

Sexual Risk Behaviors and its Associated Factors among Undergraduate Students in Madda Walabu University, Southeast Ethiopia: A Facility-based Cross Sectional Study

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Received date: Nov 30, 2015; Accepted date: Dec 8, 2015; Published date: Dec 15, 2015

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Abstract

Background: Although the number of higher learning institutions increase in number and size in Ethiopia, the HIV risk perception and behaviors among undergraduate students have become an indispensable part of the national HIV prevention and control program. These undergraduate students are particularly vulnerable to HIV/AIDS due to their age group which constitutes the peak period for sexual activity, inclination towards sexual networking and consequent risk of HIV infection of African university students, this study was conducted to examine the sexual risk behaviors of this group in Ethiopia.

Objective: To assess the prevalence of sexual risk behaviors and associated factors in undergraduate students, of Madda Walabu University.

Methods: An Institution-based cross-sectional study design was conducted and a self-administered questionnaire was used to collect information on socio-demographic and sexual risk behavior characteristics among 634 randomly selected students in Madda Walabu University, Ethiopia in February, 2014. Data was checked for their completeness, entered in to Epi info data version 3.1, and export to SPSS version 21 for data analysis. Descriptive analysis was used to determine the prevalence. Multivariate logistic regressions models were used to derive adjusted odds ratios (OR) and 95% confidence interval (95% CI) and p-value of less than 0.05 considered as significant. The results were presented in a narrative forms, tables and graphs.

Results: More than half 330 (54.6%); 95% CI (50.6 to 58.6) students reported, were involved in sexual risk behaviors. 4th year students were nearly nine times more likely as compared to first year students (AOR=9.5; 95% CI 2.5-36.3) and accepting to have premarital sex nearly two & half times more likely as compared to non-accepting premarital sex (AOR=2.58; 95% CI 1.26-5.27) were associated with having inconsistent condom use. And also a multiple logistic regression model examined, males respondents were nearly three times more likely as compared to females (AOR=2.80; 95% CI 1.35-5.80) and ever drunk alcohol three& half odd compared to abstainers (AOR=3.62; 95% CI 2.02-6.53) were associated with having multiple sexual partners.

Conclusion: A significant segment of undergraduate students had some form of sexual risk behaviours including having multiple sexual partners and inconsistent condom use. The predominant factors that were associated with sexual risk behaviours includes; male sex, more study of year, drinking alcohol and accepting premarital sex. Madda Walabu University need to; design programs with comprehensive education on sexual and reproductive health (SRH) issues such as safer sex and HIV/AIDS through ; strengthen behavioural change communications (BCC) on risk perception; life skill training, peer-education, availing services and working with stalk holders, NGOs, and the surrounding community and youth friendly health service to facilitates accessibility of services such as usage of condom, and provide information related to SRH.

Keywords: Sexual risk; Multiple sexual partner; Inconsistence condom use; Undergraduate students

Introduction

WHO report stated HIV/AIDS is continuing to be a world challenge. Globally, a total of 2.7 million people acquired HIV infection in 2010, down from 3.1 million in 2001, contributing to the total number of 34 million people living with HIV in 2010. More than 2.2million people died each year from AIDS-related causes. In low and

middle income countries, it bore 90% of the global HIV burden. Sub-Saharan Africa is the most affected part of the world with an estimated 22.9 million people living with HIV in 2010 [1,2]. According to The Joint United Nations Program on HIV/AIDS (UNAIDS), in 2008 young people aged 15-24 years accounted for 42% of new HIV infections and nearly 80% of this live in sub-Saharan Africa including Ethiopia [3].

Recent expansion of higher learning institutions in Ethiopia has resulted in a significant increase enrolment of students from 39,576 in

1996/97 to 220,340 in 2006/2007. Currently there are nearly 125,111 undergraduate students in 34 governmental universities in the country. These undergraduate students are particularly vulnerable to HIV/AIDS due to their age group which constitutes the peak period for sexual activity, inclination towards sexual networking and consequent risk of HIV infection. In Ethiopia, the highest prevalence of HIV (12.1%) was seen in the age group of 15-24 [4,5].

Sexual risk behaviors remain a significant problem predisposing university students for STIs and HIV infection. Studies show that the special vulnerability of the youth in universities result from unsatisfactory knowledge, low risk perception, cultural difference, females low negotiation skills in condom use, widespread substance use and peer pressure towards STIs and/HIV. Additional factors that might contribute to the increased risk include the fact that university students are too many in numbers, lack of adolescent friendly sexual and reproductive health services and do not benefit from close parental supervision [6-10].

