



Sexual Behavior and Risk Perception of HIV Infection Among Young Students of Wollo University, Dessie Campus: A Cross Sectional Study

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Abstract: In Wollo University, Dessie Campus, as in many other Ethiopian towns, cities, universities and other settings of the world too, the sexual behaviors and self-assessment of the risk of HIV infection of young university students will strongly influence the course of HIV/AIDS. This study was conducted to assess the extent of risky sexual behaviors and factors that influence the risk perception of HIV infection in young students (17-29 years) of Wollo University, Dessie Campus from February 2010 - June 2010. A cross-sectional study design was applied to conduct the study. A total of 338 students in the age group 17-29 were selected using systematic random sampling. A self-administered questionnaire with key informants was the tool used to collect the required data from the study participants. From the total of 334 respondents, 236 (70.7%) were males and the remaining 98 (29.3%) were females. About 117 (35%) of the study participants were sexually experienced. Of these, 85 (72.6% had sex only with one partner, about 48.8% used condom consistently, about 27.4% had multiple sexual partners and 37.6 of the respondents did not use condom; and 19.1% of male and 8.2% of female respondents perceive themselves to have a medium chance of getting HIV. In general, female respondents were considerably more likely than males to report themselves at a higher risk of HIV infection. Sex, age at first sex, the number of life time partner, age difference with sex partners, condom use, taking HIV test, are found to be the predictors of risk perception of HIV infection among young students of Wollo University, Dessie Campus. Risk perception about HIV/AIDS was inconsistent with sexual behaviors the students encounter. Even though the majority of the respondents in this study perceived themselves as being at low or no risk of HIV infection; results from their reported sexual behavior indicate that a significant proportion of the respondents involve in risky sexual activities that could expose them to HIV infection and as a result distort their risk perception.

Keywords: Sexual Behavior, Risk Perception, HIV Infection, Young University Students

1. Introduction

Adolescence is a period of transition from childhood to adulthood and is an age group that undergoes rapid physical, mental and social changes that place its life at risk. Consequently, most of the adolescents are exposed to casual sexual practices which predispose them to unwanted pregnancy, child bearing at early age, high risk abortion, HIV/AIDS and other sexually transmitted disease, unemployment and criminal acts. This stage of development

is highly exposed to risky sexual behaviors like early sexual intercourse, unprotected sex, having multiple sexual partners, and will distort the individuals risk perception towards HIV/AIDS [1].

HIV/AIDS pandemic is now a global crisis. It constitutes one of the most formidable challenges to development and social progress. It poses significant treats in the world with impacts that will be felt for many decades in the future. In the most affected countries the pandemic is eroding decades of development gains, undermining economies, threatening security and destabilizing the society especially the working

young population. AIDS remains the most serious of infectious disease that challenge the public health. It is a leading cause of mortality worldwide and the primary cause of death in Sub Saharan Africa, illustrating the tremendous long term challenge that lies ahead for provision of treatment services with the hugely disproportionate impact on Sub Saharan Africa [2].

The pandemic killed more than 25 million people globally. There are 33.2 million people living with HIV/AIDS in the world today. Everyday over 6800 persons become infected with HIV and over 5700 persons are dying from AIDS. In 2007 alone 2.1 million people died of AIDS and 2.5 million were newly infected by HIV [3].

The sub-Saharan region continues to be the region worst affected by the HIV/AIDS epidemic. Hence out of the 10% of the world's population that are living in Sub-Sahara Africa, 68% adults and nearly 90% of children infected with HIV are found in this region (i.e. over two-third of the global total). Estimates have also shown that in sub Saharan Africa, there were about 1.7 million newly infected people and roughly 1.6 million deaths (76% of the global death) of AIDS only in 2007 [4].

Young people between the ages of 15 and 24 are the most threatened by the HIV/AIDS pandemic. Globally, half of all the new cases of HIV infection are among young people (17-29). Sub Saharan Africa is home to 62% of these young people living with HIV [4]. Besides this, women are at least 1.2 times at greater risk of infection than men. The ratio is highest among young people aged 15-24 year, where 75% of those infected are girls. And young girls are found to be 2.5 times more infected with HIV than young men [4].

Ethiopia is among the Sub-Sahara African countries where the HIV/AIDS epidemic is at a critical phase and has become a threat for the country's overall socio economic development. Ethiopia is one of the countries highly affected by the epidemic and has become the third largest population of HIV infected people living in Africa, which represents about 9% of the world's HIV/AIDS cases [4].

Currently, the HIV prevalence in Ethiopia is estimated to be 3.5% (10.5% among urban and 1.9% among rural population). The estimated HIV incidence was 0.26% in 2005, while the projected incidence rate shows a rising trend up to 2010 where it will be 0.28% [5].

