

**ASSESSMENT OF SEXUAL ACTIVITY AND ASSOCIATED FACTORS
AMONG COLLEGE STUDENTS IN GAMBELLA TOWN, GAMBELLA,
WEST ETHIOPIA**

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**A THESIS SUBMITTED TO THE DEPARTMENT OF EPIDEMIOLOGY,
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Abstract

Background: - For most of the youths, college represents a shift towards greater independence from home and school settings, an opportunity to form new friendships, and for several opportunities to experience romantic and/or sexual relationships. Although adolescence and young adulthood are generally healthy times of life, several important public health and social problems either peak or start during these ages. Because they are in developmental transition, adolescents and young adults are particularly sensitive to environmental, that is, contextual or surrounding, influences

Objective: to assess sexual activity and associated factors among college students in Gambella town

Methods: - Cross-sectional study including both quantitative and qualitative data collection methods were carried out among college students in Gambella town from 02/04 – 02/05/2014. A total of 334 students were included. The quantitative data were collected using a structured self administered questionnaire. The qualitative data were collected using an in-depth interview and analyzed using thematic approach that were then triangulated with quantitative result. Quantitative data were entered into SPSS version 16. Odds ratios were calculated to determine the association between the outcome and selected variables through binary logistic regression and Multivariate Logistic regression were used to control for confounders.

Result: - Two hundred thirty (68.9%) of the respondents are male. Out of 334 respondents 204 (61.1 %) of the respondents were sexually active after joining college and of this males were 135 (66.2 %). The mean age at first sexual intercourse was 18.5 SD of 1.7 years. Being first year [AOR= 0.34 (0.14 – 0.82)], whose father were grade 9-12 [AOR= 3.12, 95% CI(1.25 – 7.82)], occasionally discuss sex related issue with relatives/friends [AOR= 2.65, 95% CI (1.09 – 6.40)], heard about condoms [AOR= 3.70 (1.52 – 9.03)], like to use condom [AOR= 0.33, 95% CI (0.15 – 0.73)], who think that college students are well informed about condom [AOR= 0.28, 95% CI (0.12 – 0.65)], who didn't think that college students are well informed about condom [AOR= 0.20, 95% CI (0.08 – 0.50)], and drink alcohol [AOR= 7.23, 95% CI (3.82 – 13.70)] have further association with sexual activity after joining college. The qualitative data also shows majority of students practice sexual intercourse after joining college and the major negative factors that led them to have were culture, alcohol consumption, peer pressure and economic problem.

Conclusion and recommendation

Majority of the students practice sexual intercourse during college year but there were poor practice of condom use during sexual intercourse. Provision of accurate information about adolescent sexuality and RH especially focused on risk and consequence of unprotected sex is essential for college students.

Key words: - sexual activity, condom use, college, STI

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Anti Natal Care
CD	Compact Disk
CSW	Commercial Sex Workers
EC	Emergency Contraceptive
EDHS	Ethiopian Demographic and Health Survey
EFY	Ethiopian Physical Year
HAPCO	HIV AIDS Prevention and Control Office
HEAIDS	Higher Education HIV and AIDS Program
KABP	Knowledge, Attitude, Behavior and Practice
LCD	Liquid Crystal Display
MOE	Ministry Of Education
RH	Reproductive Health
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
UNAIDS	United Nations Program on HIV/AIDS

1. Introduction

1.1 Background

College students are often viewed as being at high risk for HIV due to their propensity to engage in exploratory behavior and their needs for peer social approval and their sense of non-vulnerability (1). For most of the youths, college represents a shift towards greater independence from home and school settings, an opportunity to form new friendships, and for several an opportunities to experience romantic and/or sexual relationships (2).

Although adolescence and young adulthood are generally healthy times of life, several important public health and social problems either peak or start during these ages. Because they are in developmental transition, adolescents and young adults are particularly sensitive to environmental—that is, contextual or surrounding—influences. Environmental factors, including family, peer group, school, neighborhood, policies, and societal cues, can either support or challenge young people’s health or well-being. Addressing the positive development of young people facilitates their adoption of healthy behaviors and helps to ensure a healthy and productive future adult population (3).

Entry into a university can be overwhelming. Any freedom restricted by parents is now free-for-all. According to Caron and Halteman (1993), one-third of college freshmen have had sexual intercourse with at least two new partners since arriving at college. If this is a pattern that continues throughout students’ college careers, at least one-third of college freshmen are at high-risk for unwanted pregnancy and obtaining sexually transmitted infections (STIs) (4). A significant percentage of college students enrolled at 4-year institutions report engaging in risky sexual behaviors, such as using drugs or alcohol prior to or during sexual activity, not engaging in safe sex communication, having sex with multiple partners, and inconsistently using condoms during vaginal and anal intercourse (5, 6, 7, &8).

Sexual risk taking can lead to a number of negative consequences, including damage to romantic relationships, family conflicts, financial concerns, damage to social reputations, health problems, and legal disputes. However, the two most commonly addressed outcomes are unintended pregnancies and sexually transmitted infections (STIs), including HIV/ AIDS (9).

HIV/AIDS is a world tragedy, affecting every country in the world, and has no boundary (10). AIDS is one of the most serious public health and development challenges in sub-Saharan Africa. According to the 2011 EDHS, 1.5 percent of adults age 15-49 are infected with HIV (see Chapter 13). Heterosexual contact accounts for the great majority of HIV transmission in the country. AIDS is now affecting all sectors of Ethiopian society. The future course of the AIDS epidemic in Ethiopia depends on a number of factors including HIV/AIDS-related knowledge, social stigmatization, risk behavior modification, access to high-quality services for sexually transmitted infections (STIs), provision and uptake of HIV counseling and testing, and access to antiretroviral therapy (ART) (11).

Worldwide 34 million peoples live with HIV/AIDS from this 50% know their HIV status. New HIV infections are 2.5 million and Number of AIDS-related deaths is 1.7 million. Even though People eligible for HIV treatments are 14.8 million out of which only 8 millions are on HIV treatment. Twenty three and half million People living with HIV are residing in Sub- Saharan Africa. In Ethiopia people living with HIV were 790 000. In 2011, there were 33% fewer AIDS-related deaths in Africa than in 2005. By the end of 2012, nearly 290 000 Ethiopians were receiving free ART—74% of eligible people— as opposed to approximately 10 000 in 2005 (12). Many youth experimented with alcohol and abused other substances. This behavior compromised their judgment and increased their chances of engaging in risky sex. Large concentrations of young women come into contact with young men in a variety of public and private settings at various times on college campuses. Previous research suggests that these women are at greater risk for rape and other forms of sexual assault than women in the general population or in a comparable age group (13).

Sexual coercion exists along a continuum, from forcible rape to nonphysical forms of pressure that compels girls and women to engage in sex against their will. One of the coercion is that a woman lacks choice and faces several physical or social consequences if she resists sexual advances. Around the world at least one woman in every three has been beaten, coerced into sex, or otherwise abused in her lifetime (14).

Emergency contraception (EC), also called post coital contraception, is a method of preventing unwanted pregnancy that result from unintended sexual activity, contraceptive failure, or sexual

assault (15) and lack of knowledge or access to contraception, thereby reducing the need for abortions and the negative maternal health consequences associated with them (16).

1.2 Statement of the problem

Sexually transmitted Infections represent a large burden of disease worldwide with an annual incidence of about 333 million cases (17). Worldwide there are several studies on knowledge, attitude and practice of college students towards AIDS/Acquired Immune-deficiency syndrome/. A survey conducted among high school students in Addis Ababa had shown that 48% of students Knew AIDS and only about 15% of them were informed about the various types of STD. A study conducted to assess the prevalence of HIV among high school and college students attending clinics for STD, in A.A had shown a 19% sero-positivity. The report had shown that there is a serious cause of concern about protecting this sector of the population from AIDS (1).

Sex education is described as education about human sexual anatomy, sexual reproduction, sexual intercourse, reproductive health, emotional relations, reproductive rights and responsibilities, abstinence, contraception, family planning, body image, sexual orientation, sexual pleasure, values, decision making, communication, dating, relationships, sexually transmitted infections (STIs) and how to avoid them, and birth control methods (18).

In 2001, the rates of unintended pregnancy were highest among women aged 18–19 and 20- 24 compared to other age groups, with 1 out of 10 women reporting an unintended pregnancy (9). In a nationally representative sample of U.S. college students, it was found that 48.3% of those enrolled in 2-year institutions and 24.2% of those enrolled in 4-year institutions reported being pregnant or getting someone pregnant (19). It is estimated that 19 million STIs occur annually, almost half of them among adolescents and young adults ages 15–24 (20).

Joint United Nations Program on HIV/AIDS(UNAIDS) 2011 report declared that globally out of estimated 2.7 million people newly infected with the virus about 41% were young people 15-24 years of age (21). In Ethiopia according to Antenatal Care Sentinel surveillance (ANC) 2009, the prevalence of HIV/AIDS among young people of age 15-24 years was 2.6% (22).

The very low level of economic development, widespread poverty, very poor and inadequate health services make the consequences of adolescent sexuality much more serious in the Ethiopian context than those of the developed countries. This is reflected by the highest HIV

prevalence in the group 15-24 years 12.1%, (6% - 9 % among young men aged 15–24, and 10% 13 % among young women in the same age group) (23, 24).

The morbidity from STIs (excluding HIV) in women aged 15-45 years, ranks second next to maternal causes (25). Untreated bacterial STIs in women result in pelvic inflammatory disease in up to 40% of infections; and 1 in every 3 of these results in infertility. Tubal damage from STIs can lead to ectopic (tubal) pregnancy; the cause of up to 10% of maternal mortality in settings where prevalence of STIs is high. Chronic pelvic pain from untreated bacterial STIs is an important cause of health care visits among women (26).

In recent years, epidemiological studies have shown that persons with ulcerative and non-ulcerative STIs are more susceptible to HIV. Sexually transmitted infections that cause genital inflammation have been shown to increase the efficiency of HIV transmission as much as fivefold (25).

Studies on STIs among youth are very few in Ethiopia. Behavioral surveillance survey 2005 reported 4.6% genital discharge and 2.1% genital ulcers within 12 months amongst in-school-youth aged 15-19 years (27). A study conducted among Gondar Medical colleges students revealed 12 months period prevalence of reported STIs to be 7.8% (28).

There is a growing trend amongst female students that most of them are becoming pregnant and this implies that students are not using condoms when having sex (29).

Morbidity is a much more common consequence of unsafe abortion than mortality, but is determined by the same risk factors. Complications include hemorrhage, sepsis, peritonitis, and trauma to the cervix, vagina, uterus, and abdominal organs. High proportions of women (20–50%) who have unsafe abortions are hospitalized for complications (30). National studies show that the rate of hospitalization varies from a low of three per 1000 women per year (in Bangladesh, where menstrual regulation is legally permitted) to a high of 15 in Egypt and Uganda (31, 32).

Unplanned pregnancies increase the risk of dropping out or stopping out of college—61% of women who have children after enrolling in community college fail to finish their degree, which is 65% higher than the rate for those who didn't have children (33).

More than one million unplanned pregnancies occur to single women in their 20s each year—a group that includes many in community colleges. These unplanned, often unwanted pregnancies (as characterized by the mother herself), result in a large number of single parents who struggle

with finances, interrupted or indefinitely postponed education, unstable relationships, and a host of challenging health, educational, and social consequences for their children (34). Unplanned pregnancies can increase emotional and financial stress on the young men and women involved, which can impede academic performance (35).

