

Risky Sexual Behavior and Associated Factor among Arsi University Students, South East Ethiopia

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Abstract

Background: *Unsafe sex is the second leading cause of global burden of diseases. In Sub-Saharan Africa the figures are higher, which were 45%-52% for both sexes. In Ethiopia, 29% of women had first sexual intercourse before age 15 years old and 62% of women before age 18 years old. Therefore, the aim of this study was to find the magnitude of risky sexual behavior and associated factors among students in Arsi University, Asella, Ethiopia.*

Methods: *A cross-sectional study design was conducted among 457 undergraduate students of Arsi University at August 15, 2019. Stratified random sampling technique and self-administered questionnaire were used. Data was entered and cleaned by using Epi Info version 7 and exported to and analyzed by using SPSS version 21. Descriptive statistics, binary and multiple logistic regressions were used. A P-value of ≤ 0.05 and 95% confidence level were considered to indicate level of statistical significance.*

Result: *The mean age of sexual initiation for both sexes was 18.71 years with (\pm) standard deviation of 1.7 years. The proportion of risky sexual behavior among the study participant was 63.1%. Place of origin (AOR 1.701 (95% CI 1.024, 2.827), being single (AOR 2.380 (95% CI 1.354, 4.185) and using shisha, hashish and cocaine (AOR 2.074 (95% CI 1.053, 4.085) were the main factors associated with risky sexual behavior among study participants.*

Conclusions: *The magnitude of risky sexual behavior among study participant was higher. Awareness creation among students from urban origin, students who are single and students who have used shisha, hashish and cocaine needs special attention by the University.*

Keywords: *Arsi, Condom use, Risky sexual behavior, University Students, unprotected sex*

INTRODUCTION

The risky sexual behavior of youths is unprotected vaginal, oral, or anal intercourse (Blum R. School connectedness, 2005; EPHA, ARH, 2003; Andrew SE, 2006) that increases one's risk of contracting STI, unintended pregnancy and abortion (Dingeta T, Oljira L, Assefa N, 2012; CDC). University students are in the youth age category and are exposed to risky sexual behaviors such as unprotected sexual intercourse leading to HIV, other STIs and unintended pregnancies (Tura G, et al., 2012; WHO, 2006; Lanre O, 2009).

Altogether unsafe sex is the second leading cause of global burden of diseases (6.3%) (Ezzati M, et al., 2002). A study conducted among university students in China reveals that, 12.6% students having pre-marital sexual intercourse and 57.4% students view pornography (Lewis J. et al 2017; Duncan C, et al., 2002) and in Northern Thailand revealed males engaged in sex earlier than females 17 and 18 median age respectively (Nakornkhet N. et al., 2008).

In Sub-Saharan Africa, the figures are higher, which were 45%-52% for both sexes (Dingeta T. et al., 2012; Ngom P, et al., 2003). The study conducted in Nigerian Universities revealed that more than half of them, 52% had sex with friend or girlfriend and 52% have had sex with someone, 33.6% of them had sex for the first time at age range of 15-19 years (Dingeta T. et al., 2012). As the study conducted in Zambia shows, 48% of the first sex done for the desire to experiment, 18% due to peer pressure, 3.6% need of money, 5.4% preparation for marriage and 2.2% forced. The largest group of school girls, 65% had their first sexual intercourse between the age of 15 and 17 years (Dingeta T. et al., 2012; Daid D, 2003). A study conducted in Kenya reveals that the prevalence

of sexual intercourse within the last 12 months was 14.9% (Rudatsikira E, et al., 2007).

According to 2011 EDHS, 29% of women had first sexual intercourse before age 15 years old and 62% of women before age 18 years old. The median age at first sexual intercourse for women and men is 16.6 and 21.2 years old, respectively. Men tend to initiate sexual activity later in life than women (CSA, 2012).

The study conducted in Harar, 65% of males and 20% of females (Ibrahim N, 2004), Jimma Town, 17.9% of high school adolescents (6.7% of females and 11.2% of males) (Lemma E, 2000), in Addis Ababa City 25% of the sexually active males were reported to have visited female commercial sex workers (Tadesse E et al., 2013) involved in risky sexual intercourse.

Thus, this study was provided valuable information on prevalence of the risky sexual behaviors and associated factors among Arsi University students, to enhance and promote reproductive health issues of the Arsi University communities.