At the regional level, the Amhara region is one of the regions with the highest prevalence of HIV (4.5%) only next to the two administrative cities, Addis Ababa and Dire Dawa and the dominantly urban region (Harari); which have a prevalence rate of 11.7 percent, 6.8 percent, and 5.2 percent respectively. In the region, the urban prevalence is 13.5% only next to the urban prevalence of Afar region (14.1 percent), while the rural prevalence is 3.2. In general, the region has the highest number of people living with HIV/AIDS in the country (i.e. 33.7% of the total number of people living with HIV/AIDS [5]. Thus it is important to study the sexual behavior of people, especially; young adults who are at great risk of getting and spreading the epidemic and give appropriate recommendations that could help in

preventing the epidemic.

2. Methods and Materials

2.1. Study Area and Period

The study was conducted in Amhara region, Wollo University, Dessie Campus. The university is selected for this study because it is one of the newly established universities of the country which ever has no such assessment data. Dessie Campus is preferred since it has a high number of students when compared with the other campus of the University which is Kombolcha campus. Wollo University, Dessie campus is found in Amhara region North East Ethiopia around Dessie town which is 401k.m from Addis Ababa. The university is about 4.5k.m from Dessie town in the northern direction. It has latitude and longitude of 11°8'N, 39°38'E respectively with an elevation between 2470m and 2550m above sea level. It lies on a horizontal grass land nearby Tossa Mountain. The weather condition in the campus is cold ranging from 14-18°C. The University is established recently having only one batch graduated. The university has 41 different departments in its two campuses. There are a total of 2800 students in Dessie Campus of the university.

2.2. Study Design

A cross sectional study was conducted.

2.3. Study Population

All regular students in Wollo University, Dessie Campus during the study period were the source population.

Students under the age 17-29 years who were attending course in Wollo University Dessie Campus during the study period were the study population. Study subjects were selected from Health Science, Business, Social Science, and Agricultural colleges of the university.

Students who were absent during data collection period and not voluntary to participate as well as students who were attending weekend and summer program were excluded.

2.4. Sample Size

The sample size is estimated by the following formula:

$$n = \frac{Z^2 P(1-P)}{d^2} \quad (1)$$

Where

n= the total sample size

Z= the desired level of confidence interval 95%, (Z=1.96)

P= sample proportion (50% since there is no study done before in this topic P=0.5).

Then 1-P=1-0.5=0.5

d= margin of error, 5% of the value of the key indicator is taken for this study i.e. 0.05

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

$n = 384$

Since the source population was less than 10,000 the sample size was adjusted by using final or adjusted number of sample size formula as follows:

$$n_f = \frac{n}{1+n/N} \quad (2)$$

Where, n_f = final corrected sample size

$$n_f = \frac{384}{1 + 384/2800}$$

N = total number of source population

$n_f = 338$

However, only 334 questionnaires were gathered having adequate information from the field. And the remaining 4 questionnaires were incomplete and rejected by the primary investigators.

2.5. Sampling Techniques and Procedure

The study population was identified by a census registration which is conducted for two days prior to data collection process in the campus. The total number of young students in the campus was found to be 2800. Systematic random sampling was used to select the study units. First the total number of students (2800) was divided to the sample size 338 and get K value approximately 8. Then the sample size was divided to the number of male and female students in the sampling frame to enable male investigators to collect data from male respondents and female investigators from female respondents to reduce non-respondent rate and in order to get accurate data from respondents. The data collection was performed in the dormitory of students. One dorm has 4 students as a result the data collection was performed having one respondent from every two dorm. Lottery method was used to select the first respondent from the 8, i.e. two dorm students and the student in the 2nd bed became our first respondent. Therefore the students in the 2nd bed of every two dorm were our respondents. If the respondent in the 2nd bed was absent or in the exclusion criteria, the student in the next bed was selected as a respondent. However, to get these systematically selected respondents, the data collection was performed in the morning and evening sessions when most of the students were at dorm in these times.

2.6. Instrument and Measurement

The data was collected by a well-organized and structured self-administered questionnaire. The questionnaire was developed in English. The questionnaire contains five main parts. The first part of the questionnaire contains demographic and sociological characteristics of participants; the second part deals with sexual behaviors of participants; the third part is about the knowledge of the respondents concerning HIV/AIDS, followed by knowledge and use of condoms among the participants. The final part of the questionnaire was dedicated to show the level of risk

perception of HIV infection among the young university students. Therefore, the self-administered questionnaire requests data regarding the background and knowledge of the young adults about sexual behavior as well as their overall awareness about HIV/AIDS were assessed. Respondents were participated based on their willingness. Informed verbal consent was obtained individually from all participants.