In Ethiopia, early sexual debut, limited knowledge of sexual physiology, limited use of contraceptives, limited access to RH information and girls' limited control over their sex lives all contribute to the high rate of unwanted pregnancy (36).

Organizations who are working on the prevention of the disease should give attention to sexual risk behaviors that could have a paramount help to control the spread of AIDS among youth. Private colleges in Ethiopia don't have accommodations for their students, so that most of them are living in the rented houses away from their supervising family and the majority of them are from the poor rural farmers that have different social economical problems. Moreover, the current economic crises in the country particularly in the study area could have a role in college students to be engaged in exchanging sex for money to cover their learning fees and other expenses. Therefore the aim of this study is to assess factors associated with college student's sexual-activity.

2. Literature review

2.1 Over view

The Higher Education HIV and AIDS Program (HEAIDS) (2009) conducted a comprehensive HIV prevalence and knowledge, attitude, behavior and practice (KABP) study in the tertiary education sector of South Africa in order to enable the higher education sector understand the threat posed by the epidemic to its core mandate. A total of 23 605 (79.1 percent) out of 29 856 participants completed the questionnaires and also provided specimens for HIV testing. The study found that the mean HIV prevalence for students was 3.4 percent. The province with the highest HIV prevalence at 6.4 percent was Eastern Cape (EC) while Western Cape (WC) was lowest at 1.1 percent. Females had an HIV prevalence of 4.7 percent and they were more than three times as likely to be HIV positive compared to males (37).

A community-based study of youth aged 15–24 in Pune district, Maharashtra, reports that amongst young men, 17–24 % had had a romantic relationship, 20–26 % had engaged in some form of physical intimacy and 16–18 % had had sex; the proportions among young women were 5–8 %, 4–6 % and 1–2 %, respectively (38).

A study conducted among private college students in Bahir Dar city, Northwest Ethiopia showed that 391 (50.7%) ever had sexual intercourse. The mean age at sexual commencement for both sexes was 18.7 years with standard deviation of 1.97. One hundred nine (27.8%) of respondents of the study 20 (18.4%) males and 89(81.6%) females reported to have paid and received money in exchange of sex respectively and 115 (65%) males and 140(35%) females, had sex with more than one sexual partner in past 12 months. Besides with regard to condom use, 231(59%) sexually active respondents were reported to use condom consistently, however; 106(27%) and 44(11.3%) of sexually active respondents reported to use condom occasionally and never during their sexual activities respectively (39).

In a recent study that examined the determinants of HIV/AIDS related risky behaviors among adolescents, lower self-esteem and emotional distress significantly predicted unprotected sex and multiple partners (40).

2.2 Sexual activity

A study conducted in Welaita sodo university showed that Out of 158(35.3%) (27.2 % of male and 8.1% of female) reported to have experience of sexual intercourse, 122 (77.7%) (59.2 % male and 18.5% female) students had history of sexual practice in the last 12 months .The mean age (+SD) at first sexual intercourse was $17.7 \pm (4.9)$ years (41).

According to a study done in Nekemte one hundred forty (21.5%) adolescents reported having had premarital sexual intercourse at the time of survey, and among those adolescents who had premarital sexual intercourse the majority (57.2%) had their first sexual intercourse between 15 and 17 years (42). Of the total sexually active students (34.7%) had initiated sex after joining university. Thirteen percent had reported that they initiated sex due to peer pressure while 8.6% of students practiced sex to get money or other benefits from their sexual partners (43).

A study conducted in aleta wendo showed that 90 (48.9%) of the sexually active students reported that they have sexual intercourse with two or more partners. The mean number of partners was $(2.0 + 1.3)$. Out of the sexually active respondents, 52 (28%) male respondents reported of experiencing sex with female commercial sex workers in the past. Of those who are sexually active, the first sexual partner includes student friend 96 (52%), teachers 6 (3 %), government employer 13 (7 %), Merchants 3 (2 %) and others 14 (8 %). The main reasons for the first sexual initiation among girls includes to prove love of boy/ girl friend 5(29.4 %), peer pressure 4 (23.5%), carried away by passion 2(11.8%), to prove normality 2(11.8%), raped/ forced by partners 1 (5.9%) and others 3 (17.6%), (Fig. 2). Factors that led the respondents to have sexual acts were peer pressure 103 (55%), alcohol/ Khat use 22 (12%), being alone/ away from family 12 (6%) and others 38(20%). Others include desires of love (44).

Besides with regard to condom use, 231(59%) sexually active respondents were reported to use condom consistently, however; 106(27%) and 44(11.3%) of sexually active respondents acknowledged to use condom occasionally and never during their sexual activities respectively (39). Another study further pointed out that only 45(11.5%) respondents had used condom in their first sex. Moreover with regard to the frequency of condom use, 231(59.0%) sexually active respondents were reported to use condom consistently, however; 106(27.0%) and 44(11.3%) of sexually active respondents acknowledged to use condom occasionally and never during their sexual activities respectively (45).

Eighty three (52.9%) of study subjects reported ever use of condom. Consistent use of condom was reported by 34(54.0%). Thirty (24.8%) of study subjects reported to have sex with casual sexual partner. Eighty (52.6%) reported to have multiple sexual partners in their life, with mean number of sexual partners of 2.7 which is a bit higher in males (3.00) than females (1.71). Thirty one (22.3%) had multiple sexual partners in the previous year before survey. (41).

A study conducted among private college students in Bahir Dar city, Northwest Ethiopia shows that 109 (27.8%) of respondents of the study 20 (18.4%) males and 89(81.6%) females reported to have paid and received money in exchange of sex respectively and 115 (65%) males and 140(35%) females, had sex with more than one sexual partner in past 12 months (39).

A study conducted Among undergraduate Students of a Public University in Kenya Majority of the respondents (69.0%; 318) disagreed to the fact that condoms inconvenience sex, 54.9% (253) agreed that people should plan when they are going to have sex, 60.1% (277) disagreed to the fact that they get embarrassed to buy a condom. 88.7% indicated that condoms help to stop the spread of STI (46).

A study conducted among private college students in Bahir Dar city, Northwest Ethiopia showed that among respondents who were not using condom consistently disclosed the reason why they failed to use was that, 44.4% reported condom decreases sexual pleasure, 28.7% described fear of side effects and 18.5% because of religious reason (39).

In a recent study conducted among undergraduates, it was seen that students who had very good knowledge about HIV/AIDS, had low condom use to prevent its transmission (47).

Alcohol and Khat were the most frequently used substances. Accordingly out of the total respondents 194(25%) alcohol, 139(18%) Khat and 15(1.9%) were Cigarette users. Three hundred sixty four (47.2%) were exposed to pornographic movies out of which 202(55.5%) females (42). The lifetime prevalence of smoking was 13.1 % and that of khat chewing was 26.7 %. One hundred twenty students (10.9 %) were both lifetime smokers and chewers. Overall, 313 students (28.4 %) were either lifetime smokers or chewers or both (45). Out of the total subjects, 61.7% of the respondents were reported ever using at least one substance in their lifetime. Nearly 38% were current users of any substances. 35.4% were current alcohol consumers. 6.3% of study

participants were chewed khat 30 days prior to data collection. 4.4% and 1.7% were smoked cigarettes and used illicit drugs respectively (48).

A study conducted among private college students in Bahir Dar city, Northwest Ethiopia showed that among respondents who didn't initiate sexual intercourse; about 59.7% reported delayed sex to wait until marriage, 30% fear of HIV/AIDS and 8.2% because of religious reason (39).

2.3 Summary

An estimated of 20% of Ethiopia population is found to be between the ages of 15-24 years. However, existing data on young people reveal a lower age at sexual debut, increasing rates of sexual involvement, high morbidity and mortality from abortion complications and high prevalence of HIV/AIDS (1).

In spite of high knowledge the youths have on HIV/AIDS, they still engage in high-risk sexual behavior and have low risk perception on the disease. The age at first sexual debut is very young. They have sexual intercourse with two or more partners and some have casual sex (49). The magnitude of substance use and higher risk sexual behavior for HIV transmission is high among students. Khat and Alcohol were commonly used substances by study participants. Practicing sex with multiple partners, inconsistent condom use and commencing sex with female commercial sex workers in Bars and Brothels were common highly risky sexual behaviors for HIV infection transmission among study participants (50). Unprotected first time sexual act was reported-which might be practiced after students has joined university- which could be evidenced by one third of the students had practiced their first sexual intercourse after joining university (44).

2.4 Significance of the study

The rationale for studying these groups is that adolescents/youths are characterized by underdeveloped responsibility and decision-making. They are subjected to peer pressure and environmental factors that led them to participate in sexual intercourses. They lack knowledge about disease and protective measures. Especially ages 15-24 years old in school and/or out of schools are sexually active, have multiple partners, practice unsafe sex and have low sense of personal risk to HIV/STIs infection.

Because colleges are present only in the regional capital, students are forced to come to Gambella town and live alone. Another justification why it is focused on this group is that, they

are future parents and country assets and if intervened, it brings about cultural and behavioral changes by influencing the next generation. Adolescents/youths are very vulnerable groups, unless healthy behavior promoted and preventive measures are taken, they will be the next victims of an epidemic.

It is easy and favorable to provide them with appropriate information about anything important alongside their formal education. They are substantial number coming from more than nine Woreda's in to which if proper IEC and BCC are done on them they have the potential to act on the community they come from. The result of this study Help as base line information for further studies and as a source of information for planners, policy makers as well as stakeholders.

