

Risky sexual behaviors and associated factors among Debre Birhan University students, Debre Birhan, North Shewa Ethiopia

Taye Zeru¹, Alemayehu Belay^{*2}, Solomon Worku³ and Sintayehu Abate²

¹ Amara regional health bureau, P.O.Box 495, Bahir Dar

² Ethiopian Public Health Institute, P.O.Box 1242, Addis Ababa

³ Jhpiego Country Office, Addis Ababa

*Corresponding author: alexbsru@gmail.com , P.O.Box 1242, Addis Ababa

Abstract

Back ground: Higher education students are categorized under the Most at Risk Population Segments (MARPS) to acquire HIV infection. The risky sexual behaviors in these groups might be different and so are factors contributing. Most prevention interventions targeting the general public do not directly respond to these students' needs and expectations rather there has be specialized intervention to address this particular group.

Objectives: Assessment of risky sexual behavior and associated factors among Debre Birhan University students.

Methods: Institutional based cross sectional study was conducted from January 19 to January 30, 2009 in 8 randomly selected departments at Debre Birhan university regular students. Quantitative data were collected using a questionnaire completed in a face-to-face interview with 576 students. Data was analyzed using SPSS version 20.

Result: About 12% of sexually active students' had one of the risky sexual behaviors'. Sex, living area, year of study, frequency of alcohol and Chat intake are predictor of risky sexual behavior among Debre Birhan University students.

Conclusion The magnitude of risky sexual behaviors and factors promoting them among Debre Birhan University students were significant.

Key Words: Risky Sexual Behaviors, sexually active students, Most at Risk Population

Introduction

About a third of global population is aged between 10-24 years. This proportion varies for developed and developing nations. Young people make up only 21% of the population of the developed countries where as 29% in less developed countries and 85% of PLWH was found in developing countries (Health 1995). The age structure of population of Ethiopia is predominately young: 47 % are under 15 years, nearly half (49%) are between 15 to 65 years, and only 4 % are over the age of 65 years. The HIV prevalence among adults age group 15-49 was 1.5% in 2011(CSA Ethiopia 2011). Young people, aged 15-24, are at greatest risk of HIV infection. Over 80% of HIV infections occur through sexual contact with an infected partner and could have been avoided through the adoption of safer sexual behaviors including condom use, reduction in the number and concurrency of sexual partners, or abstinence (Askew I. 2003; UNAIDS December 2007).

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 (UNAIDS. 2004). HIV prevalence increases with age to a peak of 3.7 % at age 30-34 years and 3.0 % at age 35-39 years for women and men respectively. Overall, HIV prevalence is higher for women than men in most age groups. The HIV prevalence among adults age 15-49

years in 2005 and 2011 were 1.4%, 1.5% respectively, and also higher in urban areas (4.2%) than in rural areas (0.6%). Among regions HIV prevalence is highest in Gambela (6.5%) and in Addis Ababa (5.2%). A higher proportion of Ethiopians who attended secondary school (3.1%) are HIV positive than those with less education or with more than a secondary school education, the Higher Education HIV and AIDS Program, HEAIDS (2010), estimated that one in four students in South Africa was infected with HIV; University/College students are often viewed as being at higher risks to acquire STIs/HIV infection and they are categorized under the Most at Risk Population Segments (MARPS)(Taffa.N 1998; Shisana, et al. 2008; Ethiopia: June 2012).

Multiple sexual partner rates in Nigerian university students were 3.5 sexual partners on average, while 63% of Togolese university students had more than one sexual partner, in Malawi University 40.4% of students had reported multiple sexual partners (Harding A 1999; Ntata P 2008). Men and women in the highest wealth quintile have the highest HIV prevalence (3.9%). In general, differentials in HIV prevalence are similar for women and men (CSA 2005; CSA. Ethiopia 2011). In 2005 at the regional level, the Amhara in which the university is located 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 (Harare); which has a prevalence rate of 11.7 %, 6.8 %, and 5.2 % respectively. In the region, the Urban HIV prevalence is 13.5% only next to the urban prevalence of Afar region (14.1 percent), while the rural prevalence is 3.2 (CSA 2005). In general, the region has the highest number of people living with HIV/AIDS in the country 33.7% of the total number of PLWHA (FHAPCO. 2006). 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.

Methods and Materials

Facility based cross sectional study design was conducted in Debre Birhan University from January 19 to January 30, 2015. The sample size (576) was determined using single population proportion formula at 95% CI, the proportion of risky sexual behavior; $P = 78.2\%$ (0.782), 5 % degree of freedom (d), design effect 2 and 10% non-response rate. Eight departments were randomly selected from the faculty and those stratified based on year of study. Systematic random sampling technique was applied to select individuals from each year of study from the list of students 'and sample was proportionally allocated to their class size. The quantitative data was collected using pre-tested self-administered questionnaires. Data was entered into data base and analysis was done using SPSS version 20. Data was cleaned and exploratory analysis was done using bi-variant to see associations between the independent and dependent variables and multi-variant logistic regression analysis was run to control for potential confounders to identify independent predictors.