2.7. Data Collection Procedure

A structured questionnaire developed was pre-tested a week before launching the final data collection on 5% of the study population in Wollo University and required changes was made. The reliability of the data collected was maintained to maximum possible. To ensure the reliability and validity of data the principal investigator put the maximum effort. In this regard experts on the subject matter were contacted and the questionnaire reviewed to obtain the desired variables. The data collected was kept in a lockable cabinet not accessible to anyone other than the principal investigator. In addition, each participant was told and strictly followed by the data collectors to respond to the questions by his/her own, without consulting anyone else. Data was collected by seven Public Health post graduate students (two females and five males) for five consecutive days. Students participating in the study were being explained about the objective and confidentiality of the study while distributing and collecting the questionnaire.

2.8. Study Variables

2.8.1. Dependent Variable

- Student's level of risk perception of HIV infection, Sexual behaviors

2.8.2. Independent Variable

Age, Sex, religion, Ethnicity, Sociological factors such as alcohol use, Condom usage level

2.9. Data Processing, Analysis and Presentation

Following the data collection in the field using various instruments; editing, data entry and data cleaning processes of all questionnaires were carried out. The analysis was carried out using the Statistical Package for Social Science (SPSS) and contained descriptive statistics (frequencies and cross tabs). The final result was presented in tables, figures and graphs. The necessary cross-tabulation was also made.

2.10. Data Quality Control and Assurance

Prior to data collection, pilot study was performed keeping in view some practical and intellectual interest of randomly selected 17 young students in the campus. And as a result of this pilot study, it was found that most of the participants got annoyed and were not voluntary to answer the question that deal about having HIV/AIDS. Consequently this question saying "have you ever had HIV/AIDS?" was rejected.

In the data collection process description of the objective of the study and some unclear terms was performed to avoid

non-respondent and to enable the respondents to fill the required data correctly.

After the data collection, the questionnaire was checked to make sure that all questions were filled correctly and tally check was also performed prior to the data analysis.

2.11. Ethical Consideration

A statement of confidentiality, legal letter from the university and, need and benefits of conducting the study were attached on the cover page of the questionnaire. In addition participants were informed that they have had full right to reject, to discontinue or to unaccept participating in the study at all. No specific identity was attached to the questionnaire and the data was handled confidentially. Respondents were informed on the purpose of the study and the consent of them was taken.

While conducting the study through questionnaire, questions regarding sensitive issues of health were avoided to obtain desired information. Accountability, neutrality, confidentiality and academic honesty were maintained through the study.

3. Results

3.1. Socio-Demographic Characteristics

The demographic and socio economic background of the participants that was assessed in the study includes sex, age, religion and ethnicity. Among the determined samples of 338 students 334 completed questionnaires were returned back to the primary investigators. The research participants considered in this study were both males 236 (70.7%) & females 98 (29.3%). As it is indicated in Table 1, slightly more than 64 (19.2%) of the participants were found in the age group 17-19 and around 264 (79%) were in the age group 20-24 years old and the remaining 6 (1.8%) were in the age group 25-29.

Regarding the participant's religion, 266 (79.6%) were Orthodox Christians, 48 (14.4%) were Muslims, whereas the proportion of other religion were 20 (6%). The survey result further revealed that, the majority of participants 250 (74.9%) were Amhara, 31 (9.3%) were Oromo, 28 (8.4%) were Tigray and 25 (7.5%) were other in ethnicity which includes Afar, Harere, Addis Ababa, Benishangule, Gambela and Southern Nation, Nationalities and Peoples.

Table 1. Distribution of respondents by demographic and sociological characteristics, Wollo University, Dessie Campus, 2010.

| Respondents characteristics | Sex of respondents | | | | Total | | |
|-----------------------------|--------------------|------|-----------|------|-----------|-----|------|
| | Male | | Female | | | | |
| | Frequency | % | Frequency | % | Frequency | % | |
| Sex | 236 | 70.7 | 98 | 29.3 | 334 | 100 | |
| Age | 17-19 | 41 | 12.3 | 23 | 6.9 | 64 | 19.2 |
| | 20-24 | 190 | 56.9 | 74 | 22.2 | 264 | 79 |
| | 25-29 | 5 | 1.5 | 1 | 0.3 | 6 | 1.8 |
| Religion | Orthodox | 187 | 56 | 79 | 23.7 | 266 | 79.6 |
| | Muslim | 39 | 11.7 | 9 | 2.7 | 48 | 14.4 |
| | Others | 10 | 3 | 10 | 3 | 20 | 6.0 |
| Ethnicity | Amhara | 177 | 53 | 73 | 21.9 | 250 | 74.9 |
| | Tigray | 17 | 5.1 | 11 | 3.3 | 28 | 8.4 |
| | Oromia | 20 | 6 | 11 | 3.3 | 31 | 9.3 |
| | Others | 22 | 6.6 | 3 | 0.9 | 25 | 7.5 |
| Alcohol/drug use | No | 146 | 43.7 | 85 | 25.4 | 231 | 69.2 |
| | Rarely | 86 | 25.7 | 13 | 3.9 | 99 | 29.6 |
| | Common users | 4 | 1.2 | 0 | 0 | 4 | 1.2 |