Despite a few studies that investigate the patterns of sexual risk behaviors were carried out in some places; there is no sufficient evidence from the newly opened higher learning institutions in Ethiopia. Therefore, this study was conducted with the aim of determining the prevalence of sexual risk behavior and factors influencing sexual risk behavior of students in Madda Walabu University, Ethiopia.

Methods

Study area and period

The study was conducted in Madda Walabu University, which is one of the 34 governmental universities in Ethiopia. It is located at 430 Km in the South-east direction from the capital City, Addis Ababa. During the study time the university had a total of 5,454 regular students from 1st to 4th year; the data collection period was from February 1st, to 30th of March, 2014

Study design and participants

An institution based cross-sectional study design was conducted among Madwalabu University students who were from different departments that were randomly selected to participate in the study. All regular undergraduate students whose age was in the range of 18-24 years and currently on the course were included in the study.

Sample size determination and sampling procedures

A single proportion formula was used with the assumptions of; A 95% confidence, margin of error (0.05). An additional 5% non-response rate, and a prevalence of sexual activity among students of Uganda University which was (59%), was considered to estimate sample for the current study. The total sample size calculated was 634 regular undergraduate students. The study area was stratified in to campus named as Robe and Goba, year of study, and sex; First, list of departments and year of study was established and the sample was proportionally distributed based on the number of students; 64% of the sample was allocated for males and 36% for females to ensure representation. By preparing separate sampling frames for both sexes from the students' registration lists respondents were randomly selected from the respective year of studies.

Data collection instrument and procedures

The randomly selected students were notified through trained data collector and department's heads. They were then provided orientation in the class rooms about the study, how they were selected, and confidentiality issues. Then informed verbal consent was obtained from all participants.

Due to the sensitiveness of the study and educational background a privately Self-administered, structured questionnaire in English language have been used and provided to the respondents by trained data collectors to obtain the information. Even if the questionnaires were obtained from different literature reviews, the necessary modifications were made to suit with the research title.

The questionnaires were pre-tested for this study among Alkan University college students in Southeastern Ethiopia and modifications were made afterward. Data were collected in two areas: socio-demographic and sexual risk behaviors.

Operational definitions

Sexual risk behaviour: A behaviour that is associated with increased likelihood of acquiring STIs including HIV/AIDS; specifically, inconsistent use of condom, and sex with multiple partners.

Consistent condom use: using condom all the time during every sex act, consistently and correctly for any length of time.

Multiple sexual partners: the practice of having more than one sexual intercourse at the same time, with the full knowledge and consent of all partners involved.

Data processing and analysis

The data was checked for completeness and consistencies during the data collection, cleaned, coded and entered in to a computer SPSS-16, Further cleaning and checking for missing values and errors were made after entry. Bivariate and Multivariate analysis using logistic regression models were used to determine the predictors of sexual risk behaviors. The Crude and Adjusted OR's with 95% CI and statistical significance at $P < 0.05$ were declared.

Data quality management

Using a standardized questionnaire; translated from English to local languages and retranslated back to English. Training for data collectors and pre-tested the data collection instruments, Close supervision was made by the principal Investigator.

Ethical considerations

Approval was secured from the research and Ethics committee at the School of Public Health of Addis Ababa University. Informed verbal consent was obtained from all participants and confidentiality was maintained and Information on the purpose of the study were given to the participants

Results

A total of 604 students responded to the questionnaires providing a response rate of 95.3%. About 64.1% (387) of the respondents were males and 35.9% (217) females. The Mean age (\pm SD) of the respondents was 21 (\pm 1.60) (Table 1).

Variables	Frequency	Percent
Age		
<21 year	251	41.6
≥21 year	353	58.4
Total	604	100
Sex		
Male	387	64.1
Female	217	35.9
Total	604	100
Religious		
Yes	573	94.9
No	31	5.1
Total	604	100
Academic Year of study		
Year I	213	35.3
Year II	217	35.9
Year III	121	20
Year IV	53	8.8
Total	604	100
Parents education level		
Literate	489	86.4
Illiterate	77	13.6
Total	566	100

Table 1: Socio-demographic characteristics of the study participants at Madda Walabu University, 2014.

