስሊኖረውይችላል)	1. ቲቢ 2. ጨብ3.ቂጥኝ 4. ሄፓታይተስቢ 5. ሄፓታይተስሲ 6. ኤችአየቪ 7. ኸርፐስ 8.ከርክር 9. አላውቅም
114	ሳይታከምየቆየየአባላዘርበሽታምንሊያስከትልይችላል?	1. የህጻንያለጊዜመወለድ 2. ሞቶየተወለደህጻን

	(ከአንድበላይመልስሊኖረውይችላል)	3. ከማህጸንውጪየሆነእርግዝና 4. ማስወረድ 5. የማህጸንበርካንሰር 6. አላውቅም

ክፍል 3.የአባላዘርበሽታህክምናንበተመለከተየቀረቡጥያቄዎች

		አዎ	አላውቅም
115	በህይወትዘመንህ/ሽየአባላዘርበሽታታክመህ/ሽታውቃለህ/ሽ?		
116	ባለፉት 12 ወራትውስጥየአባላዘርበሽታህክምናአግኝተህ/ሽታውቃለህ/ሽ?		

ክፍል 4.ስለስነ-ተዋልዶጣህሪ

117	ለመጀመሪያጊዜወሲብየፈጸምክበት/ሽበትእድሜስንትነበር?	1. --------- አመት 2. አላውቅም
118	ባለፉት 12 ወራትውስጥወሲብፈጽመህ/ሽታውቃለህ/ሽ?	1. አዎ 2. አላውቅም
119	በህይወትዘመንህ/ሽከአንድበላይየወሲብአጋርኖሮህ/ሽያውቃል?	1. አዎ 2. አላውቅም
120	ባለፉት 12 ወራትውስጥስንትየወሲብአጋርነበረህ/ሽ?	1. ምንምኖሮኝአያውቅም 2. አንድ 3. ሁለት 4. ሶስት 5. አራት 6. አምስትናከዛበላይ

		አላውቅም	አንዳንድግዜ	ብዙጊዜ	ሁልጊዜ
121	ኮንዶምተጠቅመውያውቃሉ?				
122	ባለፉት 12 ወራትውስጥኮንዶምተጠቅመውያውቃሉ?				
123	ባለፉት 12 ወራትውስጥጊዜያዊየወሲብአጋርኖሮህ/ሽያውቃል?				
124	ባለፉት 12 ወራትውስጥከሴተኛአዳሪጋርወሲብፈትመውያውቃሉ?				
125	ባለፉት 12 ወራትውስጥለጥቅምወሲብፈትመህ/ሽታውቃለህ/ሽ?				
126	ባለፉት 12 ወራትውስጥአልኮል/ጫት/አደንዛዥእጽተጠቅመህ/ሽወሲብፈትመህ/ሽታውቃለህ/ሽ?				
127	አልኮል/ጫት/አደንዛዥእጽተጠቅመህ/ሽወሲብፈትመህ/ሽኮንዶምተጠቅመህ/ሽታውቃለህ/ሽ?				

ክፍል 5 .አጋላጭሁኔታዎች

		በፍጹም	አንዳንድግዜ	ብዙጊዜ	ሁልጊዜ
128	ወሲብእንድትፈጽም/ሚየጓደኛግፊትገጥሞሽያውቃል?				
129	ባለፉት 12 ወራትውስጥአልኮሆልጠጥተህነበር?				
130	ባለፉት 12 ወራትውስጥጫትወይምአደንዛዥእጽወስደህነበር?				
131	የምሽትጭፈራቤትታዘወትራለህ/ሽ?				
132	ወሲባዊይዘትያላቸውንሚዲያዎችታያለህ/ሽ (ፊለሞች፣መጽሃፍት፣ጋዜጣ…)				

133	ባለፉት 12 ወራትከሚከተሉትውስጥየትኛውኢጋጥሞትነበር?	አዎ	በፍጹም
133.1	ራስምታት		
133.2	ከብልትየሚወጣፈሳሽ		
133.3	ሳልእናማስነጠስ		
133.4	በብልትአካባቢየሚታይቁስለት		
133.5	የእግርማበጥ		
133.6	የዘርፍሬአካባቢእብጠትመኖር (ለወንዶች)		
133.7	ከእምብርትበታችየሆድህመም(ለሴቶች)		
133.8	ሲሸኑየህመም/ማቃጠልስሜት		

ክፍል 6.ባለፉት 12 ወራትከታችየተዘረዘሩትገጠመኞችምንያህልጊዜገጥሞል/ሻል ?

		ለጥቂትወቅት	ለብዙጊዜ	ሁልጊዜ	ምንምጊዜ
134	ከሚሰሩትስራየሚያገኙትደስታቀንሶነበር?				
135	ስሜትየማጣት፣መደበርወይምተስፋየመቁረጥስሜትነበር?				
136	እንቅልፍየመተኛትችግር፣ተኝቶመቆየትወይምብዙየመተኛትችግርነበረብዎ?				
137	የድካምመሰማትወይምየአቅምማነስችግርነበር?				
138	የምግብፍላጎትአለመኖርወይምብዙየመመገብችግርነበር?				
139	ለራስዎመጥፎስሜትመሰማት፣የግዴለሽነትስሜት፣ራስዎንመጣልወይምቤተሰብዎንየመተውሁኔታነበር?				
140	ለነገሮችየማተኮርችግር (ለምሳሌለራስዎ፣ለቤተሰብዎ) ምንይሆናሉብሎያለማሰብትኩረትያለመስጠትችግርነበረብዎ?				
141	በሚንቀሳቀሱበትወይምበሚያወሩበትጊዜመጣምቀስማለት (ማለትምሌሎችሰዎችእስኪያውቁድረስ) ወይምበተቃራኒውረፍትማጣት፣ከሌላጊዜውበበለጠወደዚህወደዛማለትነበር?				
142	መሞትይሻላልወይምራሴንበሆነመንገድብንዳይሻላልብለውያሳሰቡዎትጊዜነበር?				

APPROVAL SHEET

College of Health Sciences School of Public Health

Burden risky sexual behaviour and its effect on sexually transmitted diseases on undergraduate students of Addis Ababa University in Ethiopia, 2016

Submitted by:

_____ _____ _____

Name of Student Signature Date

Approved by:

1. _____ _____ _____

   Name of Advisor Signature Date

2. _____ _____ _____

   Name of Co- Advisor Signature Date

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical Conduct of the research project and for provision of required progress reports as Per terms and conditions of the Research Publications Office in effect at the time of grant is forwarded as the result of this application.

Name of the student: _____

Date._____ Signature _____

Approval of the primary Advisor

Name of the primary advisor:_____

Date._____ Signature _____