According to the survey finding (shown in Table 1), more than a quarter (30%) of the participants used some of the substances (like chat, cigarette and alcoholic drinks). About 1.2% of them took at least one type of the substances commonly, 29.6% rarely and most of the respondents (69.2%) did not use these substances. It is also shown that males were more addicted to these substances than female students.

3.2. Sexual Behavior of the Respondents

This section presents the percentage distributions of some risk related factors which will further be investigated using chi-square test to assess the net effect of individual factors on risk perception of HIV infection.

Table 2 depicted that 117 (35%) of the respondents reported ever had sex; the percentage was higher among males (28.4%) than among females (6.6%).

In this study, among the respondents who ever had sexual intercourse, nearly two-third (61.5%) began sex in their age

15- 19. Even though the majority of the respondents began sex by ages 15-19 and 20- 24 (58.9%) years, about 1.7% of the respondents had their first sexual debut before their 15th birth day.

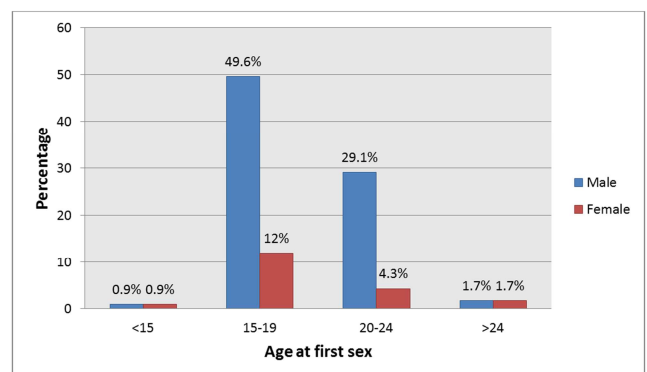


Fig. 1. Respondents who had sex by their age during the first sex, Wollo University Dessie Campus, 2010 (Percentage).

Of the 64 (19.2%) respondents who were under the age groups of 17-19, 21.9% of them had sex while from 79% and 1.8% of the respondents who were under 20-24 and 25-29 age groups, 37.5% and 83.3% of them had sex respectively.

Among those 117 respondents who ever had sex, about 32 (27.4%) had at least 2 sexual partners and about 85 respondents (72.6%) had only one sex partner.

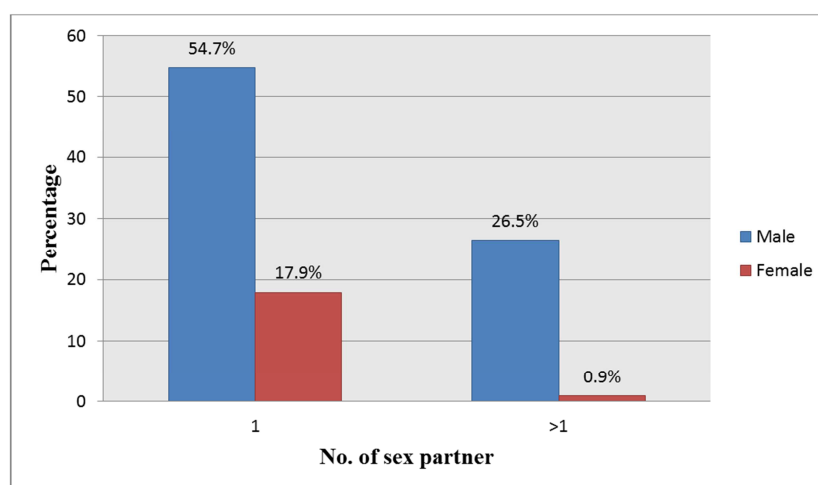


Fig. 2. Percentage of respondents by the number of sex partners they ever had, Wollo University Dessie Campus, 2010.

Among the respondents who ever had sex, 91 (77.7%) did their first sex with their boy/girlfriends, 13 (11.1%) of them did it with their fiancé, while 9 (7.7%) and 3 (2.6%) of the sexually active respondents did their first sex with their

spouse and CSW respectively. Only one female respondent replied that her first sexual intercourse was forcefully done. On the other hand, 217 (65%) of the respondents have never started sex.