Sexual behaviors of participants

Sexual practice: More than half 330 (54.6%); 95% CI (50.6 to 58.6) of respondents ever had sexual activity (40.6% male and 62.5% female). The mean age at first sexual intercourse was 19.5(±1.7) years (17.69(±1.16) years for male and 16.56 (±1.31) years for females). More than 86% of the youth started first sex at age of ≤18 years. A majority, 248 (82.7%) of them had first sexual intercourse with a boy/girlfriend, 6.3% with relatives, 5.7% with strangers and 5.3% with CSW. Regarding reasons for initiation of first sex, the respondents claimed major reasons were; personal desire 197(60.0%) followed by peers

pressure 95(29.0%), influence of substance& economic benefits 34(10.0%) and others 4(1%). Thirty five percent (116) with 95%CI (28.8 to 41.8) of those that reported to have had sex had more than one sexual partner (Table 2).

Condom use: Among those who ever had sexual intercourse, 244(73.9%), have ever used a condom. Among 244 students who reported to a frequency of condom use, nearly three quarter (70.9%); 95% CI (64.1 to 77.6) of the respondents were identified as using condom inconsistently (Table 2).

Characteristics	Frequency	Percent
Ever had sexual activity(n=604)		
Yes	330	54.6
No	274	45.4

With whom 1st sex was made		
Boy/girl friend	248	82.7
Relative	19	6.3
Stranger	17	5.7
CSW	16	5.3
Age at first sex		
≤18	285	86.4
>18	45	13.6
Reasons for first sexual activity		
personal desire	197	60
peers pressure	95	29
substance influence and economic problem	38	11
In the past 12 months, how many sexual partners did you have sex with? (n=330)		
Only one	116	35.2
More than one	214	64.8
Have you ever used condom?		
Yes	244	73.9
No	86	22.4
How Frequently did you use condoms?		
Consistently	71	29.1
Inconsistently	173	70.9

Table 2: Sexual history among undergraduate students, at Madda Walabu University, 2014.

Predictors of sexual risk behaviors

A multiple logistic regression model examined the relationship between academic years of study, accepting premarital sex and having inconsistent condom use shows that 4th year students were nearly nine times more likely as compared to first year students (AOR=9.5; 95% CI: (2.5-36.3) and accepting to have premarital sex nearly two & half times more likely as compared to non-accepting premarital sex (AOR=2.58; 95% CI: (1.26-5.27) were associated with having inconsistent condom use (Table 3). And also a multiple logistic

regression model examined the relationship between sex, academic years of study, drinking alcohol and having multiple sexual partners shows that males respondents were nearly three times more likely as compared to females (AOR=2.80; 95% CI (1.35-5.80) and Fourth and third year students were nearly five times and ten times more likely as compared to first year students (AOR=5.55; 95% CI: (2.16-14.24) and (AOR=10.44; 95% CI: (4.34-25.1) and ever drunk alcohol threefold odd compared to abstainers (AOR=3.62; 95% CI: (2.02-6.53) were associated with having multiple sexual partners (Table 3).

Variable	inconsistent condom use		COR(95% CI)	AOR(95%CI)	Multiple sexual partner		COR(95% CI)	AOR (95%CI)
	Yes n (%)	No n (%)			Yes n (%)	No n (%)		
Sex								
Female	12 (83.1)	54(31.2)	1	1	21(18.1)	70(32.7)	1	1
Male	59 (16.9)	119(68.8)	2.23(1.10-4.49)*	1.34(0.56-3.21)	95(81.9)	144(67.3)	2.19(1.26-3.82)*	2.80(1.35-5.80)**
Age								
<21	69 (39.9)	21 (29.6)	1	1	36 (31.0)	85(39.7)	1	1