2.5 Conceptual frame work

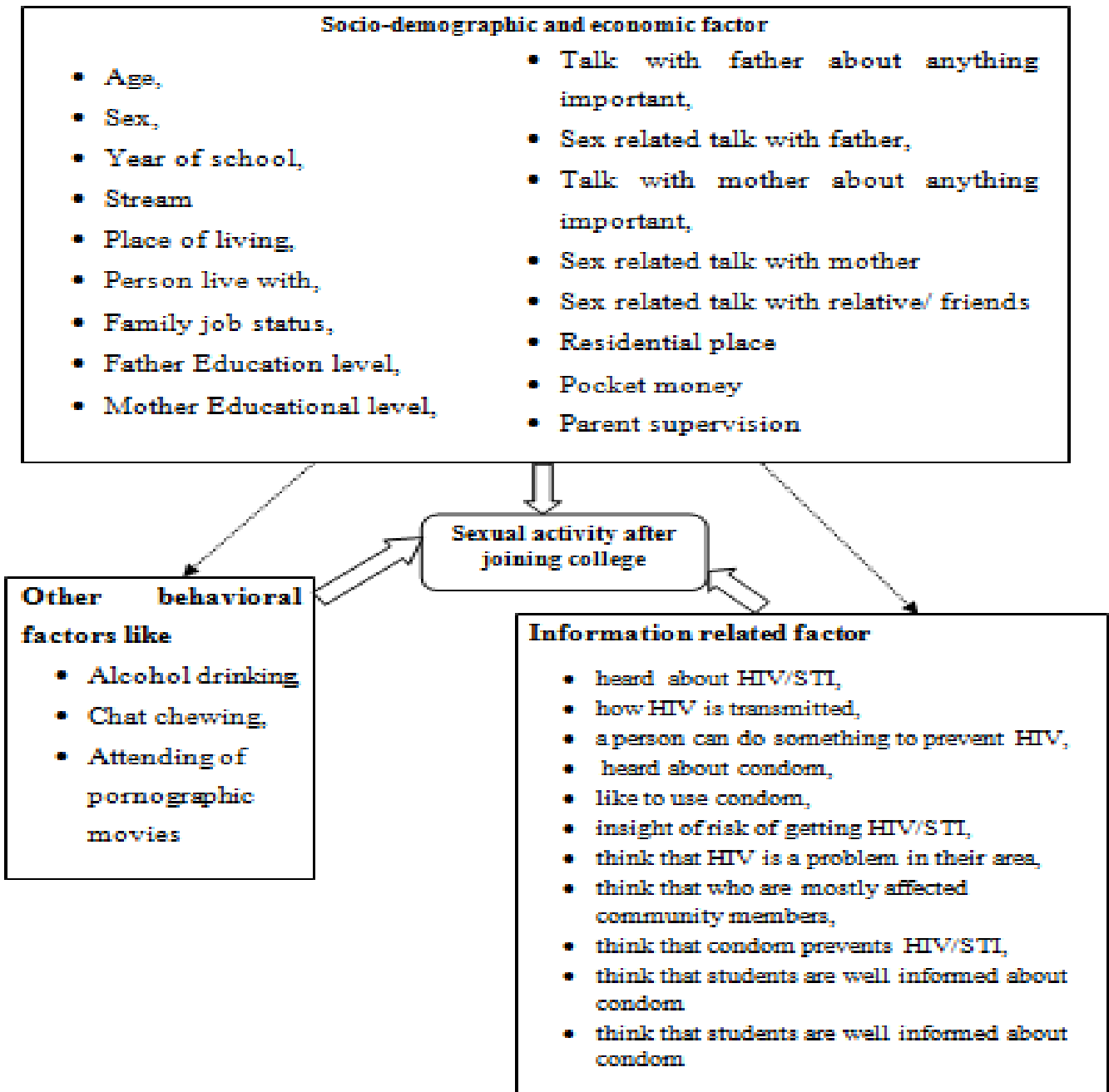


Figure 1 Conceptual frame work of factors determining sexual activity after joining college designed by Personal Information Literature review and scientific facts

3. Objective

3.1 General objective

To assess the prevalence of sexual activity and associated factors among college students in Gambella town

3.2 Specific objectives

- To determine the prevalence of sexual activity among college students in Gambella town
- To assess factors associated with sexual activity among college students in Gambella town

4. Methods and materials

4.1 Study area and period

The study was carried out in Gambella town, located 777 km to the west of Addis Ababa in Gambella region in 2014. The town is located at an altitude of 300-2300 m above sea level. Woreda-based health sector annual plan 2006 EFY of the Woreda indicates that, the population of the town was 51,660, with male 25,313 and female 26,347 (51).

There is regional health bureau in the town, one general hospital, two health centers, and 1 health post (51). There are 3 public and 1 private colleges found in the Woreda having a total of 2606 students. The current study was carried out among students of Gambella town colleges from 02/04/2014 – 02/05/2014

4.2 Study design

Cross-sectional study design using both quantitative and qualitative data collection method were used.

4.3 Source population

All college students in Gambella town follow their school in 2013/2014 academic year.

4.4 Study population

The study population were regular college students follow their school in 2013/14 academic years for quantitative data. College deans, club representatives, and students were included for qualitative data.

4.5 Inclusion and Exclusion criteria

Inclusion criteria

Those who were regular student were included.

Exclusion criteria

Those who do not full fill the inclusion criteria; ill students that were not present during the data collection periods and students that dropped out were excluded.

4.6 Sample size determination and sampling procedure

Sample size determination

Quantitative

To determine the number of students to be included in the study, the single population proportion formula was used with the following assumptions: the expected prevalence of college student's sexual-activity of the region was 42.3% (44).

Accordingly, the required sample size (n) was estimated with a confidence level of 95% and 5% margin of error as follows:

$$n = \frac{Z (\alpha/2)^2 * P (Q)}{d^2}$$

Where, p= Proportion of sexually active college students = 0.423

$$q= 1-p$$

$$d=0.05 \text{ (margin of error)}$$

Z $\alpha/2$ = Standard normal variable at 95% Confidence level (1.96).

$$n = \frac{(1.96)^2 * (0.423) (1-0.423)}{(0.05)^2}$$

$$n = \frac{3.8416 * 0.423 * 0.577}{0.0025} = 375.05$$

$$n=376$$

But since the total population was less than 10,000 or $n/N > 10\%$ it was essential to use population correction.

There for, $n_f = n_i / (1 + n_i/N) + 10\%$ Non response rate

$$n_f = 376 / (1 + 376/2606) + 10\% \text{ Non response rate} = 362$$

$n_f = 362$

Where,

n_f = the desired sample size

N = total source population

Qualitative –Twelve in-depth interviews were conducted with 12 purposively selected key informant.

4.7 Sampling technique and procedure

Quantitative

Stratified simple random sampling were used to include the required number of samples among all year of school found in the four colleges. Strata were formed based on their streams as Health Science, teaching, Vocational, Agriculture, and Social Science. Proportionate simple random sampling was used from each strata for quantitative data.

Qualitative –Key informant including college dean, club representative and student were selected purposively from each college. A total of 12 in-depth interviews were conducted.

Sampling procedure

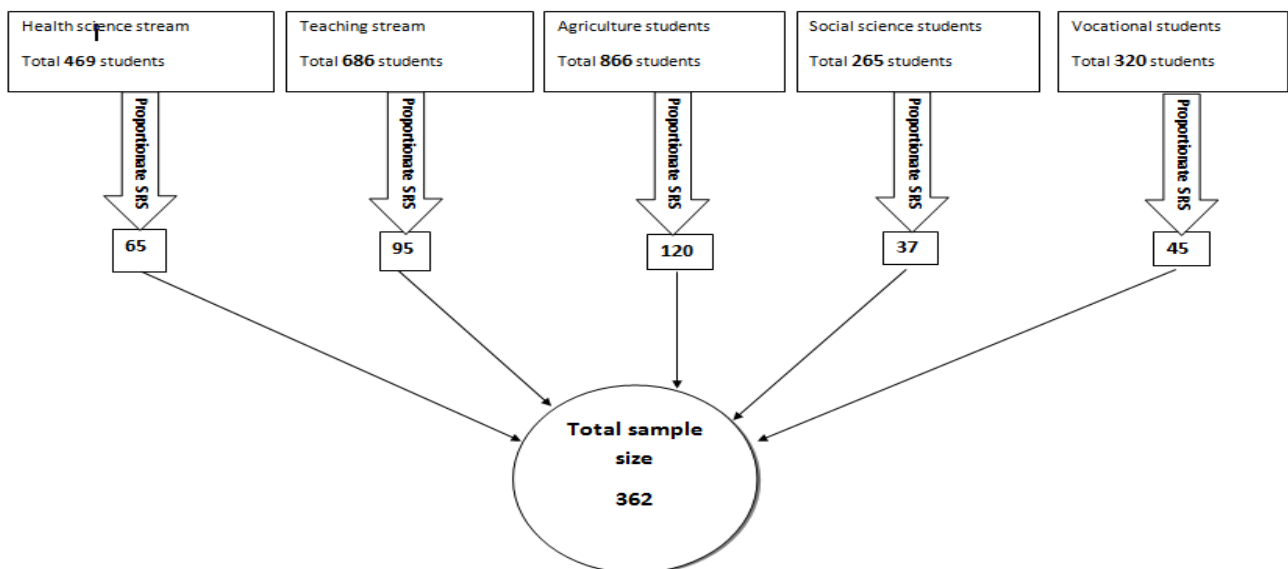


Figure 2 Schematic presentation of sampling procedure

4.8 Study variables

Dependant variable

- Sexual activity after joining college

Independent variables

- Socio demographic and economic factors like age, sex, ethnicity, year of school, stream, place of living during school year, kind of person live with during school year, Family job status, father's education level, mother's educational level, talk with father about anything important, sex related talk with father, talk with mother about anything important, sex related talk with mother, sex related talk with relative/ friends, residential place, pocket money, parent supervision.
- Information related factors like heard about HIV/STI, information about how HIV is transmitted, information about how to prevent HIV, heard about condom, like to use condom, think that risk of getting HIV/STI, think that HIV is a problem in their area, think that who is mostly affected community members, think that condom prevents HIV/STI, Source of information on condom, source of information on AIDS/STI.
- Other behavioral factors like alcohol drinking, chat chewing, attending of pornographic movies

4.9 Data collection technique and procedure

Different data collection tools were used to collect relevant information based on the study objectives. The structured self administered questionnaire and in depth interview guidelines were used to collect the data which was adapted from different literature that have similar study objective in English language. A pretest was done on 5% of the sample in Gambella Town health science and teaching College students one week prior to the data collection. Two Facilitators and one Supervisor that were diploma holders were oriented for two days before and after pretest. Feedback from the supervisor and facilitators were incorporated to enrich the questionnaire and make more applicable to the local situations. The questionnaire was administered in the classroom by trained diploma holders that have prior experience of data collection. Unclear and ambiguous matters were clarified for the students. The Principal Investigator and supervisors checked each questionnaire daily. Male facilitators were assigned for Male students and female facilitator for female students.

4.10 Data quality control

Questionnaires were prepared in English. A completed questionnaire was checked for their completeness and consistency at every step of data management. A pretest was done on 5% of the sample in Gambella town college students one week prior to the data collection and amendment was made accordingly. Facilitators and Supervisor were trained for two days before and after pretest. Feedback from the supervisor and facilitators were incorporated to enrich the questionnaire and make more applicable to the local situations. The questionnaire was administered in the classroom by trained diploma holders that have prior experience of data collection. Unclear and ambiguous matters were clarified for the students. The Principal Investigator and supervisors checked each questionnaire daily. Male facilitators were assigned for Male students and female facilitator for female students. For qualitative data each interview was recorded with tape recorder and note were taken to protect information loss.

4.11 Data processing and analysis

After the completion of quantitative data collection: editing, coding, entry, and cleaning were done using Epi Data 3.1 version and then exported to SPSS version 16.0 for analysis. Frequencies and percentages of variables were produced and odds ratios were calculated on variables to determine the association between the outcome and selected variables through binary logistic regression. Variables with a p-value $<$ or $=$ 0.25 were examined by multiple logistic regression. Multivariate Logistic regression was used to control for confounders.

The tape-recorded and written qualitative data were transcribed and translated to English under selected themes based on the question guides and summarized manually. The result was presented in narratives triangulated with the quantitative results.

4.12 Ethical Clearance

The study was carried out after getting approval from the ethical clearance committee of Jimma University, Collage of Public health and Medical sciences through Department of Epidemiology. Then, data were collected after getting written consent from each college. Informed verbal consent confirmed by signature was obtained from all study participants. Each respondent was informed about the objective of the study and in order to ensure privacy, male and female respondents were assigned in separate rooms. Confidentiality was kept at each step of data collection and processing. The participants were assured that they have full right to participate or

withdraw from the study. Health education was given on reproductive health including STI, HIV/AIDS and on condom utilization for those who needed it.

4.13 Dissemination of research finding

Findings of the study will be submitted to Jimma University Department of Epidemiology, College of public health and Medical science. It will also present to Jimma University. The report will be submitted to the four colleges, Regional Health Bureau, Education Bureau, regional Woman affair office, different NGOs and the regional HAPCO. Finally Efforts will be made to publish the finding of the study.