Table 2. Distributions of respondents by variables related to risky sexual behavior, Wollo University Dessie Campus, 2010.

| Sexual behavior of respondents | | Sex of respondents | | | | Total | |
|---------------------------------|-------------------|--------------------|------|-----------|------|-----------|------|
| | | Male | | Female | | | |
| | | Frequency | % | Frequency | % | Frequency | % |
| Ever had sex | Yes | 95 | 81.2 | 22 | 18.8 | 117 | 35 |
| | No | 141 | 65.0 | 76 | 35.0 | 217 | 65 |
| Ever had sex with CSW | Yes | 7 | 87.5 | 1 | 12.5 | 8 | 6.8 |
| | No | 88 | 80.7 | 21 | 19.3 | 109 | 93.2 |
| Number of sex partners ever had | 1 | 64 | 75.3 | 21 | 24.7 | 85 | 72.6 |
| | >1 | 31 | 96.8 | 1 | 3.2 | 32 | 27.4 |
| | <15 | 1 | 50 | 1 | 50 | 2 | 1.7 |
| Age at first sex | 15-19 | 58 | 80.6 | 14 | 19.4 | 72 | 61.5 |
| | 20-24 | 34 | 87.2 | 5 | 12.8 | 39 | 33.3 |
| | >24 | 2 | 50 | 2 | 50 | 4 | 3.4 |
| First sex partner | Spouse | 4 | 44.4 | 5 | 55.6 | 9 | 7.7 |
| | Fiancé | 10 | 76.9 | 3 | 23.1 | 13 | 11.1 |
| | Boy (girl) friend | 79 | 86.8 | 12 | 13.2 | 91 | 77.7 |
| | CSW | 2 | 66.7 | 1 | 33.3 | 3 | 2.6 |
| | Forcefully done | 0 | 0 | 1 | 100 | 1 | 0.9 |
| Age gap between Partners | <5 years | 80 | 87.0 | 12 | 13.0 | 92 | 78.6 |
| | ≥5 years | 15 | 60 | 10 | 40 | 25 | 21.4 |
| Ever used condom | Yes | 62 | 84.9 | 11 | 15.1 | 73 | 62.4 |
| | No | 33 | 75.0 | 11 | 25.0 | 44 | 37.6 |
| Ever seen sex film | Yes | 165 | 89.2 | 20 | 10.8 | 185 | 55.4 |
| | No | 71 | 47.7 | 78 | 52.3 | 149 | 44.6 |
| Ever had HIV test | Yes | 144 | 70.2 | 61 | 29.8 | 205 | 61.4 |
| | No | 92 | 71.3 | 37 | 28.7 | 129 | 38.6 |

From the total 334 respondents, 185 (55.4%) had seen sex films while 149 (44.6%) of them had not been exposed. From those who had seen sex films, 44.3% of them had sex while from those who had not seen sex film only 24.1% had sex. Moreover 86.7% of the respondents who had seen sex film replied that they were initiated to have sex after watching sex film.

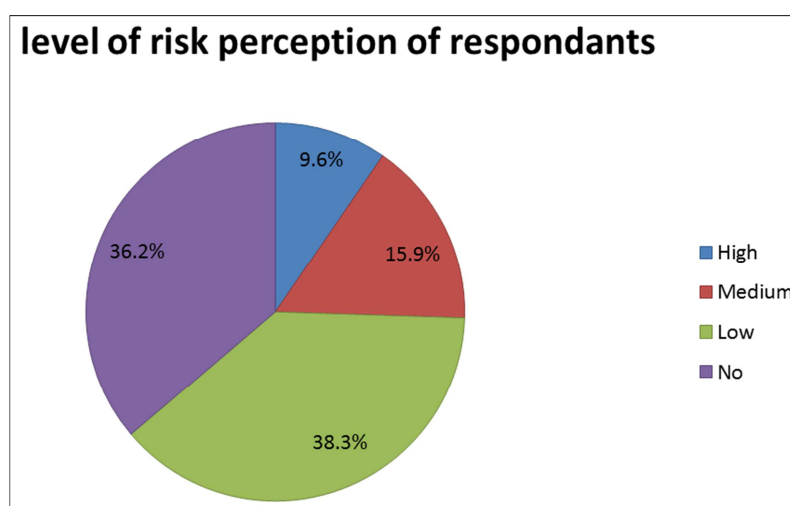
Condom utilization habit of the respondents was also assessed, and the result revealed that 73 (62.4%) of sexually experienced participants ever used condom. However, only 14.5% of the sexually active respondents used condom in their first sex. Among those individuals who have ever used condom, 56 (76.7%) used it consistently. In other words 47.8% of sexually experienced participants used condom consistently.