≥21	104 (60.1)	50 (71.4)	0.63(0.35-1.64)	0.45(0.21-0.95)	80 (69.0)	129(60.3)	1.46(0.90-2.36)	0.43(0.21-0.86)
Academic Study of year								
Year I	61 (35.3)	21 (29.6)	1	1	21(18.1)	96(44.9)	1	1
Year II	43 (24.9)	36 (50.7)	1.81(0.52-6.35)	0.59 (0.26-1.37)	30(25.9)	73(34.1)	0.80(0.37-1.74)	1.30(0.60-2.81)
Year III	40 (23.1)	10 (14.2)	1.37 (1.58-3.22)*	2.47 (0.88-6.91)	41(35.3)	26(12.1)	7.20(3.14-14.25)*	10.44(4.34-25.1)***
Year IV	29 (16.8)	4 (5.6)	2.49 (0.78-7.93)*	9.5 (2.5-36.3)**	24(20.7)	19(8.9)	5.77(2.69-12.41)*	5.55(2.16-14.24)***
Religious								
Yes	159 (91.9)	64 (90.1)	1	1	16 (7.5)	107(92.2)	1	1
No	14 (8.1)	7 (9.9)	0.80(0.31-2.08)	1.05(0.25-4.44)	197(92.5)	9 (7.8)	0.96(0.41-2.25)	0.66(0.30-1.42)
Parents education								
Literate	150 (86.7)	60 (84.5)	1	1	102(87.9)	168(78.5)	1	1
Illiterate	23 (13.3)	11 (15.5)	0.83(0.38-1.82)	1.30(0.43-3.89)	14(12.1.)	40 (21.5)	0.57(0.26-0.95)	0.74(0.33-1.64)
Drinking alcohol								
No	93(58.8)	27(38.0)	1	1	38(31.8)	146(68.2)	1	1
Yes	80(46.2)	44(62.0)	0.52(0.30-0.93)	0.34(0.16-0.74)	78(67.2)	68(31.8)	4.40(2.72-7.14)*	3.62(2.02-6.53)***
Chewing Khat								
No	63 (36.4)	13 (18.3)	1	1	45(38.8)	165(77.1)	1	1
Yes	110 (63.6)	58 (81.7)	0.39 (0.20-0.77)	0.76(0.31-1.89)	71(61.2)	49(22.9)	2.13(1.30-03.48)*	1.29(0.60-2.75)
Smoking cigarette								
No	133(76.7)	1 (1.4)	1	1	96(82.8)	186(86.9)	1	1
yes	40 (23.3)	70 (98.6)	0.04 (0.06-0.35)	0.03(0.04-2.80)**	20(17.2)	28(13.1)	1.38(0.74-2.58)	0.41(0.54-3.70)
Accept to have premarital sex								
No	73 (42.2)	35 (49.3)	1	1	51(44.0)	130(60.7)	1	1
Yes	100 (57.8)	36(50.7)	1.33(0.76-2.31)	2.58(1.26-5.27)**	65(56.0)	84(39.3)	1.97(1.24-3.11)*	1.11(0.63-1.97)
Note: ***p < .001, **p < .01, *p < .05, j includes "not sure".								

Table 3: Multivariate logistic regression analysis for inconsistent condom use and multiple sexual partners among undergraduate students at Madda Walabu University, 2014.

Discussion

The findings show that more than half 330 (54.6%); 95% CI (50.6 to 58.6) of respondents had involved in sexual risk behaviors at a mean age of 19.5 years. 116 (35%); 95% CI (28.8 to 41.8) of those that reported to have had sex had more than one sexual partner. Among 244 students who reported to a frequency of condom use, nearly three quarter (70.9%); 95% CI (64.1 to 77.6) of the respondents were identified as using condom inconsistently. Academic status of 4th year students and accepting to have premarital sex were significantly associated with inconsistent condom use ((AOR=9.5; 95% CI: 2.5-36.3) and (AOR=2.58; 95% CI: (1.26-5.27)), respectively. Male gender, drinking alcohol and academic status of 4th year students were significantly associated with having multiple sexual partners.

The sexual activities among adolescents have been reported to be increasing worldwide. Several studies in Sub-Saharan Africa have documented high and increasing sexual activities among adolescents [11]. The prevalence of this finding is higher than Jimma University and Haramaya University, in which (28%) and (26.9%) of students ever had sexual intercourse, respectively [7,8].

This study also revealed that male students were about 2 times more likely ever had sexual activity compared to females. The study at Jimma and Haramaya University showed that males were more likely ever had sexual intercourse than their counter parts [7,8]. This shows that more young people in higher institutions are getting sexually activity and often take advantage of freedom from direct parental supervision and guidance and high level of personal freedom and social interactions which offers an opportunity for high level of sexual networking for them [12,13].