Result

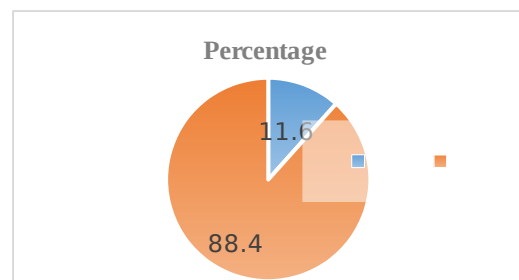
From the total of 576 identified regular students, 98.9% respondents were included in the analysis. The mean ($\pm$ SD) age of students was 21.3 ($\pm$ 1.15) years. Majority (84.6%) of students were in the age range of 18–24 years. Nearly 54.2 % students were male while 63% of the respondents were orthodox, 45.3% were Amhara. Around 84% of them were living in campus. In this study, about 11.6% of sexually active students' had one of the risky sexual behaviors while 88.4% didn't have risky sexual behaviors in the university (Figure 1).

Prevalence of risky sexual behaviors: This study showed that from female study participants included, 4.6 % of the sexually active female students practiced sex for exchange of money and overall about 7.9 % of all the sexually active students engaged in multiple

sexual partner (having more than one sexual partner) while 4.9 % of the sexually active students practiced sex without consistently using condom (unprotected sex).

Table 1: Socio-demographic characteristics of undergraduate students in Debrebirhan University, January 2015.

Variables		Frequency	Percentage
Age	18-24 years	482	84.6
	>=24 years	88	15.4
Sex	Male	309	54.2
	Female	261	45.8
Ethnicity	Amhara	258	45.3
	Oromo	134	23.5
	Tigre	93	16.3
	SNNP	73	12.8
	Others	12	2.1
Year of study	Second	157	27.5
	Third	229	40.2
	Fourth	81	14.2
	Fifth and above	103	18.1
Place of stay	Inside campus	479	84.0
	Outside campus	91	16.0
Residency	Rural	319	56.0
	Urban	251	44.0



chewing chat habit 17.9% of the students chewed. The frequency among males (13.9%) was higher compared to females (4.0%).

When the respondents were further asked their chewing pattern, they indicated that about 6.1 % of them chew chat occasionally, 4.1% chewed chat once a week and 7.7% of respondents claimed chewing chat every day. In addition concerning cigarette smoking habit, 9.8% of the students smoke cigarette. The Frequency among males (8.1%) was higher compared to females (1.7%).The respondents were further asked their smoking pattern. The response indicated that about 2.1 % of them smoke cigarette occasionally, 2.3% smoke cigarette once a week and 5.4 % of respondents claimed smoke cigarette every day. Finally Concerning illicit drug use habit 9.6% of the students uses hashish. The frequency among males (5.5 %) was higher compared to females (4.2%). The respondents were further asked their illicit drug use pattern. The response indicated that about 1.9 % of

Figure 1: Students have at least one risky sexual behaviors of DBU, January 2015.

From male study participants, 4.2 % of all the sexually active male students engaged sex with commercial sex workers. Of the total sexually active students, 5.6% of them started sexual intercourse before the age of 18 years (Figure 1 and 2).

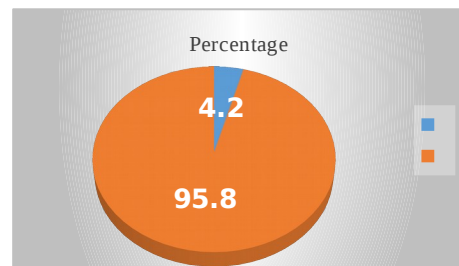


Figure 2: Numbers of male students who had sex with CSW among DBU, January 2015.

Substance use behavior: About 35 % of the students reported that they drank alcohol ranging from daily to occasional times. Among alcohol users, the majority (17.9%) were using alcoholic drinks occasionally, 9.1% drank at least once a week, 7.7% drank every day .The frequency alcohol intake among males (25.1) was higher than females (9.6). Concerning

them use hashish occasionally, 2.1% use hashish once a week and 5.6 % of respondents claimed hashish use daily (Table 2 and 3).