Table 3. Distribution of sexually experienced Participants by Condom Use, Wollo University Dessie Campus, 2010.

| Condom use experience | Sex of respondents | | | | Total | Percentage from who ever had sex |
|-----------------------|--------------------|------|--------|------|-------|----------------------------------|
| | Male | | Female | | | |
| | No. | % | No. | % | | |
| Never use condom | 33 | 75 | 11 | 25 | 44 | 37.6% |
| At first sex only | 14 | 82.4 | 3 | 17.6 | 17 | 14.5% |
| Always | 48 | 85.7 | 8 | 14.3 | 56 | 47.8% |

3.3. Levels of Risk Perception of Respondents

Out of the total 334 respondents 9.6% and 15.9% perceived high and medium level of risk perception respectively. While 38.3% and 36.2% perceived themselves as low and no risk perception of having HIV/AIDS respectively.

**Fig. 3.** Level of risk perception of respondents towards HIV/AIDS, Wollo University Dessie Campus, 2010.

Overall, 9.3% of males and 10.2% of females perceived high risk of HIV infection; and 19.1% of male and 8.2% of female respondents perceived themselves to have a medium chance of getting HIV. In general, female respondents were considerably more likely than males to report themselves at a higher risk of HIV infection.

Despite their risky sexual behavior, only 4.7% and 10.2% of the young students in the age groups 17-19 and 20-24 perceived high risk of HIV infection respectively. However 33.3% of those respondents in the age group 25-29 perceived high risk of HIV infection.

Table 4. Levels of risk perception of HIV infection by some background characteristics of respondents, Wollo University Dessie Campus, 2010.

| Some back ground characteristics | | Level of risk perception of HIV infection | | | | Total |
|----------------------------------|--------------|---|---------------|------------|------------|-------------|
| | | High No (%) | Medium No (%) | Low No (%) | No No (%) | |
| Sex | Male | 22 (9.3%) | 45 (19.1%) | 91 (38.5%) | 78 (33.1%) | 236 (70.7%) |
| | Female | 10 (10.2%) | 8 (8.2%) | 37 (37.8%) | 43 (43.9%) | 98 (29.3%) |
| Age | 17-19 | 3 (4.7%) | 6 (9.4%) | 28 (43.8%) | 27 (42.2%) | 64 (19.3%) |
| | 20-24 | 27 (10.2%) | 45 (17.0%) | 98 (37.1%) | 94 (35.6%) | 264 (79.0%) |
| | 25-29 | 2 (33.3%) | 2 (33.3%) | 2 (33.3%) | 0 (0.0%) | 6 (1.8%) |
| Alcohol/drug use | No | 23 (10.0%) | 31 (13.4%) | 92 (39.8%) | 85 (36.8%) | 231 (69.2%) |
| | Rarely | 9 (9.1%) | 21 (21.2%) | 36 (36.4%) | 33 (33.3%) | 99 (29.6%) |
| | Common users | 0 (0.0%) | 1 (25.0%) | 0 | 3 (75%) | 4 (1.2%) |

Table 5 shows the level of risk perception of respondents by their sexual experiences. As it can be seen from the table, 22.2% and 28.2% of the ever had sex respondents perceive high and medium risk of HIV infection respectively. However, only 2.8% and 9.2% of the never had sex respondents perceived high and medium risk of HIV infection respectively. Even though, the table below shows that the level of high risk perception increases with

increasing in the number of sex partners respondents ever had, it seems that they did not assess their risk correctly. Because respondents who ever had multiple sex partners were not found at higher rate of high risk perception as expected. For instance only 25% and 25% of the respondents who ever had more than one sex partners perceive high and medium risk of being infected by HIV respectively. However the remaining 37.5% and 12.5% of the respondents who ever

had more than one sex partners perceive low and no risk of HIV infection respectively. Young adults who begin sex early are found to perceive higher risk of HIV infection. 49.9% of those respondents who began sex before their 20th birth day and about 51.1% of those who began sex after their 20th birth day perceive high or medium risk of HIV infection.

More than 62.5% of respondents who had sexual contact with CSW have perceived high or medium risk of infection. However the remaining 37.5% perceive low or no risk of

HIV infection despite the fact that contact with CSW is a high risk behavior.

Never have been tested individuals are found to perceive higher risk of HIV infection. 14% and 20.2% of the never been tested respondents perceive high and medium risk of HIV infection; and 6.8% and 13.2% of the ever have been tested respondents perceive high and medium risk of HIV infection respectively.