4.14 Operational Definition

- **Sexual activity:** history of any experience in sexual intercourse (through vaginal penetration) after joining college.
- **Unprotected sex:** Refers to Penetrative vaginal sex without using condoms with any partner other than a regular partner and having sex with more than one sexual partner for the last 12 month
- **Regular sexual partner:** includes a spouse or sex partner who has cohabited (lived-in) for twelve months or longer.
- **Non-regular partner:** includes two groups of non commercial partnership: (a) sexual partnership where partners are not married, either never cohabited or cohabited for less than twelve months (b) sexual partnership for longer than twelve months but where partners never married or lived together.
- **Multiple sexual partners** is defined as – a person who has more than one sexual partner simultaneously.
- **Sexual coercion/ abuse:** is defined as the “act of forcing (or attempting to force) another individual through violence, threats, verbal insistence, deception, cultural expectations or economic circumstance to engage in sexual behavior against his or her will.
- **Rape (completed rape):** it could be vaginal, anal or oral sexual contact without the consent from female partner.
- **Correct and Consistent Use of Condoms:** The use of condoms from start to finish with each encounter of sexual intercourse. Correct condom use should include using a new condom in each sexual intercourse; putting on the condom as soon as erection occurs and

before any sexual contact ; and withdrawing from the partner immediately after ejaculation.

- **Commercial sex:** Sexual relationship where there is an exchange of money for sex (paid sex).
- **Risk perception:** The understanding and awareness of an individual's being exposed to HIV/AIDS, other STI, and unwanted pregnancy.
- **Regular alcohol use:** use of alcohol at least once a week among those who had ever drunk alcohol in the previous four weeks.
- **Regular khat use:** use of chat at least once a week among those who reported ever chewing chat.
- **Khat:** A central nervous system stimulating substance with alkaloid active ingredient, cathinone, and with biologic effect similar to that of amphetamine
- **Substance:** Any non-medical drugs used by study subjects such as alcohol, khat, cannabis, heroin, cocaine, marijuana.
- **Substance abuse:** the use of any of these substances by study subjects at any time without medical prescription.

5. Results

5.1 Socio-Demographic characteristics of the study subjects

From a total of 362 students who were identified for the study, 334 were involved in the study while 28 refused to participate in the study, yielding a response rate of 92.3%. Two hundred thirty (68.9%) of the respondents were males. Respondents' age group ranges from 15 – 35 with mean age of 20.1 with SD of 2.6 years. One hundred eleven (33.2 %) were agriculture students, 88 (26.3 %) teaching students, 60 (18 %) health science students, 41 (12.3 %) vocational students and the rest 34 (10.2%) social science students.

One hundred forty five (42.5 %) of the students were second year, 99 (29.6 %) first year and the rest third year students. One hundred eighty five (55.4 %) came from different areas other than Gambella town. One hundred fifty three (45.8 %) of the respondents live in dormitories, 72 (21.6 %) in their family house, 67 (20.1 %) in rented home and the rest with relative or friend's house (Table1).

Table 1 Socioeconomic and demographic Characteristics of the respondents, Gambella, March 2014

Variable		Frequency	Percent
Sex	Male	230	68.9
	Female	104	31.1
Age in year	15-20	221	66.2
	21-25	98	29.3
	26-30	13	3.9
	31-35	2	0.6
Religion	Orthodox	125	37.4
	Protestant	147	44
	Catholic	36	10.8
	Muslim	23	6.9
	Other	3	0.9
Ethnicity	Agnuak	47	14.1
	Nuweer	39	11.7
	Majang	18	5.4
	kembata	36	10.8
	Amhara	53	15.9

	Oromo	63	18.9
	Tigre	47	14.1
	Wellaayta	18	5.4
	Other	13	3.7
Stream	health	60	18
	education	88	26.3
	agriculture	111	33.2
	social science	34	10.2
	vocational	41	12.3
Year of school	First year	99	29.6
	Second year	142	42.5
	Third year	93	27.8
Residential place	Gambella town	149	44.6
	Other town	185	55.4
Place of live	Dormitory	153	45.8
	Rented home	67	20.1
	Family house	72	21.6
	Relative/friend house	42	12.5
Person live with	Alone	19	5.7
	With other student	201	60.2
	My spouse or partner	9	2.7
	My parents	64	19.2
	Other relatives like sister or brother	41	12.2

Ninety two (27.4 %) of the respondents' fathers were above 12th grade while 96 (28.7 %) of their mothers were illiterate. Two hundred thirty (68.9 %) and 228 (68.3 %) of the respondents were never talked about sex related issues with their fathers and mothers respectively. One hundred ninety nine (59.6 %) of the respondents said they occasionally talk about sex related issues with their relatives and friends. One hundred sixty eight (50.1 %) of the respondents' parents were workers. Two hundred five (61.4 %) of the respondents are supervised by their parents. One hundred seventy two (51.5 %) have pocket money (Table 2)

Table 2 Distribution of socio-demographic situation of parents of the study population, Gambella, March 2014

Variable		Frequency	percentage
Father educational status of the respondent	Illiterate	37	11.1
	Read and write	37	11.1
	1-4 grade	48	14.4
	5-8 grade	43	12.9
	9-12 grade	77	23.1
	Above 12 grade	92	27.4
Talk with father about anything that is important	Very easy	48	14.4
	Easy	176	52.7
	Difficult	81	24.3
	Very difficult	13	3.9
	Do not see him	14	4.2
	Other	2	0.6
Sex related talk with father	Often	35	10.5
	Occasionally	64	19.2
	Never	230	68.9
	Other	5	1.5
Mother educational status of the respondent	Illiterate	96	28.7
	Read and write	65	19.5
	1-4 grade	54	16.2
	5-8 grade	66	19.8
	9-12 grade	30	9
	Above 12 grade	23	6.8
Talk with mother about anything that is important	Very easy	65	19.5
	Easy	223	66.8
	Difficult	23	6.9
	Very difficult	16	4.8
	Do not see him	5	1.5
	Other	2	0.6
Sex related talk with mother	Often	42	12.6
	Occasionally	63	18.9
	Never	228	68.3
	Other	1	0.3
Sex related talk with other	Often	86	25.7

relative or friends	Occasionally	199	59.6
	Never	49	14.7
Parents job status of respondents	Both of my parents work	168	50.3
	only my parents work	121	36.2
	Only my mother work	15	4.5
	Both of my parents do not work	30	9
Parent supervision of respondents	Yes	205	61.4
	No	129	38.6
Pocket money	Yes	172	51.5
	No	162	48.5

5.2 Information related about HIV/STI and condom use of participants

Two hundred sixty two (78.4 %) and 290 (86.8 %) of the respondents said that they heard about HIV/STI and condom respectively. Two hundred forty three (72.8 %) of the participants responded that there is something a person can do to prevent HIV/STI. Two hundred thirteen (63.8 %) of the respondents like to use condom during sexual intercourse (Table 3).

Table 3 Information related about HIV/STI and condom use of participants, Gambella, March 2014

Variable		Frequency	Percent
Participants Heard about HIV/STI	Yes	262	78.4
	No	72	21.6
Person can do anything to prevent HIV/STI	Yes	243	72.8
	No	27	8.1
	Do not know	64	19.2
Heard about condom	Yes	290	86.8
	No	44	13.2
Like to use condoms	Yes	213	63.8
	No	121	36.2

5.3 Personal risk insight of HIV/STI of respondents

Two hundred one (60.4 %) of the respondents said that they are not at risk of getting HIV/STI, while 78 (23.4 %) said that they are at risk and the rest said they do not know whether they are at risk of getting HIV or not. Majority of the respondents 219 (65.6 %) thinks that condom prevents HIV/STI, 46 (13.8 %) they do not think condom prevents HIV/STI and the rest said they do not now or are not sure (Table4).

Table 4 personal risk insight of HIV/STI of respondents, Gambella, March 2014

	Variable	Frequency	Percentage
Risk of getting HIV	Yes	78	23.4
	No	201	60.4
	Do not know	54	16.2
HIVAIDS is a problem in your area	Yes	220	65.9
	No	89	26.6
	Do not know	25	7.5
If yes for the above the extent of the problem	Increasing	176	80
	Decreasing	33	15
	Do not know	11	5
Who is mostly affected	The youth	123	36.8
	Female commercial sex worker	137	41.0
	Farmer	64	19.2
	Other	10	3.0
Condom prevents HIV/AIDS	Yes	219	65.6
	No	46	13.8
	Do not know/ not sure	69	20.7
Do you think that College students are informed about condom	Yes	152	45.5
	No	92	27.5
	Do not know	90	26.9
Do you think that College students are informed about HIV/STI	Yes	143	42.8
	No	106	31.7
	Do not know	85	25.4
Who possesses condom	Male students only	94	28.1

Female students only	21	6.3
Both sex	168	50.3
None should possess	51	15.3

5.4 Sexual history and condom use of respondents

Out of 334 respondents more than half 204 (61.1 %) were sexually active after joining college and 135 (66.2 %) of them were males. One hundred twenty seven (62.3 %) had sexual intercourse for the first time after joining college out of which 79 (62.2%) were males. The mean age at first sexual intercourse was 18.5 with SD of 1.7 years, males with 18.52 with SD of 1.90 years and females 18.36 with SD of 1.27 years. Fifteen (6.2%) had their first sexual intercourse before age 16.

The prevalence of sexual intercourse after joining college by stream of the respondents is 33 (55%) health science students, 58 (65.9%) teaching students, 79 (71.2%) agriculture students, 18 (52.9%) social science students and 16 (39%) vocational students had practiced sexual intercourse (Fig4).

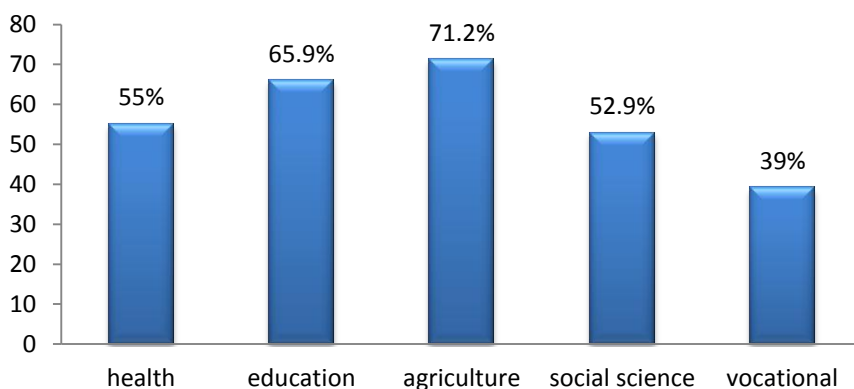


Figure 3: Sexual intercourse after joining college by stream in Gambella town college students, Gambella, March 2014

Forty two (42.4%) of fresh man students, 85 (59.9%) of second year students and 77 (82.8%) of third year students were sexually active after joining college. Majority of the respondents 139

(57.7 %) said that the reason for first sexual intercourse was to prove love for their partner, 44 (18.3 %) sex desire, 40 (16.6 %) peer pressure and the rest forced by partners.

Out of 240 respondents who had history of sexual intercourse 75 (32.7 %) had more than one sexual partners and 11 (5.5%) hard to count. Peer pressure was the precipitating factor for 96 (39.8 %) respondents, economic problem for (13.3 %), forcing of sexual partner for 14 (5.8 %), being alone/ away from family for 13 (5.4 %) and for 75 (31.1 %) of the respondents it was other factor like love and marriage (Table5).