If unprotected, the first sexual event has clear adverse outcomes on health such as unplanned pregnancy for the women and STIs including HIV/AIDS. Thus the first sexual intercourse remains an event of immense social and personal significance. In the current study, about 86.4% of the respondents who had experienced premarital sex had sex before the age of 18. This finding is comparable with finding from study conducted among male college students of Kathmandu, Nepal showed that about 63.7% students were had sex before the age of 19 [14].

Moreover, female students were found to start sexual intercourse at early age compared to their counter parts (16.5 SD \pm 1.31, 17.7 SD \pm 1.16), years respectively. It was also roughly comparable with lower median age reported from another findings of the study conducted among eastern schools in Ethiopia & university students in Nigeria [15,16]. These might indicate that the issue of early sexual activity is a problem and how quickly sexual activity builds up among youths.

This study also found that Condom utilization at the time of last sexual intercourse among who had sexual intercourse was about 68.8%, which is consistent with finding of EDHS 2011 which revealed that 68% and finding from Bahir Dar town among unmarried high school female students revealed about 64.3% was utilized condom, but higher than (40%) of sexually active students of USA who did not use a condom the last time sex [17-19].

However, this study showed that the prevalence of inconsistent condom use was 70.9% despite the expectation of prevention awareness among university students; the prevalence is higher as compared to BSS II, 2010 and EDHS 2011 and [6,19]. This indicates inadequacy of knowledge about reproductive health risks including HIV/AIDS, STI, unwanted pregnancy and its complications which have grave consequences on the students themselves and country as whole.

Information regarding their life time sexual partner was solicited from students who had sexual practice and about 35.2% of them reported having multiple partners which is consistent with finding from Haramaya University (33.5%). However this finding is relatively low compared to study conducted in different countries [14,16,20]. This difference might be the socio cultural differences in these countries.

This study found that male students were more likely to have multiple sexual partner compared to the female students. This finding is consistent with finding from Haramaya University [21], which revealed that being male students is significantly associated with having multiple sexual partners. This might be due to several factors like high level of personal freedom, sensation seeking, and lack of self-regulation, openness to western cultures, social Medias, and romantic videos (pornography) which offers an opportunity for high level of sexual networking.

Alcohol drinking was also found predictor for having life time multiple sexual partners which is comparable with study from Danish among men reported that with increasing frequency of binge drinking were more likely to have multiple sexual partners [16]. The possible explanation might be due to peer pressure and adoption of western culture influences.

A study year of students were significantly associated with life time multiple sexual partner. This could be due to as the study year increases the students of engaging in sexual practices increases the

potentially having multiple partner due to effects of social media, academic failure and substance uses.

This study found that fourth year students were more likely to use condom inconsistently compared to fresh students. Here the reason might be as the year increases the young people who most seek such protection often have difficulty of accessing appropriate services and adopting behaviors that protect them from HIV infection.

The respondents who accept to have premarital sex were more likely to use condom inconsistently compared to those who don't accept. This reflects the sex education activities, peer education and cultural expectation of the young population is loose up.

Despite the fact that information on sexual behavior is important for designing and monitoring intervention programs to control the spread of STI/HIV transmission and interventions have focused on abstinence as policy in universities, but as we have seen in this study 54.6% have already had been in sexual activity in which abstinence by itself does not work. Again 35.2% ever had a practice of multiple sexual partners and 70.9% inconsistently condom use. This indicates that the university students are exposed to health hazards through their sexual risk behaviors which consequently continuing to the spread of STI and HIV transmission. Therefore, the safety protection by accessing necessary services together with behavioral modification is more necessary.

Conclusion and Recommendations

A significant segment of undergraduate students had some form of sexual risk behaviours including having multiple sexual partners and inconsistent condom use. The predominant factors that were associated with sexual risk behaviours includes; male sex, more study of year, drinking alcohol and accepting premarital sex. Mada Walabu University need to; design programs with comprehensive education on sexual and reproductive health (SRH) issues such as safer sex and HIV/AIDS through ; strengthen behavioural change communications (BCC) on risk perception; life skill training, peer-education, availing services and working with stalk holders, NGOs, and the surrounding community and youth friendly health service to facilitates accessibility of services such as usage of condom, and provide information related to SRH.

Acknowledgements

My special thanks to my advisor Dr. Solomon Shiferaw for his support and advice throughout the accomplishment of this research. And also my special gratitude will pass to Addis Ababa University, school of public health and the John Hopkins University Bloomberg School of Public Health for its facilitating and funding this study.

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