Table 5. Levels of risk perception by the sexual experiences of respondents, Wollo University Dessie Campus, 2010.

| Sexual experience of respondents | | Level of risk perception of HIV infection | | | | Total |
|----------------------------------|------------|---|------------|------------|------------|-------|
| | | High | Medium | Low | No | |
| Ever had sex | Yes | 26 (22.2%) | 33 (28.2%) | 34 (29.1%) | 24 (20.5%) | 117 |
| | No | 6 (2.8%) | 20 (9.2%) | 94 (43.3%) | 97 (44.7%) | 217 |
| No. of sex partners ever had | 1 | 18 (21.2%) | 25 (29.4%) | 22 (25.9%) | 20 (23.5%) | 85 |
| | >1 | 8 (25.0%) | 8 (25.0%) | 12 (37.5%) | 4 (12.5%) | 32 |
| Age at first sex | <20 | 19 (25.6%) | 18 (24.3%) | 21 (28.4%) | 16 (21.6%) | 74 |
| | ≥20 | 7 (16.3%) | 15 (34.8%) | 13 (30.2%) | 8 (18.6%) | 43 |
| Age gap between sex partners | <5 years | 17 (18.5%) | 27 (29.3%) | 26 (28.3%) | 22 (23.9%) | 92 |
| | ≥5 years | 9 (36.0%) | 6 (24.0%) | 83 (2.0%) | 2 (8.0%) | 25 |
| Ever had sex with CSW | Yes | 4 (50%) | 1 (12.5%) | 2 (25%) | 1 (12.5%) | 8 |
| | No | 22 (20.2%) | 32 (29.4%) | 32 (29.4%) | 23 (21.1%) | 109 |
| Ever used condom | Yes | 12 (16.4%) | 20 (27.4%) | 27 (37.0%) | 14 (19.2%) | 73 |
| | No | 14 (31.8%) | 13 (29.5%) | 7 (15.9%) | 10 (22.7%) | 44 |
| Knowledge of HIV status | Tested | 14 (6.8%) | 27 (13.2%) | 66 (32.2%) | 98 (47.8%) | 205 |
| | Not tested | 18 (14.0%) | 26 (20.2%) | 62 (14.1%) | 23 (17.8%) | 129 |

4. Discussion

The primary objective of this paper is to examine the relationship between risky sexual behaviors and risk perception of HIV infection among young students aged 17-29 years in Wollo University Dessie Campus. Having correct assessment of personal risk of HIV infection is important for the target population to take appropriate measures to protect themselves against HIV/AIDS.

This study used data from a survey conducted in the Wollo University, Dessie campus to explore sexual behavior and the risk perception of HIV infection among young adults aged 17 – 29 years. The results of this study provide an insight for understanding the relationships between the existing sexual behavior and level of risk perception of the study population so that, programmed interventions can be designed accordingly. A descriptive analysis of respondents' sociological, demographic and behavioral factors was made to obtain a general description of sexual behavior and risk perception of HIV infection. SPSS analysis was also applied to examine the strength of association that each variable has with the perceived risk of HIV infection.

A study in South Africa on youths has shown that, the age at sexual initiation is still early. Similarly our study depicted that 35% (117 respondents) of the respondents reported ever having sex; the percentage was higher among males (81.2%) than among females (18.8%). From the respondents who ever had sexual intercourse, more than two-third (61.5%) began sex in their age 15- 19, of which the proportion of men

(80.6%) is greater than that of women (19.4%). The result indicated that there is significant association ($X^2= 11.67$, $P=0.003$) between age group and having sex. Moreover, among those respondents who ever had sex, about 32 (27.4%) had at least 2 sexual partners which is raised compared to South Africa and this might be due to the awareness of the people about the harm of having 2 sexual partner was higher in South Africa than in Ethiopia in addition it might be due to their culture.

Several studies have shown that the risk of HIV infection increases with the number of one's sexual partners. Men and women who engaged in multiple sexual partnerships are directly at risk of HIV infection because of their own sexual behavior. Respondents with multiple sexual partners in this study have an elevated risk of HIV infection and are therefore defined as "high risk". It would seem that it is relatively common for men in the study area to have multiple sexual partners.

The result revealed that 185 (55.4%) of the total respondents had seen sex film while 149 (44.6%) of them had not been exposed. To see the existence of statistical significance Percentage difference between exposing to sex film and having sex Pearson Chi-square test (X^2 test) was conducted; and the result shows there is statistical significance percentage difference exposing to sex film and having sex at less than 1% probability level ($X^2= 14.68$, $P=0.000$). From those who had seen sex films, 44.3% of them had sex while from those who had not seen sex film only 24.1% had sex. More over the study indicates that majority of the respondents (86.7%) who had seen sex film

were initiated to have sex after watching sex film.