Table: 5 history of sexual after joining college of respondents, Gambella, March 2014

Variable			Frequency	Percentage
Sexual intercourse after joining college	Yes		204	61.1
	No		130	38.9
If yes is that your first time	Yes		127	62.3
	No		77	37.7
Age at first sex	Less than and equal to 15 years		15	6.2
	16 – 20 years		208	86
	Above 20 years		19	7.8
Sexual intercourse by Stream	Health	Yes	33	55
		No	37	45
	Teaching	Yes	55	65.9
		No	30	34.1
	Agriculture	Yes	79	71.2
		No	32	28.8
	Social science	Yes	18	52.9
		No	16	47.1
	Vocational	Yes	16	39
		No	25	61
sexual intercourse by Year of school	Fresh man	Yes	42	42.4
		No	57	57.6
	Second year	Yes	85	59.9
		No	57	40.1

Third year	Yes	77	82.8
	No	16	17.2
Who was your first sexual partner	Student	155	64
	Teacher	13	5.4
	Government employee	51	21.1
	Female commercial sex workers	8	3.3
	Merchants	15	6.2
Reason for first sexual intercourse	To prove love of boy friend/girl	139	57.7
	Raped/forced by partner	2	0.8
	Peer pressure	40	16.6
	Sex desire	44	18.3
	To prove normality	16	6.6
Number of sexual partner ever	One	154	64.2
	More than one	75	31.3
	Hard to count	11	4.5
Precipitating factor to have sex	Peer pressure	96	39.8
	Forced	14	5.8
	Alcohol/khat use	11	4.6
	Being alone/away from family	13	5.4
	Economic problem	32	13.3
	Love	31	12.7
	Marriage	33	13.7
Other	11	4.6	
Common place of sexual intercourse	At my rented house	45	18.6
	At my partner home	114	47.1

In hotel	46	19
At school compound	7	2.9
In the park	7	2.9
Other	13	5.4
No response	10	4.1

From sexually active students 140 (57.9 %) used condom during sexual intercourse and less than half 64 (45.7 %) used condom always at sexual intercourse. From male respondents who were sexually active 30 (18.1 %) had sex with CSW. From male students who had previous history of sexual intercourse with CSW 17 (56.7 %) always used condom, 7 (23.3 %) almost every time, 4 (13.3 %) some times and the rest 2 (6.7 %) never used condom. Out of 241 sexually active students 44 (18.3%) and 14 (5.8%) had more than one sexual partner in the past 12 and 3 months respectively.

From all sexually active students 103 (42.7 %) and 42 (17.4 %) undergo sexual intercourse after drinking alcohol and chewing khat respectively. Out of 103 students who had sex after drinking alcohol less than half 49 (47.6 %) used condom and 41 students who had sexual intercourse after chewing khat 29 (70.7%) used condom.

Out of 93 respondents that have no history of sexual intercourse 34 (36.6 %) responded that they were not emotionally ready for it, 27 (29 %) religious value, 24 (25.8 %) wish to wait until marriage, 5 (5.4 %) and 3 (3.2 %) due to fear of pregnancy and HIV/STI respectively (Table 6).

Table 6 sexual history and condom use of respondents, Gambella, March 2014

Variable		Frequency	Percentage
At first sexual inter course heard about condom	Yes	170	70.2
	No	72	29.8
Did you use condom at first sexual intercourse	yes	98	40.5
	no	122	50.4
	do not remember	12	5
	No response	10	4.1

Did you use condom at sexual intercourse	Yes	140	57.9
	No	102	42.1
If yes how often did you use condoms	Always	64	45.7
	Some times	76	54.3
Sexual intercourse with CSW (only for males)	Yes	30	18.1
	No	136	81.9
If yes have you ever used condom	Yes every time	17	56.7
	Almost every time	7	23.3
	Some times	4	13.3
	Never	2	6.7
Attending of pornographic film of sexually active students	Yes	75	31
	No	167	69
With how many sexual partner Had sex with in the past 12 month	0	15	6.2
	1	182	75.5
	More than one	44	18.3
With how many sexual partner Had sex with in the past 3 month	0	78	32.4
	1	149	61.8
	More than one	14	5.8
Sexual intercourse after drinking alcohol	Yes	103	42.7
	No	138	57.3
If yes did you or your partner use condom	Yes	49	47.6
	No	54	52.4
Sexual intercourse after chewing Khat	Yes	42	17.4
	No	199	82.6
If yes did you or your partner use condom	Yes	29	70.7
	No	12	29.3
The reason for no sexual intercourse of students that have no history	Religious value	27	29
	Fear of pregnancy	5	5.4

Wish to wait until marriage	24	25.8
Fear of HIV/STI	3	3.2
Not emotionally ready	34	36.6

5.5 Substance use of respondents

One hundred sixteen (49.9%) and 110 (32.9%) of respondents drink alcoholic beverage and chew khat at least once in their life time respectively (Table 7).

Table 7 Substance use of respondents among Gambella town colleges, Gambella, March 2014

variable	Frequency	Percentage	
Smoking of cigarette of respondents	have never smoked	278	83.2
	I have tried once or twice	21	6.3
	I smoke from time to time	30	9
	I smoke daily	5	1.5
Chewing of khat of respondents	have never chewed	224	67.1
	I have tried once or twice	50	15
	I chew from time to time	58	17.4
	I chew daily	2	0.6
Drinking of alcoholic beverages of respondents	have never drink	168	50.3
	I have tried once or twice	58	17.4
	I drink from time to time	106	31.7
	I drink daily	2	0.6
drink alcoholic beverage at least once in their life time	Yes	166	49.7
	No	168	50.3
chew khat at least once in their life time	Yes	110	32.9
	No	224	67.1

5.6 Factors associated with sexual intercourse after joining college

On the Bivariate analysis, sexual intercourse after joining college was statistically significantly associated with age of the respondent, stream of the respondent, year of school, place of living, father's education level, mother's education level, sex related talk with mother, sex related talk with friend, parents job status, parents supervision, having pocket money, heard about condom, like to use condom, think that condom prevents HIV/STI, think that college students are well informed about condom, think that college students are well informed about HIV/STI, any history of drinking alcohol and any history of chewing khat.

Respondents from teaching stream were 3 time more likely to practice sexual intercourse after joining college as compared to vocational students [OR= 3.02 (1.40 – 6.50)], and those from agriculture were almost 4 times more likely to practice sexual intercourse as compared to vocational [OR= 3.86 (1.82 – 8.17)]. First year students were almost 85% less likely to practice sexual intercourse than third year students [OR= 0.15 (0.08 - 0.30)], and second year were 69% less likely to practice sexual intercourse than third year students [OR= 0.31 (0.16 – 0.58)].

Who heard about condom were almost 3 times more likely to practice sexual Intercourse than not heard [OR= 2.88 (1.50 – 5.54)]. Respondents that have any experience of khat chewing were almost 3 times more likely to practice sexual Intercourse than never chewed [OR= 2.88 (1.68 - 467)] and who have any experience of drinking alcohol were 6 times more likely to practice sexual Intercourse than never drunk [OR= 6.25 (3.80 – 10.27)] (Table 8).

Table 8 Parameter estimates from binary logistic regression model predicting the probability of sexual intercourse after joining college among Gambella town college students, Gambella, March 2014

Variables		Sexual intercourse at college		p value	Crude OR (95% CI)
		Yes	No		
Age category of students	15-19	66	79	< 0.001	0.31 (0.12 - 0.85)
	20-24	122	45		1.02 (0.38 - 2.76)
	25-35	16	6		1
Faculty of respondent	Health	33	27	0.004	1.91 (0.85 – 4.28)
	Education	58	30		3.02 (1.40 – 6.50)*

	Agriculture	79	32		3.86 (1.82 – 8.12)*
	Social science	18	16		1.76 (0.70 – 4.41)
	Vocational	16	25		1
Year of school of respondent	Fresh man	18	16		0.15 (0.08 – 0.30)
	Second year	16	25		0.31 (0.16 – 0.58)
	Graduate class	42	57	< 0.001	1
Place of live of respondent	Dormitory	105	45		1.02 (0.48 - 2.43)
	Rented home	37	30		0.57 (0.25 - 1.29)
	Family house	34	39	0.008	0.41 (0.18 - 0.90)*
	Relative/friend house	28	13		1
Father education level	Illiterate	27	10		2.38 (1.03 - 5.45)*
	Read and write	21	16		1.15 (0.53 - 2.48)
	1-4 grade	29	19		1.34 (0.66 - 2.72)
	5-8 grade	19	24	0.004	0.70 (0.34 - 1.44)
	9-12 grade	59	18		2.88 (1.48 - 5.61)*
	Above 12 grade	49	43		1
Mother education level	Illiterate	76	20		3.48 (1.34 - 9.05)*
	Read and write	35	30		1.07 (0.41 - 2.77)
	1-4 grade	29	25		1.06 (0.40 - 2.83)
	5-8 grade	39	27	0.002	1.32 (0.51 - 3.44)
	9-12 grade	13	17		0.70 (0.24 - 2.09)
	Above 12 grade	12	11		1
Sex related talk with mother	Often	18	25		0.41 (0.21 - 0.80)*
	Occasionally	41	22	0.025	1.07 (0.60 - 1.91)
	Never	145	83		1
Sex related talk with friends	Often	39	47		0.86 (0.43 - 1.75)
	Occasionally	141	58	< 0.001	2.53 (1.34 - 4.79)*
	Never	24	25		1
Parents job status	Both of my parents work	84	84		0.36 (0.15 - 0.86)*
	Only my parents work	33	88	0.001	0.97 (0.39 - 2.39)

	Only my mother work	5	10		0.73 (0.19 - 2.79)	
	Both of my parents do not work	8	22			1
Parents supervise	Yes	35	30		0.36 (0.22 – 0.59)*	
	No	29	25	< 0.001		1
Pocket money	Yes	39	27		1.57 (1.01 – 2.45)*	
	No	13	17	0.045		1
Heard about condom	Yes	12	11		2.88 (1.50 – 5.54)*	
	No	18	25	0.001		1
Like to use condom	Yes	41	22		0.37 (0.23 – 0.61)*	
	No	145	83	< 0.001		1
Think condom prevents HIV/STI	Yes	134	85		0.64 (0.36 – 1.16)	
	No	21	25	0.026	0.34 (0.16 – 0.75)*	
	Do not know	49	20			
Think that college students are well informed about condom	Yes	24	25		0.39 (0.22 – 0.71)*	
	No	84	84		0.29 (0.15 - 0.54)*	
	Do not know	88	33	< 0.001		1
Think that college students are well informed about HIV/STI	Yes	82	61		0.36 (0.20 – 0.67)*	
	No	55	51	0.001	0.29 (0.15 – 0.55)*	
	Do not know	67	18			1
Any history of drinking alcohol	Yes	97	32		6.25 (3.80 – 10.27)*	
	No	114	58	< 0.001		1
Any history of chewing khat	Yes	90	72		2.80 (1.68 - 4.67)*	
	No	114	58	< 0.001		1

N.B *= P-value \leq 0.25 and candidate for multivariate analysis

5.7 Multivariate analysis results

The final model showed that first year students were 66% less likely to practice sexual intercourse after joining college than third year [AOR= 0.34 (0.14 – 0.82)], whose father were grade 9-12 were more than 3 times more likely to practice sexual intercourse than those whose fathers' education level were above 12 grade [AOR= 3.12 (1.25 – 7.82)], who occasionally

discuss sex related issue with relatives/friends were almost 2.7 times more likely to practice sexual intercourse than those who never discuss [AOR= 2.65 (1.09 – 6.40)], those who heard about condoms were 3.7 times more likely to practice sexual intercourse than those who did not hear [AOR= 3.70 (1.52 – 9.03)]. In addition students who reported they like to use condom were 67% less likely to practice sexual intercourse than who did not like [AOR= 0.33 (0.15 – 0.73)], those who think that college students are well informed about condom and do not think were 72% and 80% less likely to practice sexual intercourse respectively than compared to their counterparts [AOR= 0.28 (0.12 – 0.65)] and [AOR= 0.20 (0.08 – 0.50)] ,respectively. Those who drink alcohol were more than 7 times more likely to practice sexual intercourse than those who never drink [AOR= 7.23 (3.82 – 13.70)] (Table 9).

