ADDIS ABABA UNIVERSITY

FACULTY OF MEDICINE

SCHOOL OF PUBLIC HEALTH

ASSESSMENT OF SEXUAL RISK PERCEPTION AND THE DETERMINANTS OF PROTECTIVE BEHAVIOR OF STIS/HIV/AIDS AMONG FEMALE COLLEGE STUDENTS, IN DEBERE-MARKOS TOWN, AMHARA REGIONAL STATE, ETHIOPIA, 2010.

BY:

DANIEL ALEMU MELESSE (BSc)

Advisor:

MULUGETA BETRE (MD, MPH)

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY, MEDICAL FACULTY, SCOOL OF PUBLIC HEALTH IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS OF PUBLIC HEALTH

JUNE, 2010

ADDIS ABABA,

ETHIOPIA

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

ASSESSMENT OF SEXUAL RISK PERCEPTION AND THE DETERMINANTS OF PROTECTIVE BEHAVIOR OF STIS/HIV/AIDS AMONG FEMALE COLLEGE STUDENTS, IN DEBERE-MARKOS TOWN, AMHARA REGIONAL STATE, ETHIOPIA.

By

DANIEL ALEMU MELESSE (BSc)

School of Public Health

Faculty of Medicine, Addis Ababa University

Approved by the Examining Board

_________________________ _______________________________

Chairman, Department Graduate Committee Signature

Dr Mulugeta Betre (MD, MPH) _______________________________

Advisor Signature

_________________________ _______________________________

Examiner Signature

Acronyms

AAU	Addis Ababa University
ABC	Abstinence, Faithfulness, Consistent Condom use
AIDS	Acquired Immunodeficiency Syndrome
BSS II	Behavioral Surveillance Survey Second Round
CI	Confidence Interval
EDHS	Ethiopian Demographic and Health Survey
EpiInfo	A Series of programs for use by public health professionals in managing data base and other statistics applications
ETB	Ethiopian Birr
FGD	Focus Group Discussion
FMOH	Federal Ministry of Health
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
IDSR	Integrated Disease Surveillance and Response
ISY	In-School Youth
KABP	Knowledge, Attitude, Behavior and Practice
MD	Medical Doctor
MF	Medical Factuality
MSM	Men who Have Sex with Men
MPH	Master of Public Health
NGO	Non-Governmental Organization
OR	Odds Ratio
PLWHAs	People Living with HIV/AIDS
SRS	Simple Random Sampling
SPH	School of Public Health
SPSS	Statistical Package for Social Science
STDs	Sexually Transmitted Diseases
STIs	Sexually Transmitted Infections
UNAIDS	Joint United Nations Programs on HIV/ AIDS
VCT	Voluntary Counseling and Testing for HIV
WHO	World Health Organization

Acknowledgements

First and for most I would like to express my deepest gratitude and sincere appreciation to my advisors Dr Mulugeta Betre for his invaluable guide and unreserved help throughout this study.
I would like to acknowledge Addis Ababa University, School of Public Health for all the support during my stay in the School as well as for the financial support. My special appreciation goes to Dr Getenet Metekie and Dr Alemayhu Mekonnen for their constrictive comment on the work of this thesis.

I would like to thank the staffs of East Gojjam Zone Health Department, I wish to gratefully acknowledge the study team, all study participants, deans and staff's of Abay Tena College, New-Man, Washera Broad View, College of Tropical Medicine, Kea-Med, Debre Markos Technique and Vocational and Debre Markos Teachers Training Colleges for their co-operation, willingness and all rounded support during the data collection.

I am very grateful to all my friends especially Molla Abeyu, Seid Ousman, Mohamed Dawed, Haile Abebe, Gezahegn Tamir and Kelemu Dessie, they should be acknowledged for their contribution to this study in one way or another.

Last but not least, I would like to take this opportunity to express my deepest gratitude and respect to the Almighty God, my wife w/ro Senait Zelalem and my family, for their lion's share for the success of my life. I dedicate this thesis work for W/ro Yeshumenesh Birhanu and Erse Deber Alemu Melesse.

Table of Content

Contents

Pages

Acknowledgements III

Table of Content....IV

List of tables V

List of Figures VI

Lists of Annexes....VI

Abstract VII

1. Introduction 1
2. Literature Review 4
3. Objective 9
4. Methods and Materials 10

    4.1.Study area and period 10

    4.1. Study Design.... 10

    4.2. Study Population 10

    4.5.Sample size determination 10

    4.6.Sampling procedure 13

    4.7.Data collection procedure 13

5. Result 18
6. Discussion 36
8. Conclusions 42
9. Recommendation 43

References

Annexes

List of tables

		Pages
Table -1	Socio-demographic characteristics of Female College Students in Debre Markos Town, Ethiopia, 2010…………………………………	19
Table - 2	Knowledge and belief of Female College Students towards HIV/AIDS/STIs in Debre Markos Town, Ethiopia, 2010……………	21
Table - 3	Association of Comprehensive knowledge with other selected variables among female college Students in Debre-Markos town, Ethiopia, 2010…………………………………………………………	22
Table - 4	Female College Students Attitude towards HIV/AIDS and STIs, in Debre Markos Town, Ethiopia 2010………………………………….	24
Table - 5	Sexual and risky behavior and practice of condom use among Female College Students towards HIV/AIDS/STIs in Debre Markos Town, Ethiopia, 2010………………………………………..	26
Table - 6	Comparison of Consistent Condom Use by selected variables among Female college students in Debre-Markos Town, Ethiopia, 2010…………………………………………………………	29
Table - 7	Self Risk Perception of Female College Students towards HIV/AIDS/STIs in Debre Markos Town, Ethiopia, 2010…………..	30
Table - 8	Comparisons of Risk Perceptions and other variables of HIV infection by logistic regression among female College Students in Debre-Markos Town, Ethiopia, 2010……………………………….	32

List of Figures

Figure -1 Schematic Representation of sampling procedure ………………………...8

Figure-2 Conceptual frame work on HIV/STIs and AIDS risk perceptions and their protective behavior among female college students …………………….. 12

Lists of Annexes

Annex- I	Information /Consent Sheet	47
Annex- II	Sample for English Questionnaire	49
Annex- III	Sample for Amharic questionnaire	56
Annex-IV	Guideline for FGDs	65

Abstract

Background: Young people between the ages of 15 and 24 years are both the most threatened globally, accounting for half of all new cases and the greatest hope for curving the epidemic of HIV/AIDS. Young populations, especially never-married sexually active females have the greatest risk of HIV infection. They may not be aware of their vulnerability to it or of how best to prevent it. There is a great gap between knowledge and practice which needs detailed research that address determinants.

Objective: To assess female college student's knowledge, sexual behavior, risk perception and determinants of protective behavior of STIs/HIV/AIDS in Debre Markos town.

Methods: A descriptive cross-sectional institution based survey was conducted from February to April, 2010 and was complimented by qualitative study.

Result: 340 students interviewed and four focus group discussions were conducted. Students' comprehensive knowledge was (15.5%). Only 7.4% perceived risky sexual behavior that can exposed them for HIV. Among the study subjects 25% were sexually active. Sixty percent of the respondents had used condoms consistently during their last sexual exercise. Ten percent of never married respondents had experienced sexual intercourse. 75.4% did not used condoms during their last sexual contact. Of all participants 61% of the study group had ever tested for HIV in the last 12-months. Among those respondents who had sexual intercourse in the last one year 6.8% had symptom of STI as foul smelling genital discharge and/or genital ulcer. Thirteen percent of respondents had ever forced by their sexual partners and 5% of sexually active students had more than one sexual partner.

Conclusion: Though awareness of HIV/AIDS/STIs among female college students was relatively high, they had low comprehensive knowledge that capable of them to prevent infections of STIs and HIV. Regarding risky sexual behavior and self risk perception, most of the study subjects had involved in risky sexual behaviors but the great majority of them considered themselves having low or no risk for HIV infection. Protective behavior such as utilization of condom use was found to be inadequate but self recognition of HIV status in the last 12 months was relatively higher.

Recommendation: Continuous IEC/BCC intervention programs paying attention on the misconceptions and protective behaviors against HIV/STIs; creating a positive youth friendly environment to address sensitive gender-related issues and access protective means like condom provision within the institution and the community; Emphasis should be given to ensure access

for young people to sex education, HIV/STIs, including information about contraceptives. Students have to be further promoted to HIV counseling and testing services.
Key words: Sexual behavior; Risk perceptions; protective behavior; HIV, AIDS and STIs.

1. Introduction

World Health Organization defines "adolescents" as individuals in the 10-19 years age group and "youth" as the 15-24 year age group. These two overlapping age groups are combined in the group "young people" covering the age range 10-24 years which account for 45% of all new HIV infections in adults. College students are also found mostly within this age group. Nearly half of the world's population is under 25years (1).

Women are increasingly affected by acquired immuno deficiency syndrome (AIDS) epidemic and ill reproductive health. Globally in 2008/2009, the prevalence of HIV/AIDS in young women was 0.6. In Sub Saharan Africa as a whole, women account for approximately 60% of HIV infection(1,28). Ethiopia has a generalized HIV epidemic and an estimated 1.04 million people are living with HIV/AIDS. The point prevalence is estimated at 2.1(2.6 in women & 1.7 in men). Awareness of HIV is high but only 30% of men and 16% of women have comprehensive knowledge on the transmission of HIV,2005 (4, 5).

The millennium development goal (MDG) aims to halt the spread of HIV/AIDS by 2015 (2).In generalized epidemics, particularly in sub-Saharan Africa assessment of risk behaviors in the wider community, should consider different population groups than core groups that usually considered at high risk(3).

1.1. Statements of the problem

The diversity of the HIV epidemic seems to be related to sexual behavior patterns. In many countries, significant proportion of young people starts sexual activity before the age of 15 years. Young populations, especially never-married sexually active females have the greatest risk of HIV infection.

Risk is defined as one or more behaviors that might lead to a negative health outcome and the probability or likelihood that a person may become infected with HIV. Individual perceived ability to carry out a behavior is believed to be necessary to prevent infection like HIV/STIs. There are controversies on HIV/AIDS prevention methods like "ABC" approach. The role of correct and consistent condom use in controlling HIV/STIs has been questioned by proponents because they gives priority to "A" (abstinence) and "B" (being faithful) over "C" (Condoms) (6).

STIs and HIV are common among young females. Economic and living conditions of females will make them susceptible to HIV/STIs. This can be true due to different reasons like they may become sexually active earlier with young adults, inability to convince males to use condoms, forced sexual relation, poverty, displacement, biological vulnerability, harmful traditional practices and so on(17) How do concerned they are about the prevention of the pandemic and what factors do affect the desire and/or the ability to reduce their risk behaviors for HIV/STIs and other reproductive ill health concerns? What prevention programs must be implemented in order to ensure the spread is contained at current level and to avert new infections? (7).

With an ever expansion and the opportunity of institution-based interaction among young people, it may be highly likely that the aforementioned question become worth of systematic investigation.

1.2. Rationale and significance of the proposed research

The emergence of the global pandemic of AIDS has necessitated increased understanding of sexual behavior of human population. Young people have insufficient information and understanding about HIV/AIDS. They may not be aware of their vulnerability to it or of how best to prevent it. They also often lack access to the means to protect themselves (6).

The young people are at the risk of counteracting HIV/STIs despite the presence of high awareness on the transmission of HIV and STIs. Because, once they become sexually active, they often have several, short-term sexual relationships and do not constantly use condom. There is also a great gap between knowledge and practice which needs detailed research that address determinants. There is a need for looking separately between individual and contextual factors that increase young people's likelihood of engaging in high-risk behavior (2). Knowing factors and how they operate, will not only help to target those who are at risk for negative health outcomes, but will also help to design more effective programs (15, 16).

Certain behaviors do create, increase, and responsible for some risks like unprotected sex with a partner whose HIV status is unknown, multiple sexual partnerships involving unprotected sex and injecting drug use (1, 15, 16).

Females are less informed about HIV and prevention methods. Women Vulnerability to HIV in sub Saharan Africa stems not only from there greater physiological susceptibility to heterosexual transmission, but also, gender-based societal pressure, economical dependency, and other vulnerability constrains of prevention action such as condom use they often confront. Females

become sexually active earlier with young adults, inability to convince males to use condoms, forced sexual relation, poverty, displacement, biological vulnerability, harmful traditional practices (8).The risk of becoming infected with HIV continuing to disproportionate impact on women and girls(28).

Female young college students come from different urban and rural areas. They are living away from their families, outside the college campus in rented houses in group or individually.

The aim of this study was to assess the socio demographic, current sexual risk behavior, knowledge, and beliefs about preventive and protective mechanisms and to examine the relationships among these findings. Thus, in order to generate further information on perceived risks and barriers of protective factors against HIV/STIs, this cross-sectional study was conducted among female college students. It is envisaged that the findings of this study will complement and thus guide evidence-based programming, research and service strategies on HIV/AIDS and STIs control and prevention among higher learning youth within the Ethiopian context in particular.

2. Literature Review

2.1. The general situation of STIs/ HIV/AIDS in Young people

Ethiopia has an estimated population of 79.2 million. It is expected that 955,792 are PLWHAs, and 573,476 are females. The adult HIV incidence rate is estimated to be 0.27% and above125, 000 cases are expected to be newly infected by the virus and females comprise more than 50%. The annual outpatient cases report compiled at national level from the IDSR showed that 10,004 females had genital ulcer, whereas it was 6018 cases in males (1, 5, 9).

Even though there is little information on the incidence and prevalence of STIs in Ethiopia, the problem of STIs is generally believed to be similar to that of other developing countries. Promoting healthy practices during adolescence and efforts that better protect this age group from risks will ensure longer, more productive lives(10, 11).

The early age of onset and high frequency of sexual activity among young people suggest that they engage in a high level of unprotected sexual activity. The current epidemiology of STI and HIV suggest that they are diseases of young people (12,26).Condom use at last higher-risk sex among men varied from a low of 24% in Mozambique to a high of 71.2% in Zimbabwe, while among women, it varied from 19.7% in Rwanda to 80% in Botswana. In general, women were less likely to use condoms during higher-risk sex than men. Globally, there are 340 million new cases of curable STIs annually (1, 13).

2.2. Knowledge and belief towards HIV/STI and AIDS

In Ethiopia, level of knowledge on prevention methods in women and men, was found to be higher in urban and rural areas 96% and 97% respectively. However, there is less awareness in reduction of the transmission by limiting sex to one uninfected partner who has no other partners in both sex (63 and 79%, in women and men respectively). 3 % of women and 9% of men have had higher-risk sexual intercourse, only one in four women (24%) and half the men (52%) reported condom use the last time they had sexual intercourse (EDHS) (11). Knowledge alone is often insufficient to produce long-lasting behavioral change, an accurate understanding of the risks of HIV and how to prevent exposure is a prerequisite to risk reduction.

Survey data from 64 countries indicate that 40% of males and 38% of females aged 15–24years had accurate and comprehensive knowledge about HIV/AIDS. To avert the transmission, ensuring

comprehensive knowledge on HIV/AIDS in 95% of young people is required. It is still well below the Declaration of Commitment's goal ensuring by 2010. The great concern, moreover, is the discrepancy between the high level of knowledge about HIV/AIDS and the low level of condom use among young people (1).