METHODS AND MATERIALS

The study was conducted in Arsi University, South eastern Ethiopia. The University is one of newly established at October, 2014 located in Asella Town, Arsi Zone, Oromia Region and 175 km away from Addis Ababa, the capital city of Ethiopia. The University has six colleges and one school namely College of Health Sciences, College of Agriculture and Environmental Science, College of Business and Economics, College of Education and Behavioral Science, College of Social Science and Humanities, College of Natural Sciences and Computational and school of law, in which more than 36 departments are included. The number of students enrolled at 2019, in the

University was 5,100. The study was conducted from August 15 to September 30/2019.

Institutional based cross- sectional study design was used to assess the risky sexual behavior and associated factors. The source population for the study was all regular undergraduate students of Arsi University while the study population was all selected regular undergraduate Students of Arsi university of respective college. Regular student who is unable to respond due to critically ill and those who have critical mental problems were excluded.

Sample size was calculated by using single population proportion formula for the first objective, prevalence of risky sexual behaviors, by using proportion from a study conducted in Debremarkos University (38) $P= 48.8\%$ that was 384. For the second objectives, sample size was calculated by using double population proportion formula that was 458. Since the sample size of the second objective was the larger one, 458 were taken to determine the sample size of this study. But the source population was $(N) = 5,100$ which was $<10,000$; the sample size was modified by using the correction formula and by considering 10% non-response rate, the final sample size of this study was 462.

Stratified random sampling technique was used. Students were stratified based on their colleges/schools where they are assigned by the university and then they were cross stratified in to four/five strata with their years of study from Year I to Year V and above. The list of all class year students of five colleges and one school was obtained from the university registrar office. Sampling frame was developed for each college and the school based on the number of students in each department and year of study accordingly. After proportional allocation to each year of study, simple random sampling technique was applied to select the final study participants from each year one to four.

The data collection tool consists of structured questionnaires adapted from different literatures and modified as per the objectives of the study was used. The data collection tool has three parts (socio-demographic data, substances uses and questions asking about sexual history) of the students. The questionnaire was prepared in English language. Data was collected by using self administered that was distributing the tool to randomly selected students and recollected from them after they filled it out. Six trained BSc holder data collectors and one MSc holder supervisor was participated in the study. Half a day orientation was given to data collectors and supervisors by investigators. Pre-test was conducted on 5% of the sample size before the actual data collection was started. Daily supervision was held by field supervisors and the investigator.

The collected data was checked for its completeness, entered and cleaned by using Epi Info version 7 and exported to SPSS version 21 for analysis. Descriptive statistics like; mean, percentage, frequency and standard deviation were used. Binary and then multiple logistic regressions were used to determine associated variables and cofounders. All variables having less than a p-value of 0.25 in the binary logistic regression was entered to multiple logistic regression model and through which confounding factors were ruled out. A P-value of ≤ 0.05 and 95% CI was used to indicate statically significance association.

Ethical approval was obtained from institutional review board of Arsi University. Letter of permission was received from the university. Once permission was obtained from responsible body, verbal informed consent was obtained from the study participant after clear information about purpose of study; their confidentiality protection by the name of participants was not

included in the questionnaire, and the right to withdraw by themselves at any time during the data collection was given.

RESULTS

Socio-demographic characteristics

A total of 457 (98.9 %) students have participated in the study. About 244 (53.4%) participants were males, 89% were single, 240 (52.5%) were Oromo in ethnicity and 47% were orthodox religion followers (Table 1).

Table 1: Socio demographic characteristics of undergraduate regular Arsi University students, South East Ethiopia, August 15 to September 30/2019
Others* Silte, Guraghe, Wolaita, Somale

Variables	Categories	Frequency	Percentage
Sex	Male	244	53.4
	Female	213	46.6
Age in Years	18-24	289	63.2
	>24	168	36.8
Place of Origin	Urban	294	64.3
	Rural	163	35.7
Marital status	Single	407	89
	Married	41	9
	Divorce/Separated	9	2
Ethnicity	Oromo	240	52.5
	Amhara	118	25.8
	Tigre	31	6.8
	Others*	68	14.9
Religion	Muslim	112	24.5
	Orthodox	215	47
	Protestant	87	19
	Catholic	32	7
	Others	11	2.4
Academic year	First Year	185	40.5
	Second year	128	28
	Third year	96	21
	Fourth year	36	7.9
	Fifth year/above	12	2.6
Average monthly income from parent or relatives	250-500	53	11.6
	>500	404	88.4
Colleges	Health sciences	134	29.3
	Agriculture & Environmental science	85	18.6
	Humanities & Social-science	57	12.5
	School of law	24	5.3
	Business & Economics	138	30.2
	Education & Behavioral science	19	4.2

Life time sexual practice

Among the study participants, 290 (63.5%) of them had sexual experience at least one time in their lifetime (55.5% males and 44.5% females). The mean age at sexual debut was 19.03 ± 1.62 SD years for males and 18.31 ± 1.80 SD for females. The mean age of sexual initiation for both sexes was 18.71 ± 1.7 SD years (Table 2).