Bivariant and multivariate analysis: Bivariant analysis showed that there was a statistical significant association between risky sexual behaviors for HIV infection and sex [(COR=2.5(95%CI:1.37-4.47)], area of raised up [(COR=1.9(95%CI:1.11-3.39)], area of staying [(COR=19.4(95%CI:10.74-35.20)] and year of study

[third year (COR=1.7(95%CI:1.58-4.87), fourth (COR=7.5(95CI:2.63-21.29), fifth year and above (COR=14.3(95%CI5.37-38.27)]. The association remains significant while controlling for potential confounding factors using multi variant logistic regression. Sex [(AOR=2.2(95%CI:1.06-4.46)], area of raised up [(AOR=2.1(95%CI:1.06,4.20)], area of staying [(AOR=19.1(95%CI:9.18-39.53)] and year of study [third year [AOR=1.9(95%CI:1.61-6.10)], fourth [AOR=3.4(95%CI:1.06-11.02)], fifth year and above

(AOR=15.9(95%CI:.02-.10)). Living outside had strong association with risky sexual behavior [AOR=19.1 (95%CI: 9.18-39.53)]. The odds of risky sexual behavior increases with year of study; fifth year and above have greater odds. [AOR = 15.9(95%CI: .02-.10) followed by fourth year students [AOR= 3.4(95%CI: 1.06- 11.02)] (Table 2).

Bivariant association analysis showed that statistical significant association between risky sexual behaviors

and frequency of alcohol intake and chat chewing. The association remains statistical significant even while running multi variant logistic regression. Drank alcohol daily had strong association with risky sexual behavior [AOR=5.6(95%CI: 1.16-26.70)].The odds of risky sexual behavior increases with frequency of chat chewing; daily chat chewers have greater odds. [AOR=1.6(95%CI1:.32-1.33) followed by once a week chewers [AOR=1.1(95% CI.03, .58)].

Table 2: The relationship between risky sexual behaviors and socio demographic variables, Among DBU students, January 2015

Socio demographic variables		Risky sexual behavior		COR(95 %CI)	AOR (95% CI)
		Yes	No		
Sex	Male	50	281	2.5(1.38 4.47)	2.2(1.06,4.46)
	female	16	223	1.00	1.00
Place you were raised	Urban	20	231	1.00	1.00
	Rural	46	273	2.0(1.12, 3.39)	2.1(1.06,4.20)
Area of staying	Inside campus	22	457	1.00	1.00
	Outside campus	44	47	19.5(10.74, 35.20)	19.1(9.18,39.53)
Year of study	Second	5	152	1.00	1.00
	Third	12	217	1.7(1.58, 4.87)	1.9(1.61,6.10)
	Fourth	16	65	7.5(2.63, 21.29)	3.4(1.06,11.02)
	Fifth and above	33	70	14.3(5.37 38.27)	15.9(.02,.10)

Table 3: The relationship between substance use and risky sexual behavior among DBU students, January 2015

Substance use		Risky sexual behavior		Crud OR. 95 CI	Adj.OR. 95 CI
		Yes	No		
Alcohol intake	Never	10	362	1.00	1.00
	Occasional	13	89	5.3(2.25,12.45)	4.6(1.33, 15.72)
	At least once a week	16	36	16.1(6.80,38.064)	5.1(1.48, 24.22)
	Daily	27	17	57.5(24.00,137.71)	5.6(1.16, 26.70)
chat chewing	Never	7	461	1.00	1.00
	Occasional	9	26	2.3(7.87,66.05)	1.2(.01,.06)
	At least once a week	13	10	8.6(2.81,26.03)	1.3(.03,.58)
	Daily	37	7	34.8(1.16, 10.46)	1.6(.13,1.33)

Discussion

Twelve percent of students have a risk for HIV infection. In this study the multivariate logistic regression analysis adjusted for potential confounders showed that sex, area of staying, year of study, frequency of alcohol intake, frequency of chat chewing were found to be independent risk predictors of risky sexual behavior. This finding might be due to the alcohol and chat reduces the judgment and performance of people engaging in activities that require concentration, quick reaction, and precise actions such that it removes inhibitions and engender risky sexual behaviors. Living outside had freedom to engage in such conditions, students from rural had less access of promotion service and finally as the seniority level of study increases the student adapts the university environment and academics.

Substance use behavior: 34.7% of the students drank alcohol which is greater than 14.3% a study done in Bahirdar University (Astal.T 2010). The frequency of

alcohol intake among males (25.1) which is greater than 22.7% a study in Harameya University and also frequency of alcohol intake among females (12.5) less than in the same (16%) study of Haramaya university. Concerning chewing chat habit 17.9% of the students' chewed chat which is almost similar 17.7% to a study done in Bahirdar University. The chewing pattern indicated that about 6.1% which is much less than the study in Haramaya University(49.5%). Of the study participants 7.6% chew chat occasionally, 4.1% chewed chat once a week and 7.7% chewed chat daily which is less than 28.2% in the study of Haramaya university (Astal.T 2010; Tariku D august 2014). Concerning illicit drug use habit 9.8% of the students use Hashish which is greater than 7.8% a study in Bahir Dar University (Astal.T 2010; Andualem D 2014).