A behavioral surveillance survey (BSS II) conducted in Ethiopia among in-school youth (ISY), nearly all the ISY interviewed (99.8%) had heard about HIV or the disease AIDS. A substantial majority (95%) had heard of STIs and the proportion was similar among males (95.3%) and females (94.8%). Nationally comprehensive knowledge on HIV/AIDS in ISY was 22.6% (27.3and17.8%) in male & female respectively (14).

2.3. Risk perception HIV/STI:

A study conducted in Nekemte, showed that about 21.5% of adolescents had had premarital sexual intercourse. A considerable amount of school adolescents had started pre marital sexual activity that might predispose them to different sexual and reproductive health problems (18). The study done in Addis Ababa universities showed that there was low level (43.5%) of knowledge and practice of emergency contraceptives among female university students. Only 4.9 % had used emergency contraceptive methods. This showed that students may use other methods or had not developed protective behaviors against HIV/STIs and unwanted pregnancies (19).

Vulnerability results from a range of factors outside the control of the individual. These factors may include: lack of knowledge and skills required to protect oneself and others; factors pertaining to the quality and coverage of services (e.g. inaccessibility of service due to distance, cost or other factors); and societal factors such as human rights violations, or social and cultural norms (1).

According to BSS II, ISY that had ever had sex were asked whether they had genital discharge, ulcers or sores during the previous 12 months. Genital discharge was reported by 4.6% of ISY. Females (10.6%) were more affected by genital discharge than males (2.5%). Genital ulcers or sores were reported by 2.1% of ISY (1.9%) of females). Genital ulcers or sores were the most frequently mentioned STI symptoms (42.2% in women and 50% in men) followed by burning pain during urination (29.9% in women and 39% in men). Adolescents typically engage in short-lived relationships that make them more likely than adults to have sex with multiple partners, thereby placing them at greater risk for contracting HIV/STDs. Most young people participate in

transactional sex; exchange for money, food, gifts, alcohol anything else for sex, including getting a job or to keep from getting fired (14, 20, 21).

In Kenya ,young women between 15 and 19 years are three times more likely to be infected than their male counterpart while 20-24 years-old women are 5.5 times more likely living with HIV than men in the their age cohort. In Tanzania female in age group 15-24 are four times more likely than men to be living with HIV and in South Africa it is three times women are infected than men (28).

2.4. Protective behavior and prevention of HIV/AIDS/STIs

"Protective" behavior may be defined appropriate if they discourage one or more behaviors that might lead to negative health outcomes (e.g., having sex with many partners) or encourage behaviors that might prevent a negative health outcome (e.g., abstinence, using condoms and contraception) (15). Correct and consistent use of condoms can greatly reduce the risk of STIs and is considered to be an important indicator of HIV/AIDS-related behaviors. A large majority of youth 98.7%; (99.5% of males and 97.9% of females) had heard about male condoms (14).

According to BSS II, youth that had ever had sex, 43.1% (45.2% of males and 37.3% of females) had used a condom. Amongst those who had ever had sex, more males than females (44.5% vs. 30%) were sexually active at or before the age of 15 years (14).

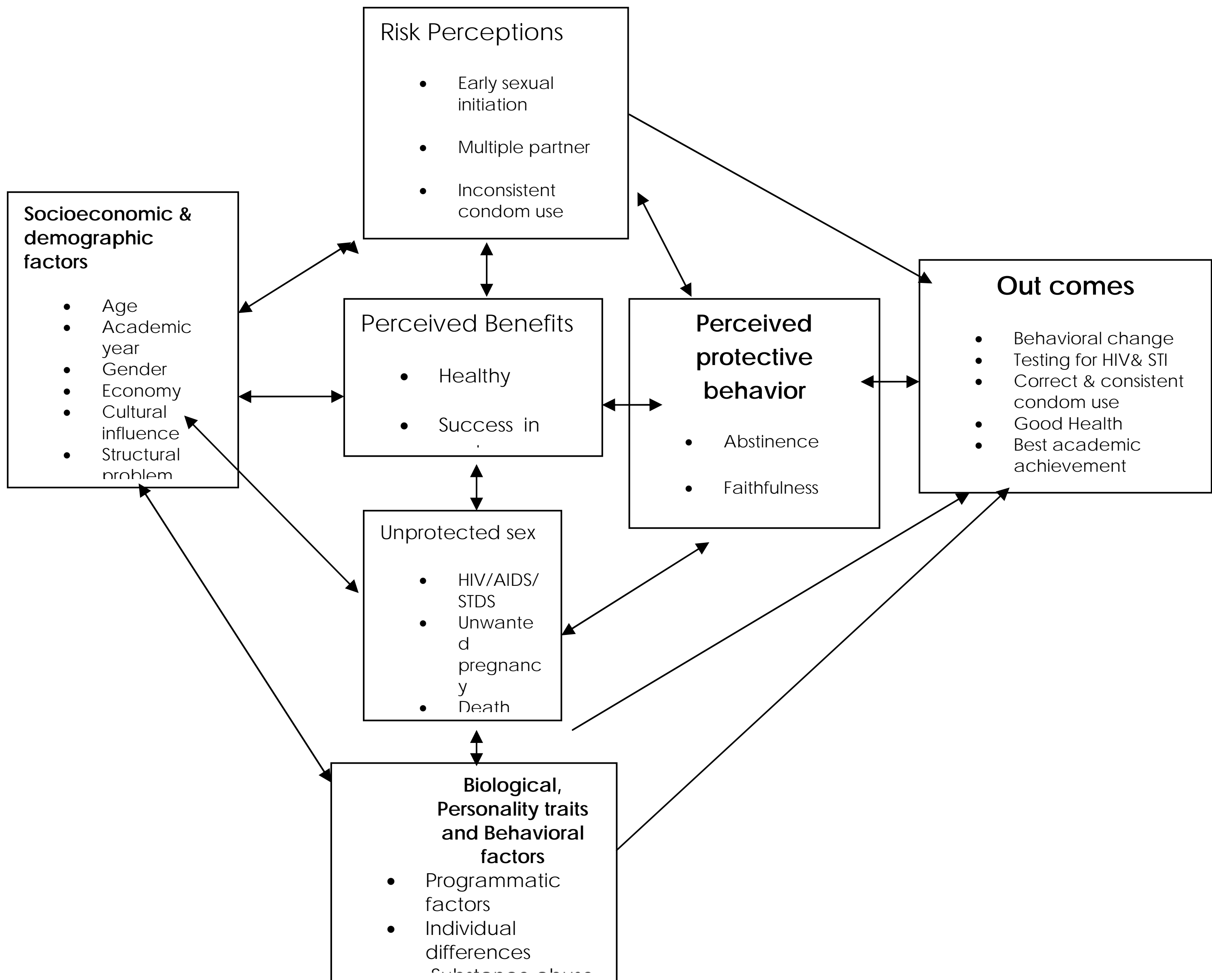
A university education does not necessarily eliminate a person's risk of HIV. Students who are in a steady romantic relationship are less likely to use condoms and are less responsive to HIV/STI behavioral interventions than are other students (21). Study done in Jimma University showed that romantic love levels may be higher for those university students who habitually watch love films, read love related materials or attend love related radio programs. Their low level of knowledge and belief on HIV/STI may lead to wrong direction and end up with risky sexual activities(22).

In generalized epidemics, where infection extends beyond discrete populations, greater investment is required in broader, population-based interventions, such as mass media, school-based education, community mobilization, workplace interventions, and strategies to alter social norms. Studies done in the United States indicate that youth-oriented prevention programs that exclusively promote abstinence do not reduce the risk of HIV infection. Promoting correct and consistent use of condoms ; reducing the number of sexual partners; improving the management of sexually transmitted infections; broaden access to HIV testing and counseling and ensure

effective infection control intervention programs must be implemented efficiently for young people (1).

Women's education is considered to be one of the strongest determinants of health, since educated women are more likely to break cultural norms and taboos. This often means that programs must address sensitive topics that some may find uncomfortable. Such topics include gender norms like sexuality. In Burkina Faso, Ghana, Malawi, and Uganda, nearly one in five adolescent females reported that their first sexual experience involved force or coercion. According to recent surveys in Uganda, three out of four unmarried, sexually experienced adolescent girls reported having received gifts or money in exchange for sex, usually from an older man (1, 7).

Figure-2 Conceptual frame work on HIV/STIs and AIDS risk perceptions and their protective behavior among female college students based on HBM.



The 'Health Belief Model' (HBM) identifies perception of HIV/STIs risks, recognition of its seriousness, and knowledge about prevention as predictors of safer sexual activity this study examines the impact of risk perception, considering the first step in HIV/STIs prevention within a set of factors. Risk perception is considered a first and essential step when the individual personalize and perceive risks; then protective behaviors which lead towards risk reduction(16).

3. Objective

3.1. General Objective

To assess female college student's knowledge, sexual behavior, risk perception and determinants of protective behavior towards STIs including HIV/AIDS in Debre-Markos town, Amhara NRS, Ethiopia, 2010.

3.2. Specific Objectives

- To describe Knowledge, Attitude and Practice of college study subjects on STIs/ HIV;
- To evaluate the risk perception of students related to HIV/STIs;
- To identify factors that influence practice of consistent condom use among sexually active female college students.

4. Methods and Materials

4.1. Study area and period

This study was conduct in Debre Markos town which is located at a distance of 300 Km Northwest of Addis Ababa, Amhara regional State, Ethiopia. The study was conducted in seven (2 public & 5 private) colleges found in Debre-Markos town. Participants for this study were recruited from all colleges, namely Abay Health, Washera Broad View, Tropical College of Medicine, Kea-Med, New Man, Debre-Markos TTC and Debre-Markos Technique Colleges. In 2008/09, a total of 5202 students were enrolled in all programs and the number of female students were 2653 and accounts for 50.9%. All regular and extension students live out of the college campus. The entire study work had taken nearly one-year from September 2009 to June 2010 and data was collected in February 2010.

4.1. Study Design

A descriptive cross-sectional institutional based study supplemented by qualitative method.

4.2. Study Population

Comprises all female college students in the regular session currently enrolled in all colleges found in Debre Markos town.

4.3. Inclusion criteria

All female regular students in the age group 15-24 years, who actively enrolled during the study period and currently follow their study in the colleges, and who had stayed at least one semester study program.

4.4. Exclusion criteria

Female regular students who were out of youth age group and who were severely ill, who were refused to participate in the study and those who had a stay less than a semester in the college were excluded from the study.

4.5. Sample size determination

The sample size required for this study was calculated based on the assumption of consistent use of condoms among a non commercial sexual partner of ISY in BSS II 2005; which was 42% and it was 30.4% for females(23). By comparing the different findings on the previous studies and by using Epi-Info statistical sample size & power calculation for population survey, the figure that

can yield relatively larger sample size at relatively reasonable cost was taken to be 42%. Therefore, consistent use of condoms of IYS of both sex i.e., 42% were taken applicable for the young people with maximum discrepancy of 5% between the sample and the underlying population at 95% certainty level.

The formula used to calculate the sample size is

$$n = \frac{[Z\alpha/2]^2 \, p\,(1-p)/}{d^2},$$

Since N less than 10,000 an adjustment formula (FPC)

nf = n/1+n/N, used

Where, N = Source population- all female regular students registered in the academic year 2008/09 in all Colleges.

nf = Required Sample Size, n=calculated sample size by Epi Info.

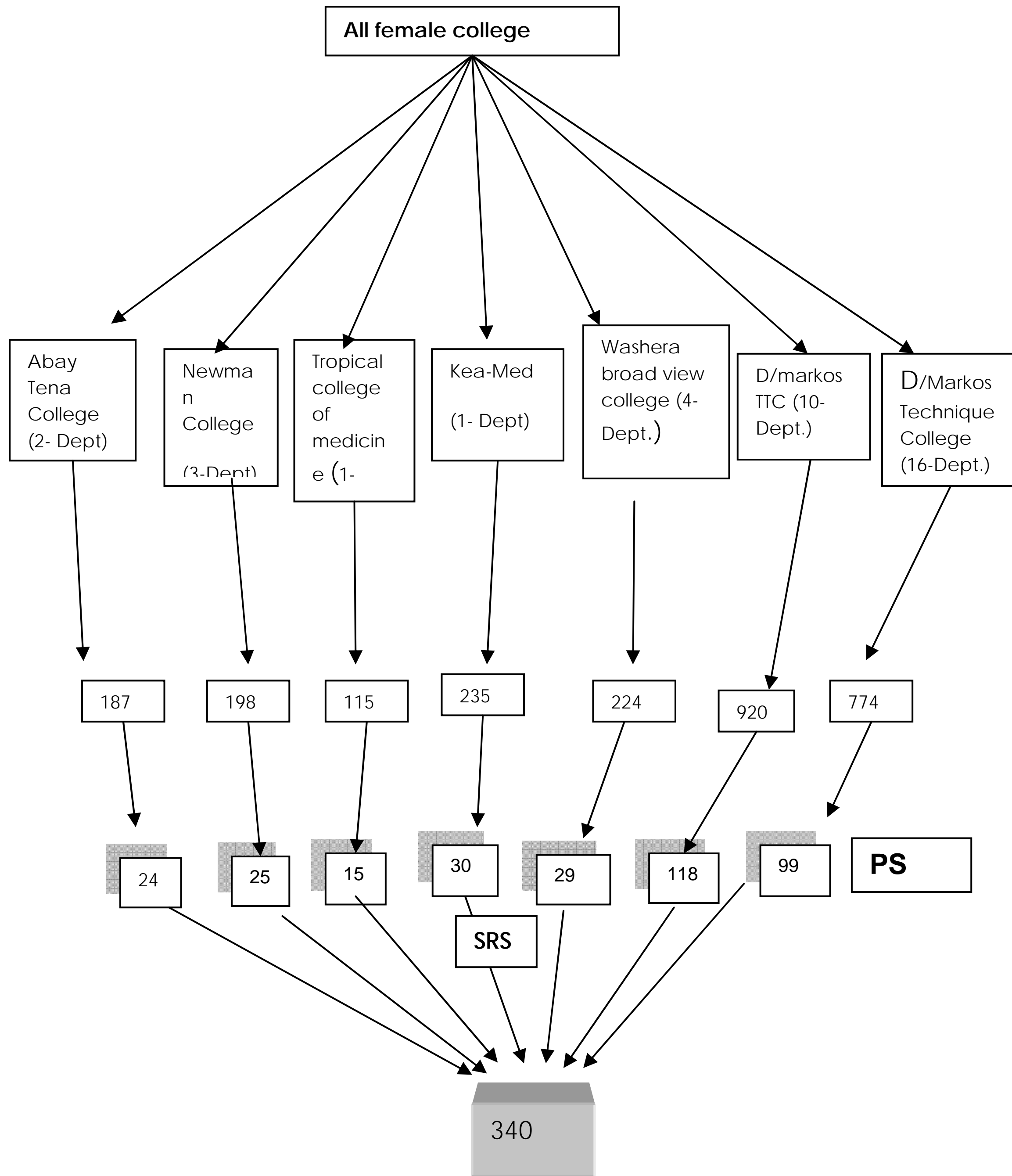
$Z\alpha/2$ = Value of the standard normal distribution corresponding to a significant level of alpha (α) 0.05, which is 1.96

p = Prevalence of consistent condom use by IYS, which was assumed to be (0.42)42%

d = Margin of Error, considered to be 0.05 or 5%

Hence the sample size was calculated at total of source population N=2653 and n=328 and nf=291 considering non response rate of 15%, the total sample size will be 340.