Table 2: Life time sexual practice among undergraduate regular Arsi University students, South East Ethiopia, August 15 to September 30/2019

Variable	Category	Frequency	Percentage
Ever had sex	Yes	290	63.5
	No	167	36.5
Age at first intercourse	<18	68	23.5
	18-24	219	75.5
	>24	3	1
Grade level started sexual intercourse	Primary school	25	8.6
	Secondary school	189	65.2
	University level	76	26.2
First sexual partner you have had sex with	Boy/girl friend	257	88.6
	Husband/wife	28	9.7
	Commercial sex worker	5	1.7
Number of sexual partners in your life time	One	129	44.5
	Two	68	23.4
	Three and more	93	32.1
Reason for having first to keep intimacy with sexual intercourse.	Fall in love	122	42.1
	Had Personal Desire	57	19.6
	Marriage	24	8.3
	Peer Pressure	87	30
Reason for not having sex	Not the right time	80	48
	Have not had an opportunity	9	5.3
	Against religion	6	3.6
	Sex before marriage is wrong	42	25.1
	Afraid of having HIV/AIDS or another STI	30	18

Substance use and risky behavior

Among 290 sexually active students, 223 (76.9%) of students have had used condom at least once in their lifetime; the most commonly cited reason for using condom were for prevention of HIV/STIs 107 (46.7%) and the second was to prevent pregnancy 104 (45.4%). The most frequently mentioned reason for not using condom was difficult to get condom, partner thrust and partner refusal. Among 457 participants, 21% of the respondents have smoked cigarette and 46.8% of them have drunk alcohol. Among the study participants, ever chew khat was 41.8%, ever used substances like shisha, hashish, cocaine etc was 23.2%, ever seen pornographic movies was 43.3% and ever gone to night club 43.1%.

Factors Associated to risky sexual behaviors

Factors that were associated with the outcome variables were assessed in binary and multiple logistic regression levels. Variables having p-value less than 0.25 in binary logistic regression analysis were selected for entry into multiple logistic regression analysis. Accordingly, variables like place of origin, marital status, cigarette smoking, drinking alcohol, khat chewing, ever used substances (shisha, hashish, cocaine etc), viewing pornographic movies and going to club were the variables that were found to have p-value less than 0.25 in binary logistic regression analysis and they were selected as a candidate for multiple logistic regression analysis. Among variables entered in to multiple logistic regression, place of origin, marital status and ever used substances (shisha, hashish, cocaine etc) were significantly associated (Table 3).

Table 3: Binary and **Multiple logistic regression analysis of factors associated with risky sexual behaviors among Undergraduate regular Arsi University students, South East Ethiopia August 15 to September 30/2019

Variables	Categories	Risky sexual behaviour		COR 95% CI	AOR 95% CI	P-value
		Yes	No			
Place of Origin	Urban	122	60	1.615(1.377, 2.003)*	1.701(1.024, 2.827)**	0.040
	Rural	60	48	1	1	
Marital status	Single	164	79	2.362(1.369, 4.075)*	2.380(1.354, 4.185)**	0.003
	Married	18	29	1	1	
Ever smoke cigarette	Yes	62	33	0.852(0.511, 1.420)	0.521(0.257, 1.057)	0.071
	No	120	75	1	1	
Ever chew khat	Yes	111	66	1.005(0.617, 1.638)	0.910(0.465, 1.784)	0.710
	No	71	42	1	1	
Ever drink alcohol	Yes	124	74	1.018(0.610, 1.699)	1.011(0.416, 2.456)	0.784
	No	58	34	1	1	
Ever used substances (shisha, ashish, cocaine etc)	Yes	58	45	1.527(1.932, 2.501)	2.074(1.053, 4.085)**	0.035
	No	124	63	1	1	
Ever seen pornographic movies	Yes	113	71	1.172(0.712, 1.927)	1.647(0.758, 3.580)	0.981
	No	69	37	1	1	
Ever gone to night club	Yes	120	69	0.914(0.555, 1.504)	0.836(0.325, 2.149)	0.208
	No	62	39	1	1	

