

# Sexual Violence and its Associated Factors among Female Students of Jimma Southwest Ethiopia: Cross-Sectional Study

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## Abstract

**Background:** Violence against women is the world's most prevalent, pervasive and systematic problem. The risk of experiencing sexual violence appears to be particularly great among adolescent girls of Sub-Saharan African countries, especially in Ethiopia. Even if the higher risk victimization of young women in Ethiopia, data are on the prevalence of sexual violence and its determinants among college students are scarce. This study was addressing the issue.

**Methods:** Institution based cross-sectional survey was conducted from January to February 2015. A total of 322 female students were selected via a stratified sampling technique. A pre-tested self-administered questionnaire was used to assess the lifetime prevalence and associated factors of sexual violence. Data were entered by using Epi-data version 3.1 and analyzed in bivariate and multivariate logistic regression analysis with SPSS version 21 software package to determine associations and control confounding factors related to sexual violence.

**Results:** Lifetime prevalence of sexual violence was found to be 35.1% (95% CI: 29.9 - 40.3) of them were encountered one or more incidences of sexual violence. Sexual violence was significantly associated with living alone (AOR = 4.3 95% CI: 1.03, 18.09), had monthly financial support (AOR= 0.1, 95% CI: (0.03, 0.73) ,having two or more number of sexual partner in life(AOR= 11.5 95% CI: 2.80, 47.16), lack the trend of discussing reproductive health issues with their parents (AOR= 5.05 95% CI: 1.37, 18.55), average parenting style over the participants behavior (AOR = 0.2, 95% CI: 0.06, 0.87), having alcohol (AOR = 8.3 95% CI: 2.57, 27.00) and khat(AOR = 11.05 95% CI: 3.53, 34.60) use behavior.

**Conclusion:** The prevalence of sexual violence among female college students in Jimma town was high which indicates that female college students are at high risk of sexual violence. Attention should be given on the reduction of the prevalence and those risk factors.y.

**Keywords:** Sexual violence • Associated factors • Tumors • Female college students • HIV

**Abbreviations:** AIDS: Acquired Immune Deficiency Syndrome • ETB: Ethiopian Birr • HIV: Human Immune Deficiency Virus • IVAWS: International Violence against Women Survey • SPSS: Statistical Package for Social Sciences • SRS: Simple Random Sampling • JTTC: Jimma Teacher Training College • UN: United Nation • WHO: World Health Organization

## Introduction

The World Health Organization (WHO) explains sexual violence as: 'Any sexual act, effort to obtain a sexual act, undesirable sexual comments or advances, or acts to traffic or otherwise focused against a person's sexuality using intimidation, by any person irrespective of their relationship to the victim, in any situation, including but not limited to home and work [1].

Violence against women is the world's most prevalent, pervasive and systematic problem. It is problem without borders, a universal scourge on women and their family that knows no geographical boundaries, Culture or wealth [2]. Worldwide, a probable one in three women will be physically or sexually harmed; and one in five will experience rape or attempted rape in their lifetime [3].

In developing countries, sexual violence is particularly severe because the violence is extreme and takes place in conjunction with an increased risk of HIV infection in a place where HIV infection is high (4). This report stated also

there have been increasing reports of gender-based violence in educational settings from around the world [4].

The risk of experiencing sexual violence appears to be particularly great among adolescent girls of Sub-Saharan African countries [2]. For example, a study conducted in four Sub-Saharan African countries has documented that 38 % in Malawi, 30 % in Ghana, 23 % in Uganda and 15 % in Burkina Faso forced first sexual intercourse among adolescent girls aged 12-19 years [2,5].

A growing number of studies have documented the high prevalence of intimate partner violence and sexual violence against women worldwide [6]. A recent study conducted in south-central Ethiopia reported that 49% and 59% of women physically and sexually abused by their partners at some point in their life respectively [6].

World Health Organization and other stakeholders are fighting for the rights of women to be reproductively and sexually healthy. However, this goal remains a dream to women as their sexual rights are dishonored. It is a cause for concern to note that sexual violence is on the increase in as in Zimbabwe dictated by an average increase of 78% in the reported cases at three institutions over the 2 years, 2009 and 2010 [7].

Gender-based violence is widely recognized as an important public health problem, both because of the acute morbidity and mortality associated with assault and because of its longer-term impact on women's health, including chronic pain, gynecologic problems, sexually transmitted diseases, depression, post-traumatic stress disorder, and suicide [8].

In Africa especially in Ethiopia, like any other third world countries,

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scientifically documented information regarding sexual violence is scarce. Generally, evidence related to sexual violence in our country especially in college setup is scarce. Studies related to sexual violence had not been conducted in the study area. Thus, these studies have assessed the prevalence and associated factors of sexual violence.

## Methods and Participates

### Study area and period

Jimma Teachers Training College (JTTC) is located 352 km South West of Addis Ababa and about 2.5 km to the northeast of Jimma City Centre. JTTC is one of several regional Teachers' Training Colleges in Ethiopia established specifically to yield competent teachers for primary schools (grades 1-8). The study work was taken from May 2014 to May 2015 and data was collected from January to February 2015.

### Participants

The study participants were all regular day time female students registered for the academic year of 2014/015 in the colleges was 1268. A total of 322 JTTC college female students were involved in the study. The stratified random sampling method was employed where each year of study was considered as Stratum. Year of the study was used in the sampling process for the selection of the study subjects. The study was excluded students with visual impairment, who was ill for a reason that they couldn't read and complete the self-administered questionnaire and extension students [5].

### Measurements

The dependent variable was "sexual violence" (it includes rape and harassment in their lifetime). The independent variable includes socio-demographic characteristics such as age, marital status, place of origin, income, religion, ethnicity, living condition, number of sexual partners in their life, substance use like chat, alcohol, and other drugs (shisha and marijuana); Family background like income, educational status, parenting style, intimacy and living condition.

### Data collection procedure and instrument

A structured anonymous self-administered questionnaire was used. Sexual violence was assessed using a sexual abuse history questionnaire which has 6 items. A total score ranging between 0-6 to measure sexual violence and the cut of the score has >1; it has sensitivity and specificity 88% and 91% respectively [9]. Alcohol misuse was assessed using CAGE which has 4 items. A total score ranging between 0-4 to screen for alcohol dependence and abuse. The cut of the score has >2; it has sensitivity and specificity (0.71 and 0.90 respectively [10]. The questionnaire was translated into Afan Oromo and Amharic language and then back-translation was done by another expert to check the consistency of meanings. Data was collected by four BSc health workers after trained them. The questionnaire was pre-tested on 5% of female students' in another college which is not included in the study before the actual study. The data collectors were trained to check for completeness of the questionnaire. Regular supervision of the data collection process was made. There was Crosschecking of data for completeness and missing value every day by the data collectors and the supervisor.

### Data processing and analysis

The quantitative data were entered into the computer by using Epi-data version 3.1 and lastly exported to SPSS version 21 for analysis. The data were explored by using frequency tables and figure. The measure of central tendency was calculated and utilized for the appropriate variable to describe, the data, to check for consistencies and to identify missed values. Bivariate analysis was employed to see the association between each exposure and outcome variables. To control the effect of confounding factors and to get independently associated variables, each variable that has a p-value of <0.25 in bivariate analysis was entered into backward stepwise multiple logistic regression model. In multiple analyses, associations with p-values <0.05 in

Wald's test model were considered to be statistically significant. Finally, the result was displayed using, figures and tables.

### Ethical considerations

The ethical approval was received from the institutional review board of Jimma University College