Figure -1 Schematic Representation of sampling procedure



4.6. Sampling procedure

Enumerated list of all female regular students prior to the study period was secured from the registrar offices of the respected colleges. Number of students in each college was calculated using the Proportionate to size (PS) allocation technique used, size being the total number of female students from the seven colleges and using Epi Info 3.5.1. Sections were selected by simple random sampling from each department. Simple random sampling method was used to get individual students from respected college.

4.7. Data collection procedure

4.7.1. Quantitative Data

For the quantitative part of the survey, self-administered anonymous questionnaires were developed in English and then, the English version was translated in to Amharic back to English. (Annex II & III) The questionnaire was adapted from BSS and FHI guideline on behavioral survey (14, 23).

The questionnaire had comprised closed-ended questions that queries participants' basic socio demographic characteristics, such as age, religion, marital status, job and funds etc., whereas sensitive questions to risk and the barriers of protective behavior related HIV/STIs were included in the last part of the questionnaire in order to reduce some offensive reactions and for the minimization of non-response rates. Selected study subjects were gathered and appropriate orientation and further explanation on some of the definitions of common terms, as well as on the purpose and usefulness of the study was explained. After getting verbal consent from the participants the anonymous questionnaires were provided to be completed in arranged seats to assure privacy. After being filled, the questionnaires were confidentially returned by study subjects to specially arranged collection box at exit near to their department.

4.7.2. Qualitative Data

The qualitative data collection method was applied using focus group discussions (FGDs) in order to supplement the result of the quantitative data that could not be quantified. In the qualitative part of the study, female students who could express and were able to share their ideas freely had participated in the FGDs. Participants in the FGDs were not involved in filling of self administered questionnaire. Discussion was made with four focus groups and each group consisted of 6-8 participants who were selected using non-probability sampling method. A semi-structured discussion guide was prepared portraying probing questions or opinions towards the

beliefs and attitudes of risk of HIV/STI/AIDS and the barriers of protective behaviors. (Annex IV) The qualitative study was conducted with a moderator assisted by a note-taker and tape-recording was implemented only when the group members had consented even though some of the participants refused at the middle of the recording.

4.8. Data quality management

To ensure the internal validity (accuracy and precision), maximum effort was applied to minimize bias and errors during the study design, sampling, questionnaire development, data collection and data processing. The principal investigator also had been supervising the process to ensure that standard procedures were followed.

After extensive revision, the final version of the English questionnaire was developed. At the end, the final English version was translated to Amharic and back to English by an individual who has a very good command of both English and Amharic languages, and to ensure its validity and consistency. Quality assurance measures were taken pre-testing the questionnaire and supervision during data collection. Pre-test was done one week prior to the start of data collection in 5% (20 subjects) who were not included in the main study and cross-checking and appropriate modifications were added before the final administration. Participants were clearly orientated about the purpose and usefulness of the survey and thereby creating friendly atmosphere to reduce their stress as the study touches sensitive issues. The collected data were reviewed and checked for completeness and relevance by Principal Investigator each day.

4.9. Data processing and analysis

For the quantitative data entry, checking, and processing the Epi-Info 3.5.1 soft ware package was used. Data was double entered by the principal investigator and experienced data clerk. The data was exported and analyzed using SPSS 15.0 Statistical packages. Analyses included descriptive statistics; such as frequency tables was done for each independent variable against the dependent variables. For testing the strengths of the associations and their statistical significance, Odds Ratio (OR) and 95% CI were calculated for each independent variable against the dependent variables using binary logistics.

Finally, multivariate analysis was employed using multiple regression models for categorical variables step by step (containing all those variables having significant association in the crude odds ratio and those variables considered as important factors) in order to account potential

confounding factors and to observe the relative direct effect of independent variables against the dependent variables. Variables having P-values less than 5% were considered as significant covariates or factors.

Variables

Independent variable

- Socio-demographic characteristics – such as age, religion, marital status, other income source etc;
- Sexual History: sexual activity, age at first sex, number of partners experienced, etc;
- Knowledge ,attitude, practice and behavior towards STI/HIV
- Behavioral attributes such as drinking alcohols, chewing khat etc.

Dependent Variable

- Correct and consistent condom use; other variables like Risk perception, Comprehensive Knowledge also considered.

Ethical consideration

Ethical clearance and approval was obtained from Institutional Review Board (IRB) AAU, Faculty of Medicine.

A formal letter from the School of Public Health, Addis Ababa University was submitted to each college, to all relevant offices and concerned bodies to obtain their co-operation.

All participants' right to self-determination and autonomy were respected. All study participants were informed about the purpose of the study and any additional information was given as they need, verbally and in written form. Participation was voluntary and participants might withdraw from the study at any stage/time without explanation and without penalty or loss of benefit. The autonomy and privacy of each participant was assured unless they needed assistance in filling out the questionnaire. Efforts were done to overcome ethical concerns of the participants due to the sensitivity of the issue under study by careful designing and structuring the questionnaire; clear explanation about the purpose and usefulness of the study and by excluding names and other identifying numbers. In such cases, confidentiality was assured and no personal details were recorded or produced on any documentation related to the study. (Annex I)

Dissemination of research finding

After the final thesis work approved; it will be presented. Results will be communicated to all colleges in Debre Markos town, with East Gojjam Zone Health, Education and HAPCO Offices. After the completion of the study proper, all effort will be made to publish the thesis in scientific journals.

Operational Definitions

- ***Accepting attitude towards PLWHA:*** willing to buy food from infected shopkeeper, to take care of infected family member, to attend class with infected classmate and willing to disclose infected family member. Accepting all of the following four indicators considered to be having good accepting attitude.
- ***Correct and consistent condom use***: is correct use of condoms in every act of penetrative sexual intercourse (UNAIDS,BSS)(14)
- ***Comprehensive knowledge about HIV/AIDS**:* if they are both knowledgeable of the three HIV/AIDS prevention methods (abstinence, being faithful to one uninfected partner and correct and consistent condom use) and have no misconception of the three HIV transmission ("eating raw meat prepared by an HIV infected person transmit the virus" , "Mosquito bite can transmits HIV infection", and "a healthy looking person does not have HIV infection" (UNAIDS ,BSS) (14).
- ***Knowledge about HIV prevention**:* if they correctly identify the three main ways to prevent HIV transmission: abstinence, being faithful to one uninfected partner and correct and consistent condom use (11, 14).
- ***Protective behavior***: defined if young people discourage one or more behaviors that might lead to negative health outcomes (e.g., having sex with many partners, having sex without using condoms) or encourage behaviors that might prevent a negative health outcome (e.g., abstinence, condoms use and tested for HCT)(WHO) (15).
- ***Perceived risk (Susceptibility) related to HIV/STIs:*** refers to beliefs about the likelihood of getting HIV/STIs (WHO) (15).
- ***Perceived Barriers (determinants):*** Factors in the environment or community that a person believes may prevent her from carrying out a behavior, accessing health care, or attending a program (WHO) (15).
- ***Risky sexual behaviors***: if either encourage or are associated with one or more sexual behaviors that might lead to a negative health outcome (WHO) (15).

5. Result

5.1. Socio-Demographic Characteristics

A total of 340 female college students had participated with a response rate of 100%. This study had included respondents of the age group of 15-24years.Majority of them 209 (61.2%) were within the age range of 15 to 19 years and 132(38.8%) were between 20-24 years of age. The median age of students was 19 $\pm$ 1.23 SD (mean 19.23 $\pm$ 1.23) years with a range of 16 to 24. Regarding respondents year of study 190(55.9%), 78(22.9%), and 72 (21.2%) of them were 1st, 2nd and 3rd year female college students respectively.

Of all students, 98.8% were of Amhara ethnic background and 95.6% were Orthodox Christians. During the study period 147 (43.2%) of the respondents were living alone while, 103(30.3%) were living with their family/ relatives, 66(19.4%) and 24(7.1%) were living with other college female students and with their sexual partners respectively.

Fifty nine (17.4%) of respondents were ever married and regarding their current marital status 19(32.2%) were married and living with their husband, 28 (47.5%) married but living alone, three (5.1%) divorced but cohabiting with their sexual partners, one (1.7%) divorced and alone and 8(16.7%) did not give a response.

Majority of the respondents, 329 (96.8%) were unemployed and their monthly pocket money was between the range of 201 - 599 Birr for the (54.1%) whilst (39.1%) of the respondents were below 200birr and the rest 23(6.8%) found to be in the range of 600-100Birr (Table 1).

Table 1: Socio-demographic characteristics of Female College Students in Debre Markos Town, Ethiopia, 2010

Characteristics	All Respondents	Sexually active respondents
Age in years		
15-19	208(61.2%)	20(32.8%)
20-24	132(38.8%)	41(67.2%)
Mean	19.23(± 1.23)	19.9(±1.29)
Median	19.0	20.0
Study Year		
1st year	190(55.9%)	30(49.2%)
2nd year	78(22.9%)	9(14.8%)
3rd year	72(21.2%)	22(36.1%)
Ethnicity		
Amhara	336(98.8%)	60(98.4%)
None Amhara	4(1.2%)	1(1.6%)
Religion		
Orthodox	325(95.6%)	58(95.1%)
None Orthodox	15(4.4%)	3(4.9%)
Current Living Arrangement		
Alone	147(43.2%)	29(47.5%)
Family/Relatives	103(30.3%)	10(16.4%)
Other college students	66(19.4%)	6(9.8%)
Boy friend/Fiancé	24(7.1%)	16(26.2%)
Employment		
Employed	11(3.2%)	0
Unemployed	329(96.8%)	61(100%)
Pocket money		
≤ 200	133(39.1%)	16(26.2%)
201-599	184(54.1%)	39(63.9%)
600-1000	23(6.8%)	6(9.8%)

5.2. Knowledge, Attitude, Belief, towards STI/HIV and AIDS

Universally the participants had heard of AIDS but 319 (93.8%) of them had ever heard of STIs. Regarding preventive knowledge respondents were answered individual preventive methods like abstinence 177(52.1%), 238(70.0%) said be faithful to one uninfected partner and 164(48.2%) correct and consistent condoms use. For questions to common local misconceptions like "healthy looking person can transmit the virus," 305(89.7%) did agree, 82 (24.1%) of them did agree that eating raw minced meat prepared by an HIV infected person can transmit HIV, and 79(23.2%) believed that mosquito bite can transmit HIV. One hundred eighty three (54%) had no

misconception while 157(46%) had at least one misconception. Eighty four (24.7%) of the respondents answered that all the three preventive methods correctly.

The comprehensive knowledge on HIV (knew the three major preventive methods & had no incorrect belief about its transmission) were 52(15.3%). Comprehensive knowledge was higher in the age group 20-24, which was 19.7% where as 12.2% among 15-19 age groups (Table 2).

As study year increases comprehensive knowledge also showed improvement; 1st year (11.6%), 2nd year (12.8%) and 3rd year (27.8%). Knowledge of respondents on mother to child HIV transmission was 289(85.0%).

Table 2: Knowledge and belief of Female College Students towards HIV/AIDS/STIs in Debre Markos Town, Ethiopia, 2010

Characteristics	Frequency (%)	Frequency (%)
	N=340	N=85(sexually actives)
Ever heard AIDS		
Yes	340(100%)	85(100%)
Ever Heard STIs		
Yes	319(93.8%)	83(97.6%)
No	21(6.2%)	2(2.4%)
Healthy looking person can transmit HIV		
Yes	305(89.75%)	75(88.2)
No	12(3.5%)	2(2.4%)
Don't know	23(6.8%)	8(9.4%)
Eating raw meat can transmit HIV		
Yes	82(24.1%)	19(22.4%)
No	186(54.7%)	48(56.5%)
Don't know	72(21.2%)	18(21.2%)
Mosquito bite can transmit HIV		
Yes	79(23.2%)	16.18.8%)
No	194(57.1%)	46(54.1%)
Don't know	67(19.7%)	23(27.1%)
Knowledge on the three prevention of HIV		
Good knowledge	85(24.7%)	25(29.4%)
Poor knowledge	256(75.3)	60(70.6%)
Comprehensive knowledge		
Good knowledge	52(15.3%)	16(18.8%)
Poor knowledge	288(84.7%)	69(81.2%)
Knowledge on Mother To Child Transmission		
Yes	289(85%)	73(85.9%)
No	51(15%)	12(14.1%)
Knew Close friend/relative death of AIDS.		
Yes	106(31.2%)	35(41.2%)
No	234(68.8%)	50(58.8%)
Ever seen male condom		
Yes	287(84.4%)	78(91.8%)
No	53(15.6%)	7(8.2%)
Ever heard of female condom		
Yes	175(51.5%)	46(54.1%)
No	165(48.5%)	39(45.9%)
Accepting attitude towards PLHAs		
Accepting	124(36.5%)	26(30.6%)
Not accepting	216(63.5%)	59(69.4%)

As shown in Table 3 , comprehensive knowledge were compared with socio demographic characteristics of study subjects and the odds of comprehensive knowledge of those who were living with other peer groups were found to be lower than those living alone (COR=0.33;95%CI;0.12,0.90),after adjusting to other variables the association did not persist.

Table 3: Association of comprehensive knowledge with other selected variables among female college students in Debre-Markos town, Ethiopia, 2010.

Characteristics	Comprehensive Knowledge		OR (95% CI)	
	Yes	No	Crude	Adjusted
Age in years				
15-19	26(12.5%)	182(87.5%)	1.00	1.00
20-24	26(19.7%)	106(80.3%)	0.58(0.32,1.05)	0.74(0.17,3.17)
Academic Year				
Year I	22(11.6%)	168(88.4%)	1.00	1.00
Year II & above	30(20%)	120(80%)	0.52(0.28,0.95)	0.49(0.12,1.99)
Current living arrangement				
Alone	29(19.7%)	118(80.3%)	1.00	1.00
with family/relatives	15(14.6%)	88(85.4%)	0.69(0.35,1.37)	5.77(0.88,37.9)
with peer groups	5(7.6%)	61(92.4%)	**0.33(0.12,0.90)***	2.81(0.31,25.8)
with boy friend	3(12.5%)	21(87.5%)	0.58(0.16,2.08)	0.00
Knew close friend/relative AIDS death				
Yes	16(15.1%)	90(84.9%)	0.97(0.51,1.85)	0.26(0.62,1.08)
No	36(15.4%)	198(84.7%)	1.00	1.00
Accepting Attitude towards HIV				
Had accepting attitude	33(15.3%)	183(84.7%)	1.(0.54,1.85)	0.78(0.19,3.03)
Had not accepting attitude	19(15.3%)	105(84.7%)	1.00	1.00
Self Risk Perception				
Yes	49(15.6%)	266(84.4%)	0.74(0.21,2.57)	0.18(0.015,2.15)
No	3(12%)	22(88%)	1.00	1.00
Sexual intercourse in the last 12 months				
Yes	13(22.0%)	46(77.9%)	0.46(0.12,1.78)	2.94(0.62,13.8)
No	3(11.5%)	23(88.5%)	1.00	1.00

*P-value <0.05

Regarding the attitude of respondents towards HIV/AIDS, 103(30.3%) believed that condom encourages promiscuity, 39(11.5%) believed that PLWHAs should be condemned for the expansion of the disease,270(79.1%) had agreed that premarital sex expand the transmission of

HIV, 320 (94.1%) willing to give home care for an infected family member, 217(63.8%) willing to disclose infected family member(s) and 320(94.1%) were willing to attend to a class together with an infected classmate and (182) 53.5% were willing to buy food from someone who is infected. Accepting attitude towards HIV positive individuals on the later four indicators of HIV among respondents was 124(36.5%).Knowledge of AIDS death of close relative or friend who died of AIDS were 106(36.2%) and 187(63.28%) respond that they knew someone who died of AIDS death (Table 4).