* P-value less than 0.25, ** significant at p value less than 0.05

6. DISCUSSION

This study was assessed the magnitude of risky sexual behavior and associated factors among Arsi University students. Based on the assessment result, the study revealed that 63.45%; (95% CI, 58.84, 67.85%) were sexually active; this finding is higher than studies conducted in other Universities in Ethiopia which ranges from 28.4% in Dabra Tabor (Awoke D, 2016) to 52.6% among Gondar University students and it's also lower than studies conducted in Haramaya 33.5%, Bahir Dar 36.4%, Addis Ababa 39%, Mizan Aman 36.86% and Debre Merkos 44.7% (Andualam D et al., 2014; Wondemagegn M, et al., 2014; Mulu T. et al., 2014; Alemayehu W, 2014; Taklemariam E, et al., 2018; Kassa M, et al., 2016) respectively. It's also higher than the findings from Sri Lanka 21.2% (Perera UAP, Abeysena C, 2018) and South Africa 52.4%. The difference could be due to time of the study, study population, sample size and level of exposure.

The finding of this study is in agreement with studies conducted in Axum University 60.6% (Abdu AS, 2017; Awoke K, 2018) and Madda Walabu University 59% (Benti T, 2015) respectively. This is may be partly explained by the nature of these universities as they are nearly the same generation Universities and the characteristics of the town, except Aksum a tourist attraction site; Robe, Goba and Asella are nearly the same with characteristics like; number and availability of recreational areas, both the universities are located in the town because being in town exposes the students easily to risky sexual behavior easily.

From sexually active study participants, the magnitude of risky sexual behavior among study participants was 63.10% which is similar with findings from Bahir Dar University 62%, Haramaya University 65% and Debra Markos University 58.15% (Andualam D et al., 2014; Wondemagegn M, et al., 2014; Kassa M, et al., 2016).

However, this result is higher than the studies conducted in Madda Walabu 40.4%, Addis Ababa University 45% and Mizan Aman College 35% (Benti T et al., 2015; Tadesse E et

al., 2013; Taklemariam E et al., 2018). Possible reasons could be time of the study, population risk to sexual behavior and substance use characteristics change over time and community behavior.

Among study participants 47.1% (95% CI; (40.42%, 53.86%) of them have used condom consistently which is far lower than the studies conducted in Ethiopia; Debra Markos 77%, Haramaya 55.7%, Axum 59.2% and Addis Ababa 55.5% (Andualam D et al., 2014; Mulu T. et al., 2014; Kassa M, et al., 2016; Awoke K, 2018). This could be explained by the respondent's own report of difficult to get condom which accounts for 40.3% failure to use because of this reason.

Among factors associated with risky sexual behavior from urban origin were about two times more likely to be engaged in risky sexual behavior as compared to those from rural area. Similar finding was reported from a study conducted in Jima (Abdu AS, 2017). Possible reasons could be those respondents from urban area were more likely to be exposed to risky sexual behavior like viewing pornographic movies and other explicit materials as compared to those from rural areas.

Respondents who were single are more than two times more likely to be engaged in risky sexual behavior as compared to those who are married. This may be due to the fact that students who were not married less responsible than those who were married and easily exposed to risky sexual behaviors.

Substance use like chewing chat, smoking cigarette and drinking alcohol were not found to be associated both in binary and multiple logistic regression analysis, however the likelihood of engaging in risky sexual behavior among respondents who have used substances like; shisha, hashish and cocaine was about two times more likely to be engaged in risky sexual behavior. This is in line with studies conducted in Jima, Debra Markos and Debra Tabor (Tura G. et al., 2012; Kassa M, et al., 2016; Awoke K, 2018). Possible justification could be those who take these substances are more likely to be highly

motivated and their chance of engaging in risky sexual behavior like failure to use condom and having sex with non-regular partner could be higher.

Conclusion and Recommendation

In general, the magnitude of risky sexual behavior in this study is unacceptably high. Inconsistent condom use, multiple sexual partnership and sex before the age eighteen were among the top reasons that are very high. Study participants from urban areas were more likely to be engaged in risky sexual behavior compared to those from rural areas. Participants who were single were more likely to be engaged in risky sexual behavior as compared to those that were married. Respondents who have used shisha, hashish and cocaine were more likely to be engaged in risky sexual behavior as compared to their counter parts. Therefore, working on awareness creation, control of substance use and delaying sexual activity of children is expected from the university, health sectors, communities and families of students.

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