Table 9 Parameter estimates from multivariate logistic regression model predicting the probability of sexual intercourse after joining college, Gambella, March 2014

Variables		Sexual intercourse at college		OR (95% CI)	
		Yes	No	COR	AOR
Age category of students	15-19	66	79	0.31 (0.12 - 0.85)	0.42 (0.10 – 1.67)
	20-24	122	45	1.02 (0.38 - 2.76)	1.36 (0.35 – 5.30)
	25-35	16	6	1	1
Faculty of respondent	Health	33	27	1.91 (0.85 – 4.28)	0.78 (0.24 – 2.58)
	Education	58	30	3.02 (1.40 – 6.50)*	1.85 (0.59 – 5.80)
	Agriculture	79	32	3.86 (1.82 – 8.12)*	2.14 (0.61 – 7.50)
	Social science	18	16	1.76 (0.70 – 4.41)	1.37 (0.36 – 5.23)
	Vocational	16	25	1	1
Year of school of respondent	Fresh man	42	57	0.15 (0.08 – 0.30)*	0.34 (0.14 – 0.82)*
	Second year	85	57	0.31 (0.16 – 0.58)*	0.44 (0.19 – 1.03)
	Graduate class	77	16	1	1
Place of live of respondent	Dorm	105	48	1.02 (0.48 - 2.43)	0.358 (0.11 – 1.13)
	Rented house	37	30	0.57 (0.25 - 1.29)	0.568 (0.18 – 1.81)
	Family house	34	39	0.41 (0.18 - 0.90)*	0.489 (0.16 – 1.55)
	Relative/friend house	28	13	1	1
Father	Illiterate	27	10	2.38 (1.03 - 5.45)*	1.04 (0.32 – 3.37)

education level	Read and write	21	16	1.15 (0.53 - 2.48)	0.89 (0.30 – 2.64)
	1-4 grade	29	19	1.34 (0.66 - 2.72)	2.12 (0.82 – 5.48)
	5-8 grade	19	24	0.70 (0.34 - 1.44)	0.46 (0.18 – 1.22)
	9-12 grade	59	18	2.88 (1.48 - 5.61)*	3.12 (1.25 – 7.82)*
	Above 12 grade	49	43	1	1
Mother education level	Illiterate	76	20	3.48 (1.34 - 9.05)*	1.87 (0.37 – 9.45)
	Read and write	35	30	1.07 (0.41 - 2.77)	1.10 (0.23 – 5.13)
	1-4 grade	29	25	1.06 (0.40 - 2.83)	1.25 (0.26 – 6.11)
	5-8 grade	39	27	1.32 (0.51 - 3.44)	1.31 (0.30 – 5.72)
	9-12 grade	13	17	0.70 (0.24 - 2.09)	1.37 (0.26 – 7.33)
Sex related talk with mother	Above 12 grade	12	11	1	1
	Often	18	25	0.41 (0.21 - 0.80)*	0.74 (0.26 – 2.10)
	Occasional	41	22	1.07 (0.60 - 1.91)	1.02 (0.44 – 2.41)
Sex related talk with friends	Never	145	83	1	1
	Often	39	47	0.86 (0.43 - 1.75)	1.16 (0.45 – 3.00)
	Occasionally	141	58	2.53 (1.34 - 4.79)*	2.65 (1.09 – 6.40)*
Parents job status	Never	24	25	1	1
	Both parents work	84	84	0.36 (0.15 - 0.86)*	1.38 (0.36 – 5.31)
	Only my father work	88	33	0.97 (0.39 - 2.39)	1.46 (0.35 – 6.08)
	Only my mother work	10	5	0.73 (0.19 - 2.79)	1.51 (0.25 – 9.28)
Parents supervise	Both do not work	22	8	1	1
	Yes	107	98	0.36 (0.22 – 0.59)*	0.68 (0.31 – 1.48)
Pocket money	No	97	32	1	1
	Yes	114	58	1.57 (1.01 – 2.45)*	1.39 (0.71 – 2.75)
Heard about condom	No	90	72	1	1
	Yes	114	58	2.88 (1.50 – 5.54)*	3.70 (1.52 – 9.03)*
Like to use	Yes	113	100	0.37 (0.23 – 0.61)*	0.33 (0.15 – 0.73)*

condom	No	91	30		1	1
Think condom prevents HIV/STI	Yes	134	85	0.64 (0.36 – 1.16)		1.62 (0.61 – 4.31)
	No	21	25	0.34 (0.16 – 0.75)*		0.53 (0.18 – 1.59)
	Do not know/not sure	49	20		1	1
Think that college students are well informed about condom	Yes	88	64	0.39 (0.22 – 0.71)*		0.28 (0.12 – 0.65)*
	No	46	46	0.29 (0.15 - 0.54)*		0.20 (0.08 – 0.50)*
	Do not know	70	20		1	1
Think that college students are well informed about HIV/STI	Yes	82	61	0.36 (0.20 – 0.67)*		0.43 (0.11 – 1.68)
	No	55	51	0.29 (0.15 – 0.55)*		0.42 (0.12 – 1.56)
	Do not know	67	18		1	1
Any history of drinking alcohol	Yes	135	31	6.25 (3.80 – 10.27)*		7.23 (3.82 – 13.70)*
	No	69	99		1	1
Any history of chewing khat	Yes	84	26	2.80 (1.68 - 4.67)*		1.45 (0.53 – 3.95)
	No	120	104		1	1

N.B*= significant at P-value ≤ 0.05

*: adjusted for year of school, father's education level, sex related talk with friends/relative, heard about condom, like to use condom, think that college students are well informed about condom, and alcoholic drink

The Hosmer Lemeshow test for the model is $p= 0.57$

And the model fitting information is $p < 0.001$

In-depth interview result

A total of 12 individual in-depth interviews were conducted. Eight students and 4 key informants from the colleges involved in the interview.

I. Do you think college students practice sex?

Most of the respondents said that the majority of the students are sexually active in their college life and with that females take the higher proportion. And all respondents said that the native students, almost all, practiced sexual intercourse during their college life. One male student said "... In our setting I can confidently talk that almost all female students were practicing sex at their college life and majority of males also do this..."

II. How do you see the safety of student's sexual practice? Or do you think that they use condom?

Most of the respondents argue that the native communities do not use condom when they during sexual practices but the highlanders use it even if it is difficult to predict the proportion. Multiple sexual partners or sexual relationship with more than one biological partner was seen by majority of the highlander's especially female students, and some natives also practice this. One of native respondent from anti AIDS club said "... the native communities have cultural ceremonies that give the chance to have sexual intercourse for most youths and this time no one is realizing to use condom..."

III. What problems do students face related to having sex without condom?

Almost all of the respondents said if students practice sex without condom they may be exposed to HIV/AIDS and unwanted pregnancy. For female students if they get pregnant they will dropout from school and even they will face many kinds of pregnancy related complications when they try to abort their pregnancy. One college dean said "especially female students were engaged in risky sexual behavior like sex for benefit, sex after drinking alcohol, multiple sexual partners, and sexual relation with partners much older than their age. Due to these factors they face unwanted pregnancy, abortion, different kinds of STI including HIV/AIDS and psychological depression".

IV. Why do you think students practice sex without condom?

Most of the respondents said that the main factors that predispose students to have sex without condom are cultural factors for the native communities, alcoholic drinks, lack of knowledge or poor knowledge on the benefit of condom use and Lack of control of sudden sexual feeling. One of the participants from student said "...students do not use condom because of alcoholic drink they use and totally they don't think that they get HIV/AIDS from their sexual partner without any confirmation HIV AIDS status of their partners ..."

V. What are the predisposing factors for the students to practice sexual activity?

Most of the respondents said that the main factors that predispose to have sex for students are peer pressure, cultural ceremonies for the native communities, alcoholic drinks, love and economic problems. And some of the respondents said the hot temperature of the area has higher effect on female's sexual feelings or initiation. One female student from anti AIDS club said "... there are higher numbers of female students that undergo sexual relationship for benefit due to economic problem. Higher number of students comes from different Woredas other than Gambella town from lower economic status families that they can't fully support all their expenses during school, due to these students participate in sexual relation with government employees and merchants that can help them with materials and money". One college dean said"... even if it is not a problem by itself to practice sex for college students what matters is the reason why they undergo sexual activity and in our setting higher number of students participate in sex for benefit that lead them to many kinds of negative outcomes, and due to friends pressure and alcohol use also high number of students do this..."

VI. Is there sexual violence in this college?

The entire respondents said we don't have information on sexual violence but they said in some conditions there will be some situation for female students to face forced sex outside the college that is around their rented house due to intoxication with alcoholic drinks.

VII. How do you see income and sexual practice specifically for college students?

Most of the respondents said income and sexual practice are related. Majority of the respondents said male students that have income practice sex in higher rate as compared to male students with no income. Females that have no income also practice sex, males specially merchants and

employers use females by showing them different kinds of materials including money in cash, and some female students by their self also participate in sexual relation to get some kind of benefit from their sexual partners including money. Student dean said "... income and sexual practice at college have direct relation, we see students that develop sexual relationship with partners that are much older than their age to get support from them. Even there are female students that sometimes work at bars during night time to get money for their cloth and other expenditure that they see from students that have better income than them...".

VIII. Is there HIV/AIDS and RH related service in your school?

Respondents from Teaching and Health Science College, Agriculture College and Hope College replied that there is a functional club that works on HIV/AIDS and related services. Those clubs work on

- Awareness creation on STDs and RH
- Counseling service and
- Condom distribution

One student from health science stream said "... there is a great gap in relation to information about HIV/STI and condom among students specially some native students have no information about it and it is because there are plenty of students enter in to this college by favor... I know many students that join this college directly from elementary schools... when we work at anti AIDS club I remember many students that they even not heard about HIV/AIDS and condom".

IX. What do you recommend in general?

Most of the respondents recommend that

- Each college should form and strengthen Clubs that works on HIV/AIDS and RH to give proper information for students
- Town health office and HAPCO should support each colleges in related to HIV/AIDS and RH services given to the students
- Students should participate and use HIV/AIDS and RH services
- Students who have the talent and experience in club participation should participate and help their friends

6. Discussion

In this study an attempt has been made to assess prevalence of sexual activity after joining college and associated factors among Gambella town college students. Sexual related surveys were done previously in different area, which would help for comparison.

This study revealed that more than half 204 (61.1 %) of the respondents were sexually active after joining which was higher than 50.7% reported from a research conducted among private college students in Bahir Dar city, Northwest Ethiopia (39) and another report from similar study (44). The high proportion of sexually active students in this study might be explained by the fact that most students come from different Woredas and are no more under parental control. Moreover, their adolescent age, some having habits of khat chewing and alcohol consumption along with their living arrangements can easily lead them to sexual practice including unsafe sex and this observation is consistent with other study (45). The result from qualitative data also supports that majority of students practice or participates in sexual activity and the factors that lead students to participate are peer pressure and economic problem. This implies that other than the positive factors that lead students to practice sex like love and marriage the negative factors have great influence on sexual initiation or practice of students. The mean age at first sexual intercourse was 18.5 with SD of 1.7 years which was in line with 18.7 with SD of 1.97 years reported from Bahirdar (39).