Table 4: Female College Students attitude towards HIV/AIDS and STIs, in Debre Markos Town, Ethiopia, 2010.

Variables	Frequency	Percent
Condom encourage promiscuity		
Agree	103	30.3
Disagree	138	40.6
DK	99	29.1
Premarital sex expand HIV infection		
Agree	270	79.4
Disagree	66	19.4
DK	4	1.2
Blame PLWHs being reason for expansion		
Agree	39	11.5
Disagree	266	78.2
DK	35	10.3
Willingness to give home care for family member		
Yes	320	94.1
No	12	3.5
DK	8	2.4
Willingness to attend class with infected classmate		
Yes	182	53.5
No	108	31.8
DK	50	14.7
Willingness to disclose family member		
Yes	217	63.8
No	107	31.5
DK	16	4.7
Willingness to buy food from HIV infected person		
Yes	182	54.0
No	108	32.0
DK	50	15.0

Among those who had the knowledge of STIs, 146(45.5%) could identify HIV and other STIs, 142(44.2%) only identified STIs other than HIV. Few respondents, 33 (10.3%) mix STI with other communicable diseases like TB and Malaria. Of those who have had knowledge of STIs 255(79.4%) could identify at least one STI symptoms.

Majority of the respondents (84.4%) ever had seen male condoms and 176(51.8%) of the respondents ever had heard of female condoms. Of those who ever seen male condoms, almost all

(99.7%) of the study subjects knew the sources from which they could obtain male condoms. The most frequently mentioned sources of male condoms were government health facilities (82.4%), others said private health facilities (60%), any shop (54%) and pharmacies (45.2%).

5.3. Sexual Behavior, Practice and Condom Use

Out of the total participants, 60 (17.6%) ever had married and the mean age at first marriage was 15.6 ± SD 4.57. Twenty one (35%) of the respondents first marriage was below or at 15 years and 26(43.3%) was below 18 years. Minimum age for the first marriage reported by the participants was 5 year.

Eighty five (25%) ever had been sexually active, and the mean age at sexual debut was at 17± 2.22. Thirteen (15%) of those sexually active initiated sex before 15 years while 63(75%) was in the age range of 15-19 and the rest 8(9.5%) was within 20-24 age group. The minimum age reported to initiate sex was 10 year. Two hundred twenty (82.6%) respondents were never-married and 29(10.4%) were sexually active. Among those sexually active respondents, 32(37.6%) had premarital sexual relationships (Table 5).Reasons given for first sexual relation 46(54.1%) was due to marrage, 23 (27.1%) was personal desire, 9 (10.6%) was pear group pressure,6(7.15%) forced to sex by male partners and 1(1.2%) do not know the reason.

Table 5: Sexual and risky behavior and practice of condom use among Female college students towards HIV/AIDS/STIs in Debre Markos Town, Ethiopia, 2010

Variable	Frequency	Percentage
Ever had sexual intercourse		
Yes	85	25.0
No	255	75.0
Had history of premarital sex n=85		
Yes	32	37.6
No	53	62.4
Age of first sexual partner		
> 10 yrs	3	3.5
5-10 yrs	14	16.5
1-5 yrs	50	58.8
Younger than me	2	2.4
DN	16	18.8
Reason not to use condom at first sex		
Condom was not available	4	5.7
Reduce pleasure	2	2.9
Partner trust	15	21.4
Was not considered as important	12	17.1
Known allergic to condom	1	1.4
Used other contraceptive method	20	28.6
Don't know the reason	16	22.9
Male partner reject condom use	0	0.0
Number of life time sexual Partner(s)		
One	78	91.8
Two and above	7	8.2
Had under gone forced sex intercourse		
Yes	11	12.9
No	74	87.1
Had sexual intercourse last 12mon. n= 85		
Yes	59	69.4
No	26	30.6
Number of sexual partners in the last 4wks n=59		
One	56	94.9
Two and above	3	5.1

Condom used at last 12mon. n=59		
Yes	15	25.4
No	44	74.6
How frequently did you used condom in the last 12mo		
Always	9	60.0
Seldom	1	6.7
Never used	5	33.3
Relationships to last sexual partner		
Husband	47	79.7
Boy friend	10	16.9
Stranger	1	1.7
Exchange for money	1	1.7
Had symptom of STI (genital discharge or ulcer)		
Had at least one STI symptom	4	6.8
No symptom	55	93.2
Ever had history of pregnancy		
Yes	16	19.0
No	68	81.0
Have you under alcoholic influence last SI		
Yes	2	4.3
No	44	95.7

Compared to respondent's age, in 50(58.8%) of them the age of their first sexual partners was greater by 1-5years and for 14(16.5%) by 5-10 years related to their age during sexual debut. Seventy (82.4%) of respondents had unprotected sexual contact during their first sexual relations only 15 (17.6%) of the respondents had used condom. Some of the reason mentioned for not using condom during their first sexual intercourse included, 12(17.1%) did not consider condom as important during the event, 15 (21.4%) believed that using condom loosen trust between partners, and 20(28.6%) answered that they used other contraceptives but still 16(22.9%) did not know the reason. None of the respondents answered that they did not rejected by male partners. Condom was suggested 4(26.7%) by male partners 10(66.7%) both agreed and 1(6,7%) did not know.

Life time sexual partners was asked and 78 (91.8%) of participants responded having only one partner. Among the respondents 11(12.9%) reported that they had been forced to undergo sexual intercourse by their sexual counterpart.

Fifty nine (69.4%) of the analysis unit had been sexually active (experienced sexual intercourse) in the last twelve months and 56(94.9%) of participants had had reported one partner in the last twelve months. Of all participants who were sexually active, 38(64.4%) had more than four frequencies of sexual intercourse in the last four weeks.

Only fifteen (25.6%) of them who were sexually active in the last twelve months had used condom. Correct and consistent condom use during last sex was practiced by only 9(60%) of participants. Of those who had used condom during the last four weeks, in 10(66.7%) respondents condom was suggested by both partners while 4(26.7%) by male sexual partners.

Respondents relationship to their sexual partner were mentioned and with their husband in 47(79.7%), cohabiting sexual partner in 10(16.9%), while 1(1.7%) had sexual relation with stranger and for exchange of money/gift for each respectively. Among those respondents who had sexual intercourse in the last one year 4(6.8%) had symptom of STI as foul smelling genital discharge and/or genital ulcer. Among those sexually active participants 16(19 %) had been pregnant and 4(25%) of them end up with abortion. Two (4.3%) were under the influence of alcohol during their last sexual intercourse (Table 5).The odds of consistent condom use in those who had under gone VCT in the last 12 months, were found to be lesser than tested previously (COR=0.03, 95%CI; 0.002, 0.68), in multivariate analysis this association does not exists.

(Table 6).

Table 6: Comparison of consistent condom use by selected variables among female college students in Debre-Markos Town, Ethiopia, 2010

Characteristics	Consistent condom Use		OR (95% CI)	
	Yes	No	Crude	Adjusted
Age in years				
15-19	4(66.7%)	2(33.3%)	0.625(.073,5.35)	0.00
20-24	5(55.6%)	4(44.4%)	1.00	
Current living arrangement				
Alone	7(70%)	3(30%)	0.214(0.014,3.37)	0.00
with family/relatives	1(100%)	0.00	0.00	0.00
with peer groups	0.00	1(100%)	0.00	0.00
with boy friend	1(33.3%)	2(66.7%)	1.00	0.00
Comprehensive Knowledge				
Good knowledge	7(58.3%)	5(41.7%)	0.70(0.049,10.1)	0.00
Poor Knowledge	2(66.7%)	1(33.3%)	1.00	0.00
Knew close friend/relative AIDS death				
Yes	5(50%)	5(50%)	0.160(0.013,1.98)	0.00
No	4(80%)	1(20%)	1.00	0.00
Accepting Attitude towards HIV				
Had accepting attitude	5(50%)	5(50%)	4.00(0.32,49.6)	0.00
Had not accepting attitude	4(80%)	1(20%)	1.00	0.00
Self Risk Perception				
Yes	8(66.7%)	4(33.3%)	0.250(0.017,3.66)	0.00
No	1(33.3%)	2(66.7%)	1.00	0.00
VCT tested Last 12- months				
Yes	6(85.7%)	1(14.3%)	**0.033(0.002,0.68)**	0.00
No	1(16.7%)	5(83.3%)	1.00	0.00

5.4. Perceived susceptibility towards HIV infection

Respondents were asked about their risk perception associated with HIV. Twenty five (7.4%) of respondents had considered themselves as being at risk of getting HIV/AIDS infection. By the type of risk perceived by respondents, 6(24%) of the respondents associated with sex related risks and 19(76%) were non sex related risk exposures.

Table 7: Self risk perceptions of female college students towards HIV/AIDS/STIs in Debre Markos Town, Ethiopia, 2010.

Variable	Frequency	Percentage
Self perceived risk		
Yes	25	7.4
No	315	92.6
Degree of exposure		
Not at all	4	16.0
Mild	13	52.0
Moderate	3	12.0
Great	5	20.0
Exposure by type of risk		
Sex related	6	24.0
Non sex related	19	76.0
Prevention method currently practiced		
Abstinence	214	62.9
Be faithful	124	36.5
Condom use	2	0.6
Ever had VCT n=340		
Yes	254	74.7
No	86	25.3
Tested & result collected for HIV(VCT) last 12 month		
≤12 months)	154	60.6
>12months)	100	39.4

Participants were asked which of the known HIV preventive methods currently had been practicing (of the ABC rule) during the last twelve months, 214(62.9%) had chosen abstinence, 124(36.5%) selected be faithfulness and the rest 2(0.6%) preferred condom use; none of the respondents were answered combined methods," be faithful and condom use."

5.5. Protective behavior and prevention of HIV/AIDS/STIS

Amongst students who were sexually active, 61(71.8%) had sexual intercourse in the last twelve months, only 15(25.4%) used condom while 44(74.6%) didn't used condom during their last sex.

Two hundred fifty four (74.7%) ever had under gone VCT and tested and 154(60.6%) had taken their VCT test in the last twelve months and knew their test result. Respondent were asked if there was any preventive method for HIV infection and 317(93%) of them believed that HIV was preventable.

Amongst the preventive methods 239(74.9%) said abstinence, 173(54.1%) answered be faithful, 184 (57.7%) condom use, avoid sharp and blood contamination 83(25.9%),and avoid multiple sexual partners 164(51.25%).

Risky behavior of the study groups were derived from a score of reporting any two or more of the following were considered; not using condom during their first and/or last sex, having multiple sexual partners, having symptoms of STIs, having older sexual partner by age and by type of relationship, having a history of rape, substance use in life time or in the last 12-months. Respondents were coded '1' if they reported any two or more of these and '0' if otherwise.

Based on this score, among ever had sexually active respondents, 82 (96.5%) were found to be risky and only 3(3.5%) did not.

The odds of self risk perception of the study group were computed and findings were observed in an unadjusted OR, as shown in Table 8, those who had accepting attitude towards PLWAs had less risk perception (COR=0.31; 95%CI; 0.104, 0.924) and those ever had sexual relation once in life time had 2.56 time more perceive risk (COR=2.56; 95%CI; 1.11, 5.87). No more association while adjusted for other variables.

Table 8: Comparisons of risk perceptions and other variables of HIV infection by logistic regression among female college students in Debre-Markos Town, Ethiopia, 2010

Study Year	Risk Perception		OR (95% CI)	
	Yes	No	Crude	Adjusted
Comprehensive Knowledge				
Good knowledge	3(5.77%)	49(94.2%)	0.74(0.21,2.57)	0.00
Poor Knowledge	22(7.6%)	266(92.4%)	1.00	
Accepting Attitude towards HIV				
Had accepting attitude	4(3.2%)	120(96.8%)	**0.31(0.104,0.924)***	0.00
Had not accepting attitude	21(9.7%)	195(90.3%)	1.00	
Ever had sexual intercourse				
Yes	11(12.9%)	74(87.1%)	**2.56(1.11,5.87)***	0.00
No	14(5.5%)	241(94.5%)	1.00	
Sexual intercourse during last 12-months				
Yes	7(11.9%)	52(88.1%)	0.74(0.197,2.788)	0.00
No	4(15.4%)	22(84.6%)	1.00	
Condom used last sex				
Yes	3(20%)	12(80%)	2.50(0.49,12.76)	0.00
No	4(9.1)	40(90.9)	1.00	
Frequency of Condom Use				
Always	1(11.1%)	8(88.8%)	1.00	0.00
Some times	2(33.3%)	4(66.6%)	4.00(0.27,58.12)	0.25(0.013,4.73)
Number of sexual Partner in the last 12 months				
1	6(10.7%)	50(89.3%)	1.00	
≥ 2	1(11.9%)	2(66.6%)	4.17(0.33,53.2)	0.00

5.6. Focus Group Discussion

Selection of participants for FGDs was based on identified homogeneous criteria, including being students within those colleges in the town, age, and sex. Over all four FGDs sessions were conducted, two from the students' side and two groups from female college teachers. Each session was consisting of four (in the teachers group) and eight participants in the students group. A total of 24 people participated on the FGDs and the age of students were 19 to 21 years. The age of female college teachers was between 21 and 24. The educational background of students was mixed from the three academic years that did not participate on quantitative study. All the teachers who participated had their first degree in different disciplines.

5.6.1 Challenges of female students in the colleges

Majority of the discussants had said that most female college students are challenged by different social, cultural, economical, gender and academic problems. As many young people affected by the consequence of sexuality related problems female college students are also prone to sexuality related health problem like HIV, STIs, unintended pregnancy etc…

"... A mixed feeling is observed among us, some of us frightened by loneliness others may take it as if released from the families' control. We are starting a new life after being separated from our families. Challenges arise from different directions. It was difficult to settle with the new situation. "As a first year discussant said.