One of the mechanisms of protecting any kind of STDs including HIV/AIDS is using condom while doing sex. Condom, which is ubiquitous and easy to use, is one of the three methods for protecting sexually active people from the risk of HIV infection. Condom, as a method of safer sex practice, has gained greater importance especially at a time when the spread of HIV/AIDS is increasing rapidly. In this context, it is imperative for men and women to be aware of the importance of condom use. In this study, it was attempted to see the condom use habit of sexually active respondents.

Slightly more than 37.6% of the sexually experienced respondents didn't use condom when having sex. However, only minority (14.5%) of sexually experienced participants reported having used condom during their first sexual encounter. Condom which have dual way of protection, do not appear to be used consistently. Only 47.8% of sexually experienced participants reported that they always used condom with their sexual partner. This was slightly raised when compared with studies conducted in China and Adama (Nazareth) and this slight increment might be due to the fact that the study units in this study were university students which are expected to be much aware about condom than the public in China and Adama.

Condom use has a highly significant association with the level of risk perception as shown in the chi-square test ($X^2=73.753$; $p=0.00$). About 56% of the respondents who have the experience of using condom are found to perceive lower risk of HIV infection.

Studies conducted in Guyana and Nepal revealed that rising level of HIV among sex workers can provide early warning of increasing probability that the epidemic will expand to the general population and will raise risk perception to HIV infection.

Similarly our study, as expected, the respondent's history of having sex with CSWs has a strong association with the level of risk perception. The result of Pearson's chi-square test ($X^2=72.057$; $p=0.00$) indicated that more than 63% of those respondents who ever had sex with CSW perceive higher risk of HIV infection. However, about 37% of the respondents who ever had sex with CSW perceive lower risk of HIV infection.

Generally, the result showed that risk perception of HIV infection is dominantly influenced by the sexual behavior of respondents. The number of life time sex partners respondents ever have is one of the expected determinant factors of risk perception. The number of sex partners respondents ever had is expected to influence their risk perception of HIV infection. Even though, the result shows that the level of high risk perception increases with increasing in the number of sex partners respondents ever had, it seems that they did not assess their risk correctly. Because respondents who ever had multiple sex partners were not found at higher rate of high risk perception as expected.

The result also indicated that as age of the respondents increases their level of risk perception of HIV infection

increases too. Given that risky sexual behavior among males or vice-versa is translated into risk for the opposite sex. It is surprising that significantly higher proportions of females (10.2%) perceived themselves to be at a higher HIV risk compared to males (9.3%). This was similar with the study conducted in Cape Town, South Africa. Yet higher proportions of males are involving in risky sexual behavior. This situation is however not unique to Wollo University, Dessie Campus as many studies conducted particularly in universities and other settings where HIV is prevalent have shown that higher proportions of females than males perceive themselves as being at a higher HIV risk.

5. Limitation of the Study

Due to the sensitivity and privacy of the issue under investigation, structured questions were designed and asked under a great caution so as to get the needed information. However, the study had certain challenges:

- During this study there might be observational bias
- There were financial constraint while conducting the study

6. Conclusion

The HIV pandemic has prompted massive efforts to increase awareness of the risk of HIV infection. Behavior of young students in Wollo University, Dessie Campus can be expressed in two different categories. The first one is those who have risky sexual behavior but consider themselves as being at low or no risk of contracting HIV. The second one is those young students who judge their chance of being infected by HIV consistent with their reported sexual behavior. Even though the majority of the respondents in this study perceived themselves as being at low or no risk of HIV infection; results from their reported sexual behavior indicate that a significant proportion of the respondents involve in risky sexual activities that could expose them to HIV infection.

There are a number of factors that are found to determine the level of risk perception of HIV infection among students aged 17-29 in Wollo University Dessie Campus. This paper set out to investigate the link between some of the background characteristics of respondents and their self-assessment of risk of HIV infection. Among the independent variables only two of the sociological and demographic variables (sex, and alcohol/drug use) and all the seven variables related to sexual behaviors were found to have significant effects on the personal risk perception of HIV infection of the respondents. Results have shown that risky sexual behaviors (multiple sexual contacts, sex with CSW, inconsistent use or non-use of condom, age difference with sex partner, lower age at first sex, and never taking VCT) translate persons to a higher level of risk perception to HIV infection. However, in this study, number of life time sex partners, sex, knowledge of HIV status, age at first sex and condom use when having sex were found to be strong

predictors of risk perception. Moreover, risky sexual behaviors like watching sex film were found to have effect on motivating respondents to have sex.

Even in the face of existing perception and knowledge of self-risk, risk taking behaviors (early age at first sex, multiple sex partnership, sex with high risk partners such as CSW, non-use of condom for every act of sexual intercourse, low HIV test service uptake, etc) is still high. These results further emphasize the need for a holistic approach of intervention in addressing the social, economic and contextual factors that continue to put many young university students at risk of HIV infection.

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