The relative distribution of sexually active students was agriculture students 71.2% , followed by teaching students 65.9%, health science students 55% social science 52.9% and vocational students 39%. . The proportion is different among each stream and this might be due to the factors like behavior of the students that enter in to each streams and knowledge difference about RH related issues.

The study reveals that 64 % of the respondents said that their first sexual partners were students, 21.1 % government employees, 6.2 % merchants, 5.4 % teachers and the rest were female commercial sex workers. A study from Aleta Wondo town, Sidama Zone reported student friend 52%, government employee 7 %, Merchants 2 %, teachers, 3 % and others 14 8 % (45). Majority of the respondents' first sexual partners were students and this leads them to risk taking sexual behavior that in turn might expose them in to different types of sexual activity related problems

due to knowledge about sexual issues is insufficient; lack of knowledge about pertinent sexual issues, gender differences in attitudes toward condom use, and several common risky sexual behaviors (4). Majority of the respondents (57.7 %) said that the reason for first sexual intercourse was to prove love of their partner, (18.3 %) sex desire, (16.6 %) peer pressure and the rest were forced by partners. This finding is similar with a study conducted in Nekemte town (43).

Out of 240 respondents who had history of sexual intercourse 38.2 % had more than one sexual partners in their life time, that were somewhat higher as compared to a study done in Debre Birhan town, Amhara Region that reported 28.6% (49) and lower than 47.5 from Medewelabu Bale Robe, south east Ethiopia (44). Qualitative data also showed that there are students that have multiple sexual partners in their life time and that culture, alcoholic drink and economic problems are the major factors that lead students to have multiple sexual partners.

The reason for having sexual intercourse for students were Peer pressure (39.8 %) , economic problem (13.3 %), forcing of sexual partner 14 (5.8 %), being alone/ away from family 13 (5.4 %). The same study finding in Aleta Wondo town showed that peer pressure accounts for 55%, alcohol and khat use 12%, economic factor and being away from family each 6% and being forced 1% (45). Peer pressure and economic problem together accounts as factor for more than half of the students to have sexual practices and this is also supported by the qualitative study.

The fact that 50.4 % of sexually active students did not use condom at their first sexual intercourse, although lower than 87.2% reported from Bahir Dar city, Northwest Ethiopia (39), is a very serious problem that needs a focused intervention. Similarly, the proportion of sexually active students that use condom during sexual intercourse usually (57.9%) and always(45.7%) are lower than that reported from Bahirdar city reported as 86% and 68.8% respectively (39). A study conducted in Kenya showed 50.2% never used condom (47). The result from qualitative study showed that due to cultural problems, drinking alcohol, poor knowledge and lack of control of sudden urge for intercourse students do not use condoms. Although 89.3% of the sexually active respondents heard about condom it is only 57.9% that used condom. This can suggest that simply hearing about condom cannot warrant its utilization. The lower rate of condom use exposes them to develop risky sexual intercourse and its consequence. From male

respondents who were sexually active 18.1 % were having sex with CSW. From male students who have previous history of sexual intercourse with CSW 17 (56.7 %) always use condom, 36.6 % some times and the rest 2 (6.7 %) never use condom. A study conducted in Nekemte town revealed that 13.3% of male students were having sex with CSW from which 54.5% use condom consistently, 36.4% some times and 1% never used condom when having sex with CSW (43). A similar study conducted in Bale Robe reported 24% of male students had sexual intercourse with CSW (44).

In the past 12 months before this study conducted 18.3% had sex with more than one sexual partner. This figure is lower than that reported from Bahir Dar city 45.3% (39) and from Bale Robe 30.4% (44). Within the past 3 months before this study was conducted 67.6% had sex. This figure is high when compared to a study done in Aleta Wondo town, Sidama Zone 54.3% (45).

Respondents that have no history of sexual intercourse were asked for their reasons and their responses were lack of emotional readiness for sex, religious value, wish to wait until marriage and fear of pregnancy and HIV/STI. The study in Bahir Dar city (39) had also reported wish to wait until marriage, fear of HIV/STI and religious values as reasons for not initiating sexual activity.

Drinking alcoholic beverage, chewing khat and smoking cigarette were reported by 49.7 %, 32.9 % and 16.8 % of the respondents respectively. . This was much higher than 31.1% drinking alcohol, 5.6% khat chewing and 3.2% smoking reported from Debre Birhan town (49) and 13.4% for alcohol consumption, 7.8% for khat chewing and 5.4% for smoking from Debre Markos Poly Technique College in Debre Markos Town (48).

Practicing sexual intercourse after joining college have further association with year of school of the respondents that is respondents who were fresh man were 66% less likely to practice sex as compared to respondents who were third year. This might be due to alcohol use as this finding also shows that the year of the students increase alcohol consumption also increases. The other variable that also had association in this study was father's education level; students whose fathers were educated (grade 9-12) were more than 3 times more likely to practice sexual intercourse after joining college than those whose fathers were above 12 grade. This might be an indication that educated fathers can influence their sons and daughters to be health conscious.

Sex related discussion with friends/relatives was also associated with initiating sexual intercourse. Those that discuss sex related issues with friends/relatives were 2.6 times more likely to practice sexual intercourse after joining college than those who never discuss. This might be due to the issues raised during discussion that initiate sexual feeling and talking of once experience to the other that can increase emotional feelings.

Information about condom or having heard about condom was also associated with sexual practice after joining college of respondents. Respondents who heard about condom were 3.7 times more likely to practice sexual intercourse than those who have not heard. This result evidenced that who heard about condom were more likely to use condom and like to use condom as compared to their counter parts therefore this behavior can decrease their fear about sexual intercourse related consequence like pregnancy and STI and becomes more confident to practice sex. Those who like to use condom were 67% less likely to practice sexual intercourse after joining college than those who didn't like to use condom. This might be due to students' perceptions that respondents who like to use condom perceive condom prevents sexual related consequences. It means they perceive there is a consequence when there is sexual intercourse unlike its pleasure and that is why they like to use condom.

Those who think that college students are well informed about condom were 78% less likely while those who do not think that college students are well informed about condom were 80% less likely to practice sexual intercourse after joining college than their counterparts.

Drinking alcohol also showed statistically significant association with sexual practice after joining college; students that have history of drinking alcohol were 7.2 times more likely to initiate sexual intercourse than non consumers of alcohol. This might be due to intoxication with alcohol. The result from qualitative data also showed that alcoholic drink consumption is one of the major factors for sexual intercourse and not using condom.

In this study place of live or living condition and residential place were expected to have further association with sexual intercourse after joining college of students. One study shows association of living condition with sexual activity of college students and risky sexual behavior (39).

7. Strength and Limitation of the study

7.1 Strength of the study

The study used both qualitative and quantitative method of data collection to triangulate the findings. Same sex facilitators were used to minimize social desirability bias.

7.2 Limitation of the study

Due to the fact that this study deals with very personal and sensitive issues such as sexual practice and other risk factors related to it, obtaining an honest response among students was difficult. There may be social desirability bias so they may hide the real information. Cross sectional nature of the study prohibit determining causal relationship. Pre test was done in the same institution using the same data collection instrument/techniques

8. Conclusion

The above study determined the prevalence of sexual intercourse after joining college and associated factors among college students in Gambella town. Generally it was found that majority of students practice sexual intercourse during college year but there were poor practice of condom use during sexual intercourse. From students who undergo sexual intercourse after joining college for more than half of them it was the first time. The result also showed that the students information about HIV/STI and condom were not satisfactory when compared to their education level. Higher numbers of students have more than one sexual partner and the prevalence of substance use like cigarette, khat and alcoholic beverage was also significantly higher. Half of the students have experience on drinking alcohol, almost one third chew khat and higher number of students smoke cigarette and the number are higher as compared to other study findings.

A significant proportion of students practice sex at school year and it has association with certain variables like school year, father education level, sex related discussion with relative/friends, heard about condom, like to use condom, think that college students are well informed about condom and using of alcoholic beverage.

The qualitative data also shows majority of students practice sexual intercourse after joining college and the major factors that led them to practice sexual intercourse were culture, alcohol consumption, peer pressure and economic problem. The result also shows that culture, economic problem and alcohol consumption led the students to have risky sexual behaviors like multiple sexual partner and sexual intercourse without condom.

9. Recommendation

The findings of this study indicated that college students are practicing sex after joining college. Therefore: based on the finding the following recommendations were forwarded

To health sector/ Education sector/ and NGOs

- MOE should include sexuality and adolescent reproductive health education in the curriculum at all streams so as to equip students with adequate knowledge about healthy sexual practice.
- HAPCO and Agencies providing HIV/AIDS education programs should put emphasis on education and counseling to bring attitude and behavior change especially on condom use, avoidance of substance use and multiple partners.
- NGOs that work on social and cultural areas should act on some and practices that have direct effect on condom use, multiple sexual partner and even initiation of sexual practices.

To town health office/ HAPCO/ and colleges

- Strengthen school anti AIDS clubs and give a basic and sounding knowledge through continuous behavioral change communication.
- Colleges in collaboration with NGOs and government sectors should try to manage basic economic problems of students by arranging income generation activities and identifying students who face such a problem.

Generally further study should done to assess

- Sexual behavior of Gambella town college students
- Prevalence of HIV/AIDS among college students
- Knowledge attitude and practice of condom use among college students

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Annex 1

Jimma University College of Public health and medical sciences Department of Epidemiology

Questionnaire to assess sexual activity and associated factors among Gambella Town College students

Self administered questionnaire

To be filled by Gambella town college students 2014

Dear student,

This study is proposed to assess sexual activity, condom utilization and factors related to it among Gambella town college students and you are chosen to participate in this study. The purpose of this study is to generate information on sexual activity, condom utilization and factors related to it, which may help the concerned bodies to take actions based on the findings. The study will involve various intimate and private life questions. In order to effectively attain the objective, we are asking your help. You are chosen by chance not intentionally and there is no any harm for you by involving in this study. Here is a questionnaire for you to complete and there is no need to put your name on the questionnaire; no individual responses will be reported. Your answers are completely confidential. It is your full right to refuse to answer any or all of the questions. If you don't want to participate, you can leave the format on the table (upside down). But you are requested to remain on your seats until others finish filling the questionnaire. However, your honest answers to these questions will help us in better understanding of what people think, say and do about certain behaviors, so; we request your truthful and keen participation. Please take few minutes to answer to the questions. After you have completed the questionnaire you are required to put the questionnaire in the provided box by yourself. All this is to guarantee that nobody can be identified in any form whatever and assure complete confidentiality.

Are you willing to participate?