On the other hand discussant of female college teachers had discussed on the pertinent problems of female college students, as*" …female student's poor academic performance can be due to different reasons, gender inequality, cultural taboo and the community wrong attitude on females. Therefore, we should also work to change the attitude of the community towards female students."*

As second year participants said*"... gender violence begins by our classmates within the compound of the college. Of course, there is also weakness from our side. Female students are also accountable for many sexuality related problems. We have to take care when establishing a relationship with male partners. Student's friendship begins by proximity of residence or place of birth. Such relationships grow gradually, but at the beginning it doesn't seems dangerous. In the meanwhile the direction of most relationships changed to other*

direction. At this time disagreement will begin and some of us become a victim of poor academic performance "enecharalen". We females are also involved on creating the problems but we usually blame male students."

A teacher discussant said, *"….female students should have to limit their relationship with their male students or always to anticipate problems that could arise on opposite sex relations."* And a first year teaching student added*"…. female students who began sex earlier encourage others to begin sexual intercourse or facilitate the ways for male students."*

5.6.2. Stays abstain and the right time to begin sexual intercourse

On the issue of virginity and initiation of sexual intercourse, participants were discussed and a third year pharmacy technician student said that " …it can be delayed until marriage or till the age of 18" Most of the discussants agreed on this point but few opposed this idea and again a third year nursing student said "…. *It is not practical to* delay sex *until the day of marriage* for most college students; but in my opinion *if one can't stay abstain she/he has to follow the next best step either to be faithful or use condom, if I got someone who agree with me, I would decide to live with him. But we are always hiding the reality and that is why most female students conceive and get abortion."*

Teacher participants had also agreed to delay sexual relationships until marriage but if any one decides to begin sexual intercourse, one should have to consistently use condom and be faithful to their partners. A teacher discussant added"…it is difficult even to be faithful for a student in the college but I would rather advice them to use condoms carefully."

5.6.3. Factor that worsen sexual risk behavior and affect protective measures

"…*A well come program were prepared at the beginning of the year and many sensitive issues on the academic and gender issues were discussed and orientation given to newly joining students. Students encourage to discuss any problem that hinder their study, but very rarely they did that, no one would dear to raise a problem associated with sexuality, doing so has a problem according to the colleges' regulation,"* A teacher discussant explained "… *many female students may begin sexual intercourse for different reasons; some of them might get engaged for marriage others may be due to peer pressure or for the satisfaction of personal desire or some do for exchange of money / gift or for gaining academic support from male students.*" One discussant from the students group said "….I do wonder for our being silent

even at the stage of pregnancy. I believe that we have to be open and share our problems to peers or to one of our family members."

Participants were from both public and private colleges. A student from private college said that," *In public colleges the student's college fees is covered by the government cost sharing policy; while those who are studying in private colleges, they directly pay college fee. Students in private colleges are from relatively well to do family than students in government colleges. Some students misuse their money and used it to fascinate themselves and for being showed well dressed in the eyes of their counterparts, this brought them to the attention of others which in turn affect themselves.*"

A student added that "…There is a rumor that some of the college students who came from far area of the region have faced shortage of money and they exchange sex for money/gift or cohabite with other male copartners to share living expenses."

Regarding substance use, all group of the discussants agreed that substance use is not a major problem within student's campus especially among female college students.

A teacher discussant said that *"… living inside or outside the college campus has no difference, as I do remember my campus life, there was very high consumption of condoms and contraceptive pills, and I strongly recommend that the college should made certain that condom and other preventive means has to be accessible for sexually active students."*

A teacher who was working in a position that related with the issue of reproductive health said that *"… everything that I used to advice female students was not evidence based, the fact is obvious but we hid it , here after we have to be frank and could find a better solution to these problems. We have to arrange a protection means for those who are sexually active. The orientation during the well come program should also include all teachers and male students. The participation and developing awareness of the issue by both sex groups may have brought a better solution."* During the study time there was no clinic in any of the colleges.

6. Discussion

Knowledge of HIV/AIDS issues and related sexual behavior among young people is of particular interest in the prevention and control programs. In this study, there was universally high level of knowledge on AIDS among the study subjects. Among the HIV prevention methods, being abstain from sex were reported by (52.1%). This result was lower than the previous studies done by (EDHS 2005) among 15-24 years women which was (64.2%) and BSS II, 2005 ISY (84.5%). Participants in the FGDs also agreed that delaying sexual intercourse until marriage or age of 18 but they were doubtful by its practicability. Participant's low response to abstinence than limited to one uninfected partner agreed also with FGDs discussants.

Majority of the respondents (70%) believed that limited to one uninfected sexual partner was a bit higher from EDHS (66.1%) but lower than ISY (83.3%) and consistent condom use was (48.2%) in line with EDHS 2005(47.4%) and lower than BSS II (65.6%). Students in this age group might increasingly become sexually active and they might not support to stay virgin (11, 14).

The comprehensive knowledge of HIV among the study subjects was (15.3%) which is lower compared to EDHS 2005 (20.5%) and (17.8%) in BSS II 2005 ISY. Comprehensive knowledge had showed higher percentage in the age group of 20-24(19.7%), in those who had better monthly pocket money (21.7%) and among 3rd year students (27.8%).Despite having had high awareness of HIV/AIDS, female students showed low comprehensive knowledge. This was partly explained by the persisting misconception that was seen by students. Therefore, improving the comprehensive knowledge of students is important to prevent HIV/AIDS/STIs and to equip with life skills programs to adhere to the major programmatic prevention methods like that of delaying sex until they feel it appropriate, and encourage safe sex when young people do choose to become sexually active.

Students who had good knowledge of the three HIV prevention methods was 24.7% which is lower compared to BSS II (50.1%) and in EDHS 2005 women(15-24) respond both use condoms and limit sex to one uninfected partner (41.1%)(11, 14).

Knowledge, Believe and attitude about HIV/AIDS affect how people treat those they know to be living with HIV. On this study those respondents who were willing to buy food from an infected person's shop was 182(54%), willing to disclose the HIV status of family members to let others know was 217(63.8%), willing to take care of relatives who have the AIDS virus in their own

household was 320(94.1%) and willing an HIV positive student who is not sick should be allowed to continue attending class was 182(53.5%).The accepting attitude towards PLWHAs based on the above four indicators was 124(36.5%) which was higher than EDHS 2005(14.5%) and lower from BSS 2005 ISY(55.7%). Student's accepting attitude towards PLHAs was higher for their close relatives (94.1%) and those not willing to attend class with infected classmate, to buy food and to disclose their family member was 32% for each and this is in line with BSS II 2005 ISY (31%) were not willing to buy food from an infected shop keeper; these indicates that there is still considerable stigma and discrimination among students on people living with HIV/AIDS (11,14).

The majority of study subjects (84.1%) had ever seen male condoms and (51.8%) had heard about female condoms. Respondents who had seen male condom also knew universally from where they could obtain male condoms. At this late epidemic period of HIV all the study subjects were expected to have seen male condoms, however, 15.9% had given socially desirable response to this particular issue or embarrassed of answering sensitive personal question.

Amongst female college students, a substantial majority 93.8% had heard of STIs and almost similar to BSS II (ISY) 2005 which was 94.8%.The most frequently mentioned STI symptoms were burning pain during urination (62.4%) followed by genital ulcers or sores (54.4%). The least mentioned STIs symptom was swelling around the groin area (30.0%).Most study subjects 289(85%) recognize that HIV could be transmitted from an infected mother to her unborn child which is a bit higher than BSS II (80%) (11, 14).

The mean and median age at sexual debut were found to be 17.5(SD $\pm$ 2.22) and 18 (BSS II 16 years) respectively which range from 10 to 23 years. Of those who had ever had sex, 13.1% had had sex at or before the age of 15 and 30.3% before the age of 18.In EDHS (16%) of young women practiced sex before 15 years and 32.2 % before 18 years which is in line with the finding of this study. Higher proportions of young women become infected with HIV during their first few acts of unprotected sexual contacts (16).

In this study 25% of the respondents were sexually active, which was similar to a study done in Namibia, it was 24.8% (24). A study done in Madagascar University showed that 80% of the study subjects were sexually active. The indicated age at sexual debut for women was average 20.2 years; although late sexual debut was recorded, consistent condom use was very low; it was 6% (25).In both FGDs groups there were students who are sexually active for different reasons

and there were also students encouraging others to debut sex or facilitate the way to do. Shortage of money or desire of students for sex or sex with stranger were some of the serious reasons mentioned in the discussion which agreed to the reason given first initiation of sex in the quantitative data.

In this survey 25.4% used condoms in the last sex and 60% of them used condom consistently which was 37.3% and 61.5 % in BSS II respectively. Those who never married and had never yet commenced sexual intercourse were 89.6% which is low compared to EDHS 2005 (95.7%). Abstinence from sex before marriage and delay of sexual debut are among the most important measures taken to reduce HIV among young people. The qualitative study result also showed that significant number of students was sexually active but the reality is covered.

Of those sexually active students 69.4% had practiced sex in the last 12-months prior to the survey. Only 25.4% had used condoms and 60% used condom consistently in the last sexual intercourse. Among respondents who were not married but had sexual intercourse, 58.6% had also had sexual relationship in the last 12-months and 35.3% used condoms in their last sex and 83.3% used it consistently.

Correct and consistent use of condoms is one of the most important HIV/AIDS prevention methods and is considered to be an important indicator of HIV/AIDS-related behaviors (15). If everyone used condoms every time they had sex with a non-marital or non-cohabiting partner, a heterosexually transmitted HIV epidemic would be almost impossible to sustain. The odds of consistent condom use in those who had tested recently was lower than that of tested previously for an unadjusted OR.

In this study percentage of risk perceived by participants was very low (7.4%). Self risk perception of respondents were associated with partly to sexual factors (32%) and (68%) non sexual factors. Based on the scoring of risky sexual behavior of participant's was at higher exposure level (96.5%) but they could not appreciate the severity of risky sexual acts. Perception of HIV/STIs risks, recognition of its seriousness, and knowledge about prevention are directly related to HIV protective behaviors which lead towards risk reduction. Students who were sexually experienced engaged also in other risk behavior than who had never had sexual intercourse (29). Risk perception among female college students was very low in spite of continued high risk behavior.

Students had not given primary attention to HIV infection, as understood from the reasons given 'Not using condoms during first sex." Since the immediate outcome of conception take priority over HIV infection their focus of prevention was pregnancy. FGDs participants also mentioned pregnancy as one of the serious outcome of their being silent to their many sexuality related challenges. As the quantitative study quantified discussants also agreed upon the presence abortion among female college students

Of those who ever experienced sexual intercourse once in life (37.6%) had premarital sexual contact which is very high compared to BSS II (5.3%). A high score of premarital sex reflects a failure of prevention messages stressing abstinence until marriage. Surprisingly, 76.9% of respondents who were not worried of the risk of HIV didn't used condoms during their last sexual intercourse (14, 15).

Amongst the study subjects, 8.2% reported that had two or more life time sexual partners. Five percent of the respondents had multiple sexual partners among those who had been sexually active in the last 12-months, this finding was higher compared to BSS II which was (2.7%) and (0.5%) in EDHS 2005. A study done in Namibia showed higher proportion of female students 17.1% had two or more sexual partners (24).

In this study the age of their first sexual partner was at least greater by one year and above in 78.5% of the respondents , but for contrast those who had 1-5 years older was (58.8%) which was in line with BSS II 2005(59.2%). In many societies, young women have sexual relationships with men who are considerably older than they are. This practice can contribute to the wider spread of HIV and other STIs. Among the respondents 12.9% reported that they had been forced to under gone sexual intercourse by their sexual counterpart (BSS (15.3%) most commonly reported in the Amhara region (14.9%).

In this study, 5.2% had genital discharge and 1.7% had genital ulcer or sore which was a bit higher compared to the EDHS 2005 which was 2.1% and 0.6% for genital discharge and ulcer respectively but in line with BSS II 2005 by ISY 4.6% and 2.1% reported for genital discharge and genital ulcer respectively(11,14).

It is possible to reduce the risk of HIV infection in premarital sex by increasing protective measures. Individuals who have abstained, been entirely faithful to their spouse or live-in partner, or have use a condom in every act of non-spousal sex will escape from the risk. Unprotected sexual intercourse with high risk sexual partners indicates that there is a failure of prevention

methods. According to participants on qualitative study, factors that hinder the protective behavior of those individuals should be identified and any possible best option must be utilized and made accessible protective means like condoms. Reluctance to provide services to decrease risk among people who choose to be sexually active before marriage may let people to be exposed and fuel the transmission of the epidemic.

Different factors may be given to affect the protective behavior of individual at risk. Among the most common protective measures, condom use was an alternative for those sexually active individuals. Factors affecting condom use mentioned in (28.6%) was because having used other contraceptives, (22.9%) did not know the reason, (21.4%) said reduce sexual pleasure, and (17.1%) didn't thought condom as important tool for protection for HIV/STIs and none of the respondents were rejected by their male partner. More risk was perceived for unwanted pregnancy than getting infected with HIV. Risk of HIV infection has not got primary intention and no protective means set to protect it. The immediate problem faced by many students on those sexually active was unintended pregnancy and this was also mentioned as a major problem by qualitative study participants. Also, the fact that the students were away from their family and free from parental behavioral prohibitions might have induced them to engage in hazardous sexual intercourse (25).

This study showed that an increased utilization of VCT uptake (74.7%) was increasing and it was very high compared to BSS 2005 ISY (9.3%) and (4.9%) in EDHS 2005. A study done in Butajira students showed that only 7.7% of female students had used VCT service (27).This may be explained by increased knowledge and practice of students on HIV testing together with expanded provision of VCT service.

7. Strength and Limitation

7.1. Strength

- This study addressed perception of sexual risks in a particular age range of female college students (15-24) who were living outside the college campus.
- The findings of the study on the prevalence of sexual risky behavior and level of knowledge may give important information to plan interventions programs towards STIs/HIV and other reproductive health related issues.
- The study combined qualitative and quantitative studies.

7.2. Limitation

- The under-reporting of socially undesirable sexual behavior, like having a high number of sexual partners, was expected, as well as the overestimation on socially desirable behavior like using condoms.
- This study was based on cross-sectional data, which implies that the direction of causal relationships cannot always be determined.

8. Conclusions

- Though awareness of HIV/AIDS/STIs among female college students was relatively high, they had low comprehensive knowledge that capable of them to prevent infections of STIs and HIV.

- Regarding risky sexual behavior and self risk perception, most of the study subjects had involved in risky sexual behaviors but the great majority of them considered themselves having low or no risk for HIV infection.

- Protective behavior such as utilization of condom use was found to be inadequate but self recognition of HIV status in the last 12 months was relatively higher.

9. Recommendation

Based on the findings the following recommendations are forwarded:

- Continuous IEC/BCC intervention programs required since low risk perception of HIV risks, and low comprehensive knowledge on transmission of HIV infection, prevention and misconceptions are observed.
- Creating a positive youth friendly environment to address sensitive gender-related issues and access protective means like condom provision within the institution and the community;
- Emphasis should be given to ensure access for young people to sex education, HIV/STIs, including information about contraceptives.
- Students have to be further promoted to HIV counseling and testing services
- Further research on sexuality and the prevalence of HIV/STIs focusing students at higher education level is recommended in curbing the silent course of the pandemic.