Risky Sexual Behaviors: 4.6 % of the sexually active female students practiced sex for exchange of money in Debre Birhan university which is almost similar to

(5%) a study done in Haramaya University, and Medawolabo university (4.9%), but much less than (25%) a study done in KwaZulu-Natal University (30,26) while about 7.9 % of all the sexually active students in Debre Birhan University engaged in sexual relationships with more than two persons (multiple sexual partner), which is much less than similar study done in Nigerian university (35%), Togolese university (63%), Malawi university (40%), KwaZulu-Natal university (60%), (24,25,26). It is less than similar study done in Haramaya University (11%) and Bahir Dar University (34.8%)(Astal.T 2010; Andualem D 2014).

In addition 4.9 % of the sexually active students practiced sex without using consistent condom use (unprotected sex) by far less than a study done in Meda Wolabo University (56.2%)(Tefaye S 2014). 4.2 % of all the sexually active male students engaged sex with commercial sex workers which is less than a study done in Bahirdar university (7.8%) (Astal.T 2010). Of the total sexually active students 6.8 % of them started sexual intercourse before the age of 18 years which is less than a study done in Haramaya University (35.3%) (Andualem D 2014). Finally of the total study population 11.6% had a risk for HIV infection which is less than a study done in Haramaya university 12.8% had at least one of the risky sexual behaviors for HIV infection (Andualem D 2014; Tariku D august 2014).

Conclusions

The finding of this research study suggests that students engage in several risky sexual practices such as multiple sexual partnerships, sex for exchange of money, forced sexual intercourse, sex before 18 years, sex with commercial sex workers and unprotected sex. These risky sexual practice increase HIV infection. The study also found that significant numbers of students drank alcohol, chew chat, smoke cigarette and of students use hashish. Sex, living area, year of study, frequency of alcohol and chat intake is significantly and independently associated with risky sexual behavior among Debre Birhan University students

Acknowledgements

The author would like to acknowledge Debre Birhan University and Amhara Regional Health Bureau, for guidance, comments and all rounded support in our work.

References

Andualem D, Assefa S & Chalachew M (2014). Assessment of Substance use and risky sexual

- behavior among Haramaya University Students. *Science Journal of Public Health*, 2(2): 102-110.
- Askew I & Berer M (2003). The contributions of sexual and reproductive health services to fight against HIV/AIDS. *Review on reproductive matters*, 11(22): 51-73.
- CSA (2005). Ethiopian demographic and health surveys. Addis Ababa, Ethiopia.
- CSA Ethiopia (2011). Ethiopian demographic and health survey. Addis Ababa Ethiopia and Calverton, Maryland, USA 2012
- National Alliance of State and Territorial AIDS Directors Ethiopia (2012). University HIV and STI Prevention, University Package Implementation Guide. national alliance of state and territorial AIDS directors -Ethiopia.
- FHAPCO, Federal ministry of health/National HIV/AIDS prevention and control office (2006). "AIDS in Ethiopia."
- Harding A, Anadu E & Gray K (1999). Nigerian University student's knowledge, Perceptions and behaviors about HIV/AIDS. *Journal of the Royal Society for the Promotion of Health*, 119(1): 23-31.
- UN picture of Health (1995). A Review and Annotated Bibliography of the Health of Young People in Developing Countries. WHO/FHE/ ADH/95(14).
- Ntata P, Muula A & Siziya S (2008). Gender differences in University students' HIV/AIDS Related knowledge and sexual behaviors in Malawi. *SHARA-Journal of Social Aspects of HIV/AIDS*, 5(4):201-205.
- Shisana O, Rehle T & Simbayi L (2008). South African national HIV prevalence, incidence, and behavior and communication survey report. *Human Science Research Council*, pp 24.
- Taffa N (1998). sexuality of school youth and their knowledge about STDs and HIV /ADS in Southern Ethiopia. *Journal of health Development*, 12(1): 13
- Tariku D, Lemessa O & Nega A (august2014). Patterns of sexual risk behavior among undergraduate University students in Ethiopia: a cross-sectional study. *Pan African medical journal*, 12:33.
- Tefaye S, AbulieT, Nagasa D & BegnaT (2014). Risks for STIs/HIV infection among Madawalabu University students, Southeast Ethiopia: a cross sectional study. *Journal of ReproductiveHealth*, 10(1): 38.
- Tigist A (2010). Assessment of sexual orientation and risky sexual behavior among Bahir Dar University students. *Bio Medical Centre*, 13:825.
- UNAIDS (2007). Joint United Nations program on HIV/AIDS and world health organization.
- UNAIDS (2004). global AIDS epidemic, fourth report.