_____ yes, please go to the next page. Put your signature-----

_____ No, (Thank you very much!) Please return the questionnaire

Part I: Self Administered Questionnaire

Instruction:

For each of the following questions, please circle the number of the alternative that fits your response or fill the blank space

1.0	Section 1. Socio Demographic and Economic Characteristics	Choice	Skip to
1.1	What is your sex?	1. Male 2. Female	
1.2	How old are you?	----- years	
1.3	What is your religion?	1. Orthodox 2. Protestant 3. Catholic 4. Muslim 5. Other, specify-----	
1.4	What is your ethnic group?	1. Agnuak 2. Nuweer 3. Mezhengir 4. Kembata 5. Wollo 6. Oromo 7. Others specify-----	
1.5	What is your stream?	specify-----	
1.6	Year of school? (classification in college)	1. Fresh man 2. Second year 3. Graduate class	
1.7	Where is your residential place?	1. Gambella town 2. Other specify-----	
1.8	Where do you live during the school year?	1. Dormitory or other campus housing 2. Rented house 3. Family house 4. Relative/ friend house 5. Other specify-----	
1.9	With whom do you live during the school year?	1. No one, live alone 2. One or more other students 3. My spouse or partner 4. My parents 5. Other relatives 6. Other specify ----- -----	
1.10	What is the level of your father's education?	1. Illiterate 2. Read & write	

		<ul style="list-style-type: none"> 3. 1-4 4. 5-8 5. 9-12 6. Above 12th grade 7. Others specify ----- 	
1.11	How easy did you find it to talk with your father about anything that is important for you?	<ul style="list-style-type: none"> 1. Very easy 2. Easy 3. Difficult 4. Very difficult 5. Do not see him 6. Others specify----- 	
1.12	How often did you discuss sex related issues with your father?	<ul style="list-style-type: none"> 1. Often 2. Occasionally 3. Never 4. Others specify----- 	
1.13	What is the level of your Mother's education?	<ul style="list-style-type: none"> 1. Illiterate 2. Read & write 3. 1-4 4. 5-8 5. 9-12 6. above 12th grade 7. other specify----- 	
1.14	How easy did you find it to talk with your mother about anything that is important for you?	<ul style="list-style-type: none"> 1. Very easy 2. Easy 3. Difficult 4. Very difficult 5. Do not see her 6. Others specify----- 	
1.15	How often did you discuss sex related issues with your mother?	<ul style="list-style-type: none"> 1. Often 2. Occasionally 3. Never 4. Others specify----- 	
1.16	How often did you discuss sex related issues with (relatives, friends and others)?	<ul style="list-style-type: none"> 1. Often 2. Occasionally 3. Never 4. Others specify----- 	
1.17	What is your parent's job status?	<ul style="list-style-type: none"> 1. Both of my parents work 2. Only my father work 3. Only my mother work 4. Both of my parents do not work 	
1.18	Does your parent supervise you (like by asking who are your friends, where you spent your time after school...)?	<ul style="list-style-type: none"> 1. Yes 2. No 	
1.19	Do you have pocket money?	<ul style="list-style-type: none"> 1. Yes 2. No 	

2.0	Section 2 Information about HIV/STI and attitude towards condoms use		
2.1	Have you heard about HIV/STI	1. Yes 2. No	
2.2	How is HIV/AIDS transmitted? (circle all possible answers)	1. Unsafe sex 2. Unsafe injection 3. Blood transfusion 4. Shaking hands 5. Mosquito bites 6. Others specify----- 7. Do not know	
2.3	Is there anything a person can do to prevent himself & his/her partner from getting the HIV/AIDS/STI?	1. Yes 2. No 3. do not know	If 2&3 go to 2.5
2.4	If yes, for Q.2.3 circle all possible answers	1. Abstain from sex 2. Be faithful to one partner 3. Use condoms 4. Male circumcision 5. Avoid shaking hands of PLWHA 6. Avoid mosquito bites 7. Avoid eating together 8. Others specify-----	
2.5	Have you heard about condoms?	1. Yes(heard) 2. No(not heard)	
2.6	What is the use of condoms? Circle all the possible answers	1. Prevent HIV/STI 2. To avoid pregnancy 3. As a balloon for children to play with 4. Others (specify)----- 5. Do not know	
2.7	Would you like to use condom?	1. Yes 2. No	
2.8	If No for Q. 2.7 why?	1. Condom slip off easily 2. Liable to burst during sex 3. It diminishes sexual pleasure 4. Others (specify)-----	
2.9	Do you support 100% condom use program (No condoms- no sex)	1. Yes 2. No 3. No response	
3.0	Section 3- Personal risk perception of HIV/AIDS/STI & source of information		
3.1	Do you think that you are at risk of getting HIV or STI?	1. Yes 2. No 3. Do not know	If 2 go to 3.3& if 3 go

			to Q. 3.4
3.2	If yes for Q. 3.1. Why?	<ol style="list-style-type: none"> 1. Had sexual contact with out condoms 2. Have more than one sexual partner 3. Had sex with female commercial sex workers 4. Had unsafe injection 5. Others----- 	
3.3	If the response is No, for Q. 3.1 why?	<ol style="list-style-type: none"> 1. I always use condoms 2. I never had sexual contact 3. Abstained from sexual intercourse 4. I am healthy no contact with PLWHA and or people with STI 5. Others specify----- 	
3.4	Do you think that HIV/AIDS is a problem in your community?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Do not know 	If 2& 3 go to 3.6
3.5	If yes, what is the extent of the problem?	<ol style="list-style-type: none"> 1. Increasing 2. Decreasing 3. Do not know 	
3.6	Who do you think are mostly affected?	<ol style="list-style-type: none"> 1. The youths 2. Female commercial sex workers 3. Farmers 4. Others specify----- 	
3.7	Do you think condoms prevent HIV/STI?	<ol style="list-style-type: none"> 1. Yes, definitely 2. No, not at all 3. I do not know/not sure 	
3.8	Do you think college students are well informed about condoms?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Don't Know 	
3.9	Do you think college students are well informed about HIV/AIDS/STI?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Don't Know 	
3.10	Who do you think should possess Condoms?	<ol style="list-style-type: none"> 1. Male students only 2. Female students only 3. Both sex 4. None should possess 	
3.11	From where do you think college students obtain most of their information about condoms?	<ol style="list-style-type: none"> 1. From their teachers/school 2. From their friends 3. From their Parents 4. From mass media 5. From Health Professionals 	

		6. From sexual partner 7. Other /specify/_____	
3.12	From where do you think college students obtain most of their information about AIDS/STI?	1. From teachers/school 2. From their friends 3. From their parents 4. From sex partners 5. From Health Professional 6. From anti-AIDS club/ 7. From mass media 8. Others (specify)-----	
4.0	Section 4- Sexual history, number, type of partners, place & condoms use		
4.1	Have you ever had sexual intercourse	1. Yes 2. No	If no go to Q. No. 4.24
4.2	Have you ever had a sexual intercourse after joining college?	1. Yes 2. No	If no go to Q. n. 4.3
4.3	If yes for Q. n. 4.1 is that your first time?	1. Yes 2. No	
4.4	If you have an experience on sexual intercourse How old were you when you have your first sexual intercourse?	Age in year-----	
4.5	Who was your first sexual partner?	1. Student 2. Teacher 3. Government employee 4. Female commercial sex worker 5. Merchants 6. Others(specify)-----	
4.6	What is your reason to initiate (first debut) sex?	1. To prove love of boy/girl friend 2. Raped/forced by partner 3. Peer pressure 4. Sex desire 5. To prove normality 6. Others(specify) -----	
4.7	How many sexual partners did you have so far?	1. Number of sexual partner----- 2. Hard to count	
4.8	What are the factors that led you to have sex? (precipitating factors)	1. Peer pressure 2. forced 3. Alcohol/ khat use 4. Being alone/away from family	

		5. Economic problem 6. Others(specify)-----	
4.9	Where do you commonly have your sexual intercourse?	1. At my rented home 2. At my partner's home 3. In hotel 4. At school compound 5. In the park 6. Other specify----- 7. No response	
4.10	When you had your first sexual intercourse have you heard about condoms?	1. Yes 2. No	
4.11	Did you use condom on your first sexual intercourse?	1. Yes 2. No 3. Do not remember 4. No response	
4.12	Did you use condoms when you have sexual intercourse?	1. Yes 2. No	If no go to Q. No. 4.13
4.13	If YES, for Q. 412 how often did you use a condom?	1. Always 2. Some times 3. Never	
4.14	If No, for Q. 412 what are the reasons? Circle possible answers	1. Not easily accessible 2. Not comfortable 3. Partner rejection 4. In hurry 5. Ashamed to buy or ask 6. Didn't think it is necessary 7. I don't like it 8. I trust my partner 9. I was drunk 10. Don't trust condoms as they transmit HIV 11. It reduce my sexual pleasure 12. Others (specify)-----	
4.15	Did you ever have sexual intercourse with any commercial sex worker? (Only For Males)	1. Yes 2. No	If no go to 4.16
4.16	Have you ever used a condom when making sexual intercourse with commercial sex worker?	1. Yes, every time 2. Almost every time 3. Sometimes 4. Never	
4.17	Do you attend sex film Video, movies or pornographic film?	1. Yes 2. no	
4.18	With how many people have you ever had sexual intercourse during the last 12 months?	1. Number of sexual partner -----	

4.19	How many sexual partners have you had in the last 3 months	1. Number of sexual partner -----	
4.20	Have you had sexual intercourse after drinking Alcohol?	1. Yes 2. No	If no go to 4.22
4.21	If yes, did you or your partner use condom?	1. Yes 2. No	
4.22	Have you had sexual intercourse after chewing khat?	1. Yes 2. Non	If no go to 4.24
4.23	If yes, did you or your partner use condom?	1. Yes 2. No	
4.24	If you don't have no history of sexual intercourse what is the reasons? Circle all possible answers	1. Religious value 2. Fear of pregnancy(for female) 3. Wish to wait until marriage 4. Fear of HIV/STI 5. Not emotionally ready 6. Others (specify)-----	
5.0	Section 5- substance use		
5.1	Do you smoke cigarettes?	1. Have never smoked 2. I have tried once or twice 3. I smoke from time to time 4. I smoke daily	If 1 go to Q. n. 5.3
5.2	During the past 30 days, on how many days did you smoke cigarettes?	----- number of days	
5.3	Do you chew khat?	1. Have never chewed 2. I have tried once or twice 3. I chew from time to time 4. I chew daily	If 1 go to Q. n. 5.5
5.4	During the past 30 days, on how many days did you chew chat?	----- number of days	
5.5	Do you drink alcoholic beverages, like Tej, Tella, Beer, Arake, & the likes?	1. Have never drank 2. I have tried once or twice 3. I drink from time to time 4. I drink Daily	
5.6	During the past 30 days, on how many days have you had at least one drink of alcohol?	----- number of days	

Annex 2

Guide line for In-depth interview

In-depth interview

Dear respondent

My name is------. I am working for research undertaking by Jimma University on assessment of sexual activity and condom utilization among Gambella town college students and the determinant factor for this behavior. Today, I would like to ask you few questions about -----college students' sexual experience, condom utilization, source of information about RH and their perception regarding unprotected sex. I would like to tape record our discussion with you-this will ensure that we correctly represent your views. May I have your permission to do this? What you say here today is confidential and will be used only for research purpose and help us to incorporate with our finding.

1. Do you think college students practice sex?
2. How do you see the safety of student's sexual practice? Or do you think that they use condom?
3. What problems do students face related to having sex without condom?
4. Why do you think students practice sex without condom?
5. What are the predisposing factors for the students to practice sexual activity?
6. Is there sexual violence in this college?
7. How do you see income and sexual practice specifically for college students?
8. Is there HIV/AIDS and RH related service in your school?
9. What do you recommend in general?

Annex 3 Proportional allocation

Table 10: Proportional allocation of students to each grade

Stream	No. of students	proportion	Number of students proposed to take	Number of students taken
Health science	480	18.4%	67	60
Teaching	689	26.4%	96	88
Agriculture	868	33.3%	120	111
Social science	256	9.8%	35	34
Vocational	313	12.1%	44	41

Declaration

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

Name of the student: _____

Signature _____

Name of the institution: Jimma University

Date _____

Approval of the first advisor:

This thesis has been submitted with my approval as University advisor.

Name of the first advisor: _____

Date _____ signature _____

Approval of the second advisor

This thesis has been submitted with my approval as University advisor.

Name of the first advisor: _____

Date _____ signature _____