References

1. UNAIDS. *Report on the global HIV/AIDS epidemic*. Joint United Nations programs on HIV/AIDS 2008.
2. Daniel R Hogan RB, Chika Hayashi,Jeremy A Lauer,Joshua A Salomon *Achieving the millennium development goals for health; cost effectiveness analysis of strategies to combat HIV/AIDS in developing countries.* BMJ 2005; 331.
3. UNAIDS/WHO *AIDS Epidemic up date report.* Geneva, 2004.
4. Derek P.et al. UNAIDS, second Independent Evaluation 2002-2008: country visit to Ethiopia summery report 2008.
5. FMOH Ethiopia *Single point HIV prevalence estimate*. 2007.
6. Daniel R Hogan & Joshua A. Salomon *Prevention and treatment of HIV/AIDS in resource limited settings*. Bulletin of the WHO 2005; 83(2).
7. Yemane B et.al. *Gender, literacy & survival among Ethiopia Adults 1987-96.* Bulletin of the WHO2002; 80:714-20.
8. Mitike G, Tameru. M. *The drivers of HIV/AIDS Epidemic and Response in Ethiopia.* UNFPA and HAPCO, 2008.
9. FMOH Ethiopia, *Health and health related indicators*, 2007/08.
10. FMOH Ethiopia, *National guideline for the management of sexually transmitted Infections using the syndromic approach*. 2006.
11. CSA. *Ethiopian demographic survey report.* 2005.
12. WHO, *World Health Organization, Fact Sheet* no.186 and SHR No. 67, Geneva 2004.
13. WHO. *HIV/AIDS Epidemiological Surveillance Report for the WHO African Region Update*. 47, 49, Geneva 2007.
14. Getenet M. et.al. HIV*/AIDS behavioral surveillance survey (BSS) Ethiopia round two.* MOH/HAPCO, 2005.
15. WHO. *Risk and protective factors affecting adolescent reproductive health in developing countries,* summery 2004.
16. Kaven G.et al, editor. *Health Behavior & Health Education: theory, research, & practice* 4 th ed. Jossey-Bass publisher; 2008.
17. Adebola A. Adedimeji F, Omololu, and Oluwole Odutolu adebola, *HIV risk perception and constraints to protective behavior among slum dwellers Ibadan*, *Nigeria.* JHPN 2007; 25(2).

18. Seme A, Wirtu. D. *Premarital Sexual Practice among School Adolescents in, Nekemte Town, East Wollega*. EJHD2008; 22(2):167-73.
19. Tamire W, Enqueselassie. F. *Knowledge, attitude, and practice on emergency Contraceptives among female university students in Addis Ababa, Ethiopia,* EJHD, 2007; 21(1):p.111-6.21 ;(2), 2007, P. 111-116.
20. Norris AH, et al. *Alcohol and transactional sex: How risky is the mix?* Social Science and Medicine, 2009; 89(3).
21. Iwuagwu S & Ajuwon A. *Sexual behavior and negotiation of the male condom by female students of the University of Ibadan, Nigeria.* Journal of Obstetrics and Gynecology 2000; 20 (5):507-13.
22. Ambaw F. *The effect of socio-demographic factors and sources of sex information on romantic love levels among Jimma university students.* EJHD2009; 23(1):34-9.
23. FHI. *Guideline for repeated behavioral survey in population at risk of HIV*. 2000.
24. Kazhila C.Chinsembera Seter Siziya *Prevalence and social correlates of sexual intercourse among school going adolescent in Namibia*. Available from: http://www.JSAHA.net/2009/05/prevalence-social-corelates/ [Accessed19th Oct 2009]
25. Onja Holison et.al. Sexual behavior and condom use among university students in Madagascar Available from:http://www.JSAHA.net/2009/08/sexual-behavior-condoms-students-madagascar/ [Accessed19th Oct 2009].
26. MMWR,Sexual and reproductive health of persons aged 10-24years –United states, 2002-2007,MMWR 2009;58 No.ss-6 Available from: http://www.cdc.gov/mmwr[Acessed 23rd February 2010].
27. Abebe A,Mitikie G, *Perception of high school students towards voluntary HIV counseling and testing ,using health belief model in Butajira, SNNPR*. EJHD, 2009; 23 (2).
28. UNAIDS/WHO *AIDS epidemic up date*, Geneva, December 2009.
29. Caroline W. Kabiru, Pamela Orpinas, Factors associated with sexual activity among high school students in Nairobi, Kenya, 2008.Available from http://www.sciencedirect.com/[accessed 9th February 2010]

Annexes

Annex I: Information Sheet

Addis Ababa University, Faculty of Medicine, School of public Health. This questioner is prepared on risky sexual behavior and the barriers of protective behavior among female college students.

Dear student,
Hello, my name is................ I am working in the research Team of the Addis Ababa University, Faculty of Medicine, School of Public Health. I would like to ask you a few questions about perception of risky sexual behavior and the barriers of protective behavior among female college students.

In ensuring the health of young people, understanding of existing problems and related behaviors of such group of the population is important. The purpose of this study is to generate information about college female students' perception on risky sexual behavior and the determinant factors on protective behaviors of HIV/STIs and you are chosen to participate in this study.
The information obtained from this study may help to design appropriate intervention that helps to prevent and control the transmission of HIV/STIs in young college students. Here is a self administered questionnaire for you to complete. Your answers are completely confidential. Your name will not be written on this form, and will never be used in connection with any of the information you tell me.
The study will involve various intimate and private life questions. Some of them are very personal questions that some people find difficult to answer. You do not have to answer any questions that you do not want to answer, and you may end this interview at any time you want to. If you don't want to participate you can leave the format on the table (upside down). But, you are requested to remain in your seats until others finish filling the format. However, your honest answers to these questions will help us to better understanding of what people think, say and do about certain kinds of behaviors. There are no risks associated with participation in this study. There is no incentive to be given being participated in the study. We would greatly appreciate your help in responding to this survey. The whole process may take about an hour. If the survey report is published, only information about the total group will appear, without any identification of personal history. Would you be willing to participate?
Yes, I want to participate in the study. ☐ Please go to the next page.

No, I don't want to participate in the study. ☐ Thank you very much!

For further information contact

Principal Investigator: DANIEL ALEMU

Cell Phone: 0910220509/0918700248

Addis Ababa University, Faculty of Medicine, Institutional Review Board: Tel. 0115538734

Consent form

I have read and understood well the condition stated above and I can withdraw from the study at any time and I understand that there is no risk on being participate and no incentive to be given when I participate in the study. Therefore, I am willing to participate in the study.

Signature____________________

Date_____________ 2002 E.C/2010G.C.

Annex II: English Questionnaire

001 Questionnaire Identification No: _____________

002 Site (Code of the college): __________________________

003 Date Interview: ____/____/_____

Checked by Supervisor: signature_______________Date___/___/____

This questioner will be completed by female college students.

PART ONE: Socio- Demographic Characteristics of the Respondents

NO	Question	Response	Skip to	Code
Q101	How old are you?	_______ In Years		
Q102	Year of study (CIRCLE ONE)	1.Year I 2.Year II 3.Year III		
Q103	To which ethnic group do you belong? (CIRCLE ONE)	1.Amhara 2.Awi 3.Oromo 4.Tigry 5.Others		
Q104	What religion are you? (CIRCLE ONE)	1.Orthodox 2.Muslim 3.Protestant 4.Other (Specify) ________		
Q105	With who do you are currently living? (CIRCLE ONE)	1.Alone In Rented Dormitory 2.With my family (Relatives) 3.With Peer/Friends/Students In Rented Dormitory 4.With My Boy Friend/fiancé		
Q106	How do you support your income?	1. Employed In Public Organization 2. Employed In Private Organization 3. Self Employed 4. Not Employed		
Q107	How much is your monthly income in average? (the source can be anywhere)	___________ETH Birr		
PART TWO: Knowledge, Attitude, Behavior And Practice Related To HIV/AIDS & STDs				
Q108	Have you ever heard of an illness called	1.Yes		

	AIDs?	2.No 9.No Response		
Q109	Can people protect themselves from the virus that causes AIDS by having sex with one uninfected, faithful partner?	1. Yes 2. No 8. Don't Know 9.No response		
Q110	Can people protect themselves from the virus that causes AIDS by using a condom correctly every time they have sex?	1. Yes 2. No 8. Don't Know 9.No response		
Q111	Can people protect themselves from the virus that causes AIDS by abstaining from sexual intercourse?	1. Yes 2. No 8. Don't Know 9.No response		
Q112	Do you think that a healthy-looking person can be infected with HIV, the virus that causes AIDS?	1. Yes 2. No 8. Don't Know 9.No response		
Q113	Do you think that HIV can transmitted by eating raw meat prepared by HIV infected person?	1. Yes 2. No 8. Don't Know 9.No response		
Q114	Can a person get HIV virus by Mosquito bites?	1. Yes 2. No 8. Don't Know 9.No response		
Q115	Can a pregnant woman infected with HIV / AIDS transmit the virus to her unborn child?	1. Yes 2. No 8. Don't Know 9.No response		
Q116	Is there anything else a person can do to avoid or reduce the chance of getting AIDS? Or Is it possible to prevent the transmission of the HIV virus?	1.Yes 2.No→ 8.Don't Know→ 9.No response	 To Q118 To Q118	
Q117	If you say "Yes" to Q116, what can a person do? (More than one answer is possible)	1.Abestain From Sex 2.Use Condoms 3.Limit Sex To One Partner 4.Be Faithful To One Partner 5.Avoid Sex With Person Who Have Many Partners 6.Avoid Blood Transfusion 7.Avoid Sharing Razors/Blades 8.Others (Specify)__________		
Q118	Do you know anyone who is infected with HIV or who has died of AIDS?	1. Yes 2. No→ 8.Don't know →	 To Q 120	

		9.No Response	To Q 120	
Q119	Do you have a close relative or close friend who is infected with HIV or has died of AIDS?	1.Yes 2.No 8. Don't know 9.No Response		
Q120	Do you agree or disagree with the following statement: Use of condom will encourage promiscuity.	1.Agree 2.Disagree 8.Don't Know Opinion		
Q121	Do you agree or disagree with the following statement: People with the virus should be blamed for bringing the disease into community.	1.Agree 2.Disagree 8.Don't Know Opinion		
Q122	Do you approve premarital sexual intercourse can increase the chance of acquiring the virus?	1.Agree 2.Disagree 8.Don't Know Opinion		
Q123	If a relative of yours became ill With HIV/AIDS, would you be willing to care for him in your household?	1 .Yes 2.No 8.Don't Know		
Q124	If a student has HIV but is not sick, should he or she be allowed to continue attending school?	1.Yes 2.No 8. Don't Know		
Q125	If you knew a shopkeeper or food seller had HIV, would you buy food from them?	1.Yes 2.No 8. Don't Know		
Q126	If a member of your family became ill with HIV/AIDS, would you want it to remain Secret?	1.Yes 2.No 8. Don't Know		
	STIs			
Q127	Have you ever heard of diseases that can be transmitted through sexual intercourse?	1.Yes 2.No→ 8. Don't Know➔	 To Q 130 To Q 130	
Q128	Circle those diseases transmitted by sexual intercourse. (MORE THAN ONE ANSWER IS POSSIBLE.)	1.Gonorrhea 2.HIV/AIDS 3. Syphilis 4.Chancroid 4.Malaria 5.Tuberclosis 6.Other ________________ Specify		
Q129	Can you choose any symptom that is related with sexually transmitted diseases (STDs) in women?	1.Genital Discharge With Foul Smelling Discharge 2. Burning Pain On		

	(MORE THAN ONE ANSWER IS POSSIBLE.)	Urination 3. Genital Ulcers/Sores 4. Swellings In Groin Area 5. Lower Abdominal Pain With Genital Discharge Foul Smelling Discharge		
Part Three: Sexual Behavior , Practices And Condom Use				
Q130	Have you ever been married?	1.Yes 2.No→ 9.Noresponce	To Q133	
Q131	How old were you, when you first married?	Age In Years________ 88.Don't Know 99. No response		
Q132	What is your marital status currently?	1.Married ;Living With My Spouse 2. Married ;Living Alone 3. Not Married ;Living With My Boy Friend 4. Not Married ;Living Alone 8.Don't Know 9.No response		
Q133	Have you ever had sexual intercourse? For the purposes of this survey, "sexual intercourse," is defined as fully penetrative vaginal sexual intercourse.	1.Yes 2.No → 9. No response	To Q154	
Q134	At what age did you have first sexual intercourse?	Age In Year________ 88.Don't Know 99.No response		
Q135	If you are married, had you ever had sexual intercourse before your engagement?	1.Yes 2.No 9.No Response		
Q136	What was your reason for starting sexual intercourse? (CIRCLE ONE)	1.Marriage 2.Personal Desire(Consensual) 3.Peer Pressure 4.Forced 8.Don't Know 9.No response		
Q137	How much older or younger was the person with whom you had your first sexual experience? (compared to your age at first exposure) (CIRCLE ONE)	1.Morethan 10 yrs older 2. 5-10yrs older 3. less than 5yrs older 4.Younger Than Me 8. Don't Know 9.No response		
Q138	Was a condom used during the first time you had sexual intercourse?	1.Yes → 2.No 8.Don't know 9.No Response	To Q139	

Q139	What is the reason not to use condom at that time? (CIRCLE ONE)	1.Not Available 2.Decrease Pleasure 3.Affect Partner Trust 4.Didn't think of it 5.Known Allergic to it 6.Used Other Contraceptive 7.partener objected 88.Don't Know 99.No response		
Q140	With how many partners did you had intercourse in your life time?	In Numbers________ 8.Don't Know 9.No response		
Q141	Have you had sexual intercourse in the last 12 months?	1.Yes 2.No 9.No Response		
Q142	During the past 12 months, or before that, did any of your sexual partner(s) force you to have sex with them even though you did not want to have sex?	1.Yes 2.No 9.No Response		
Q143	How many times did you have sexual intercourse over the last 30 days?	Number of times__ __ 8.Don't know 9. No response		
Q144	In total, with how many different people you have had intercourse with in the last 12 months?	______in number 8.Don't know 9.No response		
Q145	Have you used condom when you had sexual intercourse in the last four weeks?	1.Yes 2.No → 9.No Response	To Q148	
Q146	Who suggested condom use that time? (CIRCLE ONE)	1. Myself 2. My Partner 3. Joint Decision 8. Don't know 9.No Response		
Q147	With what frequency did you and all of your regular partner(s) use a condom during the past 12 months? (CIRCLE ONE)	1. Every Time 2. Almost Every Time 3. Sometimes 4.Never 8.Don't know 9.No response		
Q148	Why didn't you and your partner use a condom during the last intercourse? (more than one answer is possible)	1. Not Available 2. Too Expensive 3. Partner Objected 4. Break trust 5.Used Other Contraceptive 6.Allergic to it 7.didn't conceded it as if		

		it was necessary 8.Don't know		
Q149	What was the relation between your partner/s that had sexual intercourse with you in the last 12 months?(CIRCLE ONE)	1.Spouse Or Fiancé 2. Acquaintance Or Friend 3. Stranger 4. Transactional Partner/S For Exchange Of Money, Or Gift (E.G. Sugar Daddy)		
Q150	Have you had a genital discharge during the past 12 months?	1. Yes 2. No 8.Don't know 9.No Response		
Q151	Have you had a genital ulcer/sore during the past 12 months?	1. Yes 2. No → 8.Don't Know→ 9.No Response	 To Q154 To Q154	
Q152	If your answer is "Yes" for Q150 or/and Q151 Where did you Seek advice/medicine when you had those symptom/s/ (CIRCLE ONE)	1. Government Hospital/Health Center? 2. College Clinic? 3. Private Clinic? 4. Private Pharmacy/Drug Vender? 5.Shope 6. Traditional Healer? 7. Others		
Q153	Which of the following contraceptive methods do you ever used? (more than one answer is possible)	1.Pill 2.Interautrain Device /IUD/ 3.Injectables 4.Implants 5.Condom 6.Rhythm Method Or Periodic 7.Abstinence 8.Withdrawal Method 9.Other Specify ___________		
Q154	Have you ever seen a male condom?	1.Yes 2.No 9.No Response		
Q155	Have you ever heard about the presence of a female condom?	1.Yes 2.No 9.No Response		
Q156	Do you know where to obtain male condom? (more than one answer is possible)	1.Government Hospital/Health Center 2.Private Clinic 3.Pharmacy/Drug Venders		

		4.Shope 8.Don't Know		
Q157	Had you ever been pregnant?	1.Yes 2.No→ 9.No Response	To Q160	
Q158	What was the outcome of your pregnancy?	1.Delived alive baby 2.Misscarage/Abortion 3.Still pregnant		
Q159	Was the pregnancy?	1.wanted 2.unwanted		
Q160	Where did you terminate if your answer for Q156 was abortion (CIRCLE ONE)	1.At Hospital/Health center 2.private clinic 3.Used Traditional medicine 4. Other(Specify)___________		
PART FOUR: Substance Use: Alcohol and Drugs/Khat/				
Q161	During the last 4 weeks how often have you had alcohol containing drinks? (CIRCLE ONE)	1.Every day 2.Once a week 3.Never		
Q162	The last time you had sexual intercourse, were you under alcoholic influence?	1.Yes 2.No 9.No Response		
Q163	Some people have tried a range of different types of drugs. Which of the following, if any, have you tried? (More than one answer is possible)	1.Marijuana 2.Khat 3.Cigarett 4.Never		
PART FIVE :RISK PERCERCEPTION				
Q164	Do you perceive a likelihood of becoming HIV infected or contracting STDs based on your previous exposure? (CIRCLE ONE)	1.Yes 2.No→ 8.Don't know→ 9.No Response	To Q166 To Q166	
Q165	How do you level the degree of your exposure?	1.No Risk 2.A Small Risk 3.A Moderate Risk 4.A Great Risk		
Q166	What is/are the reasons for your worry being at risk?(risk perception) (More than one answer is possible)	1.Accidental Cut Or Injection 2. Unprotected Vaginal Sex(Sex Without Condom) 3.Condom Breakage During Sex 4.Had Blood Transfusion 5. Had Many Sexual Partners 6.Had History Of Or		

		Current Symptoms Of STDs 7.Had History Of Rape		
Q167	At present which of the STDs/HIV/AIDS prevention method do you actually practice (Prefer)? (Circle one)	1.Abestenance 2.Faithfulness 3.Condom Use 4.Faithfuleness & Condom		
Q168	Have you ever under gone the voluntary HIV test (VCT), or have you ever had an HIV test?	1. Yes 2. No 9.No Response		
Q169	When did you have your most recent HIV test?	1.WITHIN THIS YEAR 2. BETWEEN 1-2 YEARS 3. BETWEEN 2-4 YEARS 4. MORE THAN 4 YEARS AGO 8. DON'T KNOW 9. NO RESPONSE		

That is the end of our questionnaire. Thank you very much for taking time to answer these questions. We appreciate your help

Annex III: Amharic Version

bxÄþS xbÆ †nþvRsþtE yHBrtsB «¤Â x«ÆbQ KFL bx¤C xY vþ/x¤DSÂ/ yxÆ§zR b>¬ãC zù¶Ã

bwsþÆêE xU§À ÆH¶ÃTÂ ymk§kÃ mNgìC §Y ytzUj m«YQ

ýD XHt½

«¤Â YS_LŸ S» ---------------YÆ§*L* yMs‰ý bxÄþS xbÆ †NvRStE ný bzþH kt¥ b¸gßù ÷l¤íC ýS_ y¸µÿdýN _ÂT btmlkt YHN m«YQ lxNC xqRÆlhù _ÂtÜ bwÈèC zù¶Ã bwsþÆêE

xU§À ÆH¶ÃTÂ ymk§kÃ mNgìC bx¤C xY vþ/x¤DSÂ/ yxÆ§zR b>¬ãC §Y _qET _Ãq½ãCN xqRBLšlhù

yzþH _ÂT >§¥ ys¤T y÷l¤J t¥¶ãC bwsþÆêE ÆHRÃTÂ kx¤C xY vþ/x¤DS/ yxÆ§zR b>¬C ÃlýN tU§ÀnTÂ bmk§kL zù¶Ã Ã§cýN GN²b¤ l¥ãQ sþçN YHNN _ÂT l¥µÿD b÷l¤J µlù s¤T t¥¶ãC mµklL m«YqÜN lmmlS xNcE tmR«šL k_ÂtÜ y¸gßý mr© s¤T t¥¶ãCN kx¤C xY vþ/x¤DS/ yxÆ§zR b>¬ãC lmk§kL y¸SCL SLT nDæ lmS‰T ÃSC§L YH bt¥¶ãC y¸ä§ m«YQ sþçN yMTsÀý M§> Ms«þR Y«bÝL SM> bm«YqÜ §Y xYä§M wYM kMTs ý mr© UR tÃYø bMNM mLK xYqRBM m«YqÜ MS«þ‰êEÂ yGL HYãTNE y¸mlktÜ _Ãq½ãCN Y L _qET _Ãê½ãC bÈM yGL HYãTN Sl¸mlktÜ lxNÄNìÒCN lmmlS lþÃScG„ YC§lù

mLS mS«T y¥TfLgþÃcýN _Ãq½ãC XNDTmL> xTgdJM m«YqÜN b¥N¾ýM gþz¤ L R TCÃl> bm«YqÜ mútF µLflG> m«YqÜN dFt> xSqM ý ngR GN l¤lÖC äLtý XSkþ=Rsù wNbR¹ §Y bmöyT l¤lÖC XNÄYrb¹ù XNDTtÆb¶Ÿ X«YÝlhù bzþH _ÂT bmútF> bxNC §Y y¸dRsý MNM >YnT xdU XNdl¤lÂ yM¬gßý ¥br¬Ò(gùRš) xYñRM YhùN XN©þ l_Ãq½ãC yMTsÅcý QNÂ TKKl¾ M§ëC s¤T wÈT t¥¶ãC y¸ÃSbùTN y¸Âg„TNÂ y¸ÃdRgùTN btmlkt Ã§cýN ÆHRÃT lmrÄT ÃSC§L

y_ÂT ý«¤T bþ¬tM y¸qRbý mr© yhùlùNM y_ÂtÜNÜ tú¬ðãC M§> y¸mlkT YçÂL XNJ yGlsBN gùÄY xÃqRBM YHNN m«YQ lmÑ§T bx«Ý§Y 35 dqEÝ lþwSD YC§L bzþH _ÂT lMTs N M§>Â Xg² ¬§Q MSUÂ XÂqRÆlN

b_ÂtÜ lmútF fÝd¾ n>?

xã mútF XfLUlhù ☐ wd¸q_lý gA Xlð

xY mútF xLfLGM ☐ bÈM xmsGÂlhù

lt=¥¶ mr©
_ÂtÜN y¸Ãµ£dý xè ÄN L >lÑ
äÆYL 0910220509 / 0918700248
wYM
xÄþS xbÆ †nþvRsþtE »ÄþµL Íµlþ tE xþNstEtEý>ÂL ¶vþý ïRD
SLK 011553873

t¥¶ãC b_ÂtÜ fÝd¾ mçÂcýN y¥rUgÅ æRM

k§Y ytgl{ýN hùn¤¬ b¸gÆ xNBb¤ trDÒlhù bt=¥¶ k_ÂtÜ b¥N¾ýM gþz¤ X‰s¤N ¥GlL XNdMCLÂ bzþH _ÂT bmútØ bXn¤ §Y y¸dRS xdU XNdl¤lÂ y¥gßý ¥br¬Ò(gùRš) XNd¥YñR trDÒlhù SlzþH b_ÂtÜ lmútF Ñlù fÝd¾ mçn¤N bðR¥y xrUGÈlhù

ðR¥--------------------------------

qN -----------/-----------/ 2002 >/M/201

bxÄþS xbÆ †nþvRsþtE yHBrtsB «¤Â x«ÆbQ úYNS KFL ytzUj

YH æRM y¸ä§ý bs¤T t¥¶ãC ný

001 y_Ãq½ wrqtÜ mlÃ----------------

002 y÷l¤º mlÃ ÷D---------------

003 mr©ý ytsbsbbT :lT ------------/----------/------------

KFL xND\ ytú¬ðãC ¥Hb‰êE ÷ñ¸ÃêEÂ ySn HZB mr©

y_/qÜ _R	_Ãq½	X¥‰ S	wd _Ãq½ Ylû	÷D
_101	XD»> SNT ný?	----->mT		
_102	ySNt¾ >mT t¥¶ n>?	1. 1¾ >mT 2. 2¾ >mT 3. 3¾ >mT		

_103	B¼¤R> MNDný?	1. x¥‰ 2. åéä 3. xêE 4. TGÊ 5. l¤§ kl Y_qsù-------------- -		
_104	yMN ¦Y¥ñT tk¬Y n>? (xND BÒ Mr)	1. åRèìKS 2. ÑSlþM 3. PétES¬NT 4. l¤§ kl Y_qsù-------------- -		
_105	Æhùnù wQT k¥N UR ný yMTñ¶ý? (xND BÒ Mr)	1. BÒyN 2. kb¤tsïc½/kzmìc½ UR 3. k d®c½/ kl¤lÖC t¥¶ãC UR 4. kwND d¾y(Xô¾y) UR		
_106	X‰S>N yM¬StÄD¶bT o‰ xl>? (xND BÒ Mr)	1. xã\ ymNGST s‰t¾ nŸ 2. xã\ yGL m/b¤T s‰t¾ nŸ 3. xã\ y‰s¤ DRJT xlŸ 4. S‰ ylŸM		
_107	bx¥µY ywR gbþ> MN ÃHL YçÂL?(MNŒ kyTM lþçN YC§L)	...................BR		

KFL hùlT yx¤C xY vþ/x¤DS/ yxÆ§zR b>¬ãC §Y XýqT GN²b¤ ÆH¶Â xD‰¯TN btmlkt

y_/qÜ _R	_Ãq½	X¥‰ S	wd _Ãq½Ylû	÷D
_108	x¤DS y¸ÆL b>¬ XNÄl sMt> ¬ýq½l>?	1. xã 2. ylM 3. x§ýQM		
_109	sãC kxND kŠYrsù nÉ kçn sý UR BÒ yGBr SU GnùŸnT b¥DrG k x¤DS ŠYrS lþ«bqÜ YC§lù?	1. xã 2. ylM 3. x§ýQM		
_110	sãC yGr SU GNßùnT b¸ÃdRgùbT gþz¤ hùlù ÷NìMN bþ«qÑ kx¤DS ŠYrS lþ«bqÜ YC§lù	1. xã 2. ylM 3. x§ýQM		
_111	sãC yGBr SU GnùŸnT k¥DrG bþö«bù kx¤DS ŠYrS lþ«bqÜ YC§lù	1. xã 2. ylM 3. x§ýQM		
_112	«¤n¾ b¸mSL sý yx¤DS ŠYrS bdÑ ýS_ lþñRbT YC§L	1. xã 2. xYdlM 3. x§ýQM		
_113	kŠYrsù UR y¸ñR sý ÃzUjýN _Ê U mmgB yx¤DS ŠYrSN ÃSt§LÍL	1. xã 2. ylM 3. x§ýQM		
_114	C xY vþ/ DS bwÆ TNŸ NKš lþt§lF YC§L	1. xã 2. ylM 3. x§ýQM		
_115	C xY vþ/ DS ŠYrS bd ýS_ ÃlÆT nFs «ùR XÂT ŠYrsùN wd INsù L¬St§LF TC§lC	1. xã 2. ylM 3. x§ýQM		
_116	C xY vþ/ DS XNÄYt§lF y¸ÃSCL mk§kÃ mNgD xl Bl> ¬M¾l>?	1. xã 2. ylM ➔ 3. x§ýQM➔	 Wd _118 Wd _118	
_117	l_Ãq½ 116 mLS> **xã** kçn bMN mNgD lþçN YC§L?	1. kGBr SU GNßùnT bm¬qB 2. ÷NìM bm«qM		

	(kxND b§Y mLS mS«T YÒ§L)	3. yGBr SU GNßùnTN kxND bŠYrsù µLtÃz sý UR bmwsN 4. b_NÝq½ ytS«N dM bmýsD 5. kxND b§Y ywsþB d¾ Æl¥ÃZ 6. l¤§ kl _q>-----------------------		
_118	b C xY vþ/ DS ytÃz wYM b DS MKNÃT yät sý ¬ýqEl>?	1. xã 2. ylM➔ 3. x§ýQM ➔	wd_120 wd _120	
_119	b C xY vþ/ DS ytÃz wYM b DS MKNÃT yät zmD wYM yQRB d¾ nbr>?	1. xã 2. ylM 3. x§ýQM		
_120	÷NìM m«qM LQ yçn yGBr SU GNßùnTN Ãbr¬¬L/ ÃSÍÍL	1. XS¥¥lhù 2. xLS¥¥M 3. x§ýQM /¦úb¤N mGlA Xcg‰lhù		
_121	k C xY vþ/ DS UR y¸ñ" sãC b>¬ýN wd HBrtsbù b¥MÈ¬cý lþwgzù YgÆL	1. XS¥¥lhù 2. xLS¥¥M 3. x§ýQM /¦úb¤N mGlA Xcg‰lhù		
_122	kUBÒ bðT y¸drG yGBr SU GNßùnT b C xY vþ/ DS ymÃZN :DL lþÃ¿Íý YC§L	1. XS¥¥lhù 2. xLS¥¥M 3. x§ýQM /¦úb¤N mGlA Xcg‰lhù		
_123	bb¤¬Chù y¸ñR yQRB zmD yçn sý ŠYrsù XNÄlbT B¬ýqE XNKBµb¤ l¥DrG fÝd¾ n>?	1. xã 2. ylM 3. x§ýQM		
_124	yKFL d¾> ŠYrsù bþñRÆT/bT wYM y DS b>t¾ BTçN/bþçN wd ÷l¤J XNDTmÈ/XNÄþmÈ TfQ©l>?	1. xã 2. ylM 3. x§ýQM		
_125	xND kŠYrsù UR y¸ñR sý yMGB sùQ bþñrý MGB gZt> lm«qM fÝd¾ n>?	1. xã 2. ylM 3. x§ýQM		
_126	kb¤tsïC> mµkL bxND sý §Y y C xY vþ ŠYrS XNÄlbT B¬ýqE gùÄ†N bMS«þR XNÄþÃZ TfLgþl>?	1. xã 2. ylM 3. x§ýQM		
_127	bGBr SU GNßùnT y¸t§lF yxÆ§zR b>¬ XNÄl sMt> ¬ýqEÃl>?	1. xã 2. ylM ➔	wd_129	
_128	l_126 mLS> **xã** kçn k¸ktlùT ýS_ yxÆ§zR b>¬ yçný ytÜ ný? (kxND b§Y mLS YÒ§L)	1. =B_ 2. C xY vþ/ DS 3. qE_Ÿ 4. kRKR 5. wÆ 6. yúMÆ nqRú 7. l¤§ kl Y«qS---------------------------		
_129	k¸ktlùT ýS_ bs¤èC §Y k¸ksT yxÆ§zR b>¬ MLKT mµkL mMr_ TCÃl>? (kxND b§Y mLS YÒ§L)	1. >¬ Ãlý yBLT fú> 2. >NT b¸¹nù gþz¤ y¥Ý«L S»T 3. yBLT mqÜsL 4. bB>>T xµÆbþ ¥b_(XÆ mýÈT) 5.k:MBRT b¬C yçD HmMÂ >¬ Ãlý y¥Þ{N fú> 6.x§ýqýM		

KFL ST ywsþÆêE ÆHRY xD‰¯TÂ y÷NìM x«ÝqM btmlkt

y_Ãq½ qÜ_R	_Ãq½	X¥‰	wd _Ãq½Ylû	÷D
_130	xGBt> ¬ýq½Ãl>?	1. xã 2. ylM ➔	 _133 Xlð	
_131	l _129 mLS> **"xã"** kçn lmjm¶Ã gþz¤ S¬gbþ :D»> SNT nbr?	------------->mT x§ýqýM		
_132	bxhùnù wQT Ãlý yUBÒ hùn¤¬> MN YmS§L? (xND BÒ Mr)	1. ÆlTÄR nŸ/ kÆlb¤t½ UR Xñ‰lhù 2. ÆlTÄR nŸ GN BÒyN ný yMñrý 3. x§gÆhùM GN k d¾y UR xBrN XyñRN ný 4. x§gÆhùM BÒyN ný yMñrý 5. x§ýQM		
_133	yGBr SU GNßùnT xDRg¹ týqEl> ? (bzþH _ÂT yGBr SU GNßùnT ¥lT ywND BLT b BLT zLö ytdrg GNßùnT ¥lT ný)	1. xã 2. ylM ➔	 _149 Xlð	
_134	lmjm¶Ã gþz¤ yGBr SU GnùŸnT S¬dRgþ :D»> SNT nbR?	------------------>mT xlýqýM		
_135	kUBÒ> bðT yGBr SU GNßùnT xDRg> ¬ýq½l>?	1. xã 2. ylM		
_136	lmjm¶Ã gþz¤ yGBr SU GNßùnT l¥DrG ynbr> MKNÃT MN nbR? (xND BÒ Mr)	1. Sl xgÆhù(bUBÒ) 2. ¥DrG SlflGhù(tS¥Mc½) 3. b d®c½ tgÍFc½ 4. tgDË/ tdFÊ 5. lgNzB /lSõ¬ By 6. bsùS/ bm«_ mNfS tgDË 5. x§ýqýM		
_137	Ãn¤ µNC UR yGBr SU GnùŸnT yf{mý sý :D» kxNC XD» UR sþnÉ{R XNÁT nbR? (xND BÒ Mr)	1. kXn¤ b10>mT YbLÈL 2. k5-10 >mT YbL«¾L 3. b1- 5 >mT YbL«¾L 4. kXn¤ ÃNúL 5. x§ýqýM		
_138	lmjm¶Ã gþz¤ yGBr SU GNßùnT S¬dRgù ÷NìM t«Q¥Chù nbR?	1. xã ➔ 2. ylM	_140 Xlð	
_139	l _137 mLS> **"ylM"** kçn MKNÃtÜ MN nbR?	1. ÷NìM xLnbrNM 2. :Rµ¬N Sl¸qNS 3. mt¥mÂCNN Sl¸ÃšKR 4. XSf§gþ mçnùNN S§LtrÄhù 5. ¯d¾y SltÝãmŸ 6. Sl¥YS¥¥Ÿ(xlRJK) SlçNkù 8. l¤§ ywlþD mk§kÃ Slt«qMkù 9. x§ýqýM		
_140	bHYãT zmN> kSNT sãC UR yGBr SU GNßùnT fImšL?	bqÜ_R YglI........ 88. x§ýqýM		
_141	bxlûT 12 w‰T gþz¤ ýS_ yGBr SU GNßùnT fIm> ¬ýq½Ãl>?	1. xã 2. ylM ➔	 _154 Xlð	
_142	bxlûT 12 w‰T gþz¤ ýS_ kF§¯T> ý / tgd> yGBr SU GNßùnT fIm> ¬ýq½Ãl>?	1. xã 2. ylM 3 x§ýQM		
_143	bxlûT 12 w‰T ýS_ kSNT	bqÜ_R YglI........		

	sý UR yGBr SU GNßùnT f{M>?	88. x§ýqýM		
_144	bxlûT 4 úMN¬T(30 qÂT) ýS_ MN ÃHL gþz¤ yGBr SU GNßùnT f{M>?	bqÜ_R YglI........ 88. x§ýqýM		
_145	lm=rš gþz¤ ÆdrG>ý yGBr SU GNßùnT wQT ÷NìM t«Q¥C L?	1. xã 2. ylM ➔ 3. x§ýqýM➔	wd _148 wd_148	
_146	÷NìM lm«qM húbùN Ãqrbý ¥N nbR? (xND BÒ Mr)	1. Xn¤ 2. d¾y 3. hùl¬CN tS¥MtN 4. x§wqýM		
_147	ÆlûT 4 úMN¬T yGBr SU GNßùnT S¬dRgù ÷NìMN bMN ÃHL gþz¤ t«q¥Chù?	1. hùL gþz¤ 2. BzùýN gþz¤ xN«q¥lN 3 xNÄNÁ XN«q¥lN 4. b ‰> t«Q» x§ýQM		
_148	b _144 mLS> **"ylM"** kçn §lm«q¥Chù MKNÃtÜ MN nbR? (kxND b§Y mLs YÒ§L)	1. ÷NìM xLnbrNM 2. :Rµ¬N Sl¸qNS 3. mt¥mÂCNN Sl¸ÃšKR 4. XSf§gþ mçnùNN S§LtrÄhù 5. ¯d¾y SltÝãmŸ 6. Sl¥YS¥¥Ÿ(xlRJK) SlçNkù 7. l¤§ ywlþD mk§kÃ Slt«qMkù 8. x§ýqýM		
_149	lm=rš gþz¤ xBé> ynbrý ywsþB d¾> UR ynb‰Chù GNßùnT MN nbR? (xND BÒ Mr)	1. Ælb¤t½/ X ¾y 2. ytêwQhùT d¾y 3. XNGÄ/ xUÈ¸ 4. l_QM ytêãQhùT sý 5.x§ýqýM		
_150	>¬ Ãlý y¥Þ{N fú> ÆlûT 12 w‰T tkSèB> ÃýÝL?	1. xã 2. ylM 3. x§ýqýM		
_151	bBLT> §Y ymqÜsL MLKT ÆlûT 12 w‰T tkSèB> ÃýÝL?	1. xã 2. ylM ➔ 3. x§ýqýM➔	_153 Xlð _153 Xlð	
_152	b _150 wYM 151 mLS> **"xã"** kçn HKMÂ wYM :RÄ¬ l¥Ggß¤T mjm¶Ã wÁT ÿD>? (xND BÒ MrÀ)	1. wd mNGST y«¤Â t M 2. wd GL y«¤Â DRJT 3. wd ÷l¤º KlþnþK 4. wd ÎR¥sþ 5. wd sùQ 6. wd ÆHL HKMÂ xêqE 7. l¤§ µl Y«qS--------------		
_153	yT¾ýN ywlþD mk§kÃ mNgD t«Qm> ¬ýq½xl>? (kxND b§Y mLs YÒ§L)	1. bxF y¸ãsD kþnþN 2. ¥Þ{N wS_ Y¸gÆ(lùP) 2. bmRØ y¸s_ mk§kÃ 3. böÄ ýS_ y¸qbR 4. ÷NìM 5. bqN mqÜ«¶Ã zÁ 6. W b¥FsS zÁ 7. l¤§ µl Y«qS-------------- --		
_154	ywND ÷NìM xYt> ¬ýq½Ãl>?	1. xã 2. ylM		
_155	ys¤T ÷NìM mñ„N sMt> ¬ýq½Ãl>?	1. xã 2. ylM		
_156	ywND ÷NìM kyT ¥Gß¤T	1. k mNGST y«¤Â t M		

	XNd¸ÒL ¬ýq½l>? (kxND b§Y mLs YÒ§L)	2. k GL y«¤Â DRJT 3. k ÷l¤º KlþnþK 4. k ÍR¥sþ 5. k sùQ 6. l¤§ µl Y«qS--------------		
_157	xRGz> (nFs«ùR) çn> ¬ýq½xl>?	1. xã 2. ylM ➔ 3 x§wqýM➔	 wd_161 wd _161	
_158	l _157 mLS> **"xã"** kçn y:RGZÂý ý«¤T MN nbR? (xND BÒ MrÀ)	1. bHYãT Ãl HÉN wL©lhù 2. xSwRì¾L/xSwR©lhù 3. xhùNM nFs «ùR nŸ		
_159	XRGZÂýN TfLgþý nbR/ TfLgþêl>?	1. XfLgêlhù(nbR) 2. xLfLgýM		
_160	y _ 158 mLS **xSãRì¾L wYM INsù t R** kçn :RÄ¬ lmGß¤T wÁT ÿD>?	1. ymNGST y«¤Â M 2. yGL y«¤Â DRJT 3. yÆHL mD¦nþT xêqE 4. l¤§ µl Y«qS-------------- -		

KFL x‰T sùS xSÃ m¦nþèCN btmlkt

y_Ãq½ qÜ_R	_Ãq½	X¥‰ S	wd _Ãq½Ylû	÷D
_161	ÆxlÍT 4 úMN¬T yxL÷LnT YzT Ãlý m«_ wSd¹ ¬ýq½l>?	1. xã 2. ylM		
_162	lm=rš gþz¤ ÆdrG>ý yGBr SU GNßùnT wQT bxL÷çL m«_ tI:ñ SR nbR>?	1. xã 2. ylM		
_163	Bzù sãC ytlÃ† mD¦nþèCN (XòCN) lþãSÇ YC§lù xNC kXnzþH xNÇN wSd> ¬ýq½l>?(kxND b§Y mLs YÒ§L)	1. ¼>> 2. ÅT 3. sþU‰ 4. hùlùNM 5. x§ýQM		

KFL xMST tU§ nTN btmlkt

y_Ãq½ qÜ_R	_Ãq½	X¥‰	wd _Ãq½ Ylû	÷D
_164	µlûT hùn¤¬ãC bmnúT lx¤C xY vþ/x¤DS/ yxÆ§zR b>¬ãC tULÅlhù Bl> ¬Sbþxl>?	1. xã 2. ylM wd ➔ 3. X§ýqýM➔	 wd _165 wd _167	
_165	ymUl_>N m«N XNÁT TfRJêl>? (xND BÒ Mr)	1. MNM xLsUM 2. TN> ÃsU¾L 3. bm«nù(mµkl¾) 4. bÈM XsUlhù 5. x§ýQM		
_166	lSUT> mNS>¤ MNDN nW? (kxND b§Y mLs YÒ§L)	1. töR= wYM mRØ twGc½ Sl¥ýQ 2. LQ yGBr SU GNßùnT xDRg¤ Sl¥ýQ 3. dM ts_èŸ Sl¸ÃýQ 4. Bzù d®C Slnb„Ÿ 5. yxÆ§zR b>¬ wYM l¤§ MLKT SlnbrŸ 6. yGÄJ wsþB tfIäBŸ Sl¸ÃýQ 7. ÷NìM tqìBN Sl¸ÃýQ 8. l¤§ µl Y«qS------		

_167	bxhùnù wQT bGL> x¤C xY vþN/x¤DSN/ yxÆ§zR b>¬N lmk§kL yM¬dRgþý /yMTmR ý mk§kÃ mNgD MNDN ný? (xND BÒ Mr)	1. mö«B 2. xND lxND t¥Mñ mwsN 3. ÷NìM bTKKLÂ ÆGÆbù m«qM 4. l¤§ µl Y«qS------		
_168	y C xY vþ MRm‰ xDRg> ¬ýq½l>?	1. xã→ 2. ylM	wd _169	
_169	lm=rš gþz¤ y C xY vþ MRm‰ ÃdrG>ý mc½ nbR?	1.bzþH >mT ýS_ 2.k1-2 >mT ýS_ 3. k2-4 >mT ýS_ 4. k4>mT b§Y çñ¾L	m=rš	

_Ãq½ý bzþhù ÃbÝL gþz¤>N Sýt> _Ãq½ãCN lmmlS §drG>LN TBBR kLB XÂmsGÂlN!!

Annex IV: Guideline of FGDs for Qualitative Study.

FGDs guide for female college students

1. Could you have please discussed if female students have particular problems?
2. What do you think about sexuality? How much appropriate to discuss on the topic?
3. Is there any problem if a girl abstains or stays being virgin for a long time? Why for or not?
4. What age do you think appropriate to begin sex? Suggest appropriate time/age to start sexual intercourse.
5. Do you remember how you decide to start the first sexual intercourse (full penetration)?
6. What kind of protective measures used during your last intercourse?
7. What do you think about the risks of HIV/STIs that can occur following unprotected exposures? What factors can be blamed to be aggravating the problems in females?
8. What do you suggest all about?

FGDs guide for college staffs (Female Teachers)

1. Could you please discuss on the health situation of female college students?
2. What are the most common problems? Do you think any problem with sexuality?
3. What factors do you think to worsen risk of HIV/STIS or other reproductive issues among female students?
4. When do you feel to start sexual practice/ before marriage? What is your opinion based on your practice?
5. Do you think sex education should be included in the curriculum? Did you ever face a problem in one of the students related to sexuality?
6. Is there any program held in your campus to inform students on risks like HIV/STIs or other problem?

7. Have you any plan or special arrangement in your college clinics to answer sex related problems? Is there condom in the clinic? Do students easily get it?

8. Have you ever observed anything with substance use in female students?

9. What do you suggest all about?

Declaration:

I hereby declare that I am the sole author of this thesis and it has not been submitted anywhere for any award. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners. I understand that my thesis may be made electronically available to the public.

Student Name: _Daniel Alemu (Bsc.)_

Signature: ____________________________________

Place: Addis Ababa University/Faculty of Medicine

Date of Submission: ____________________________

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

Advisor Name: _Mulugeta Betre (MD,MPH)_

Signature: __________________________________

Place: Addis Ababa University/Faculty of Medicine

Date of submission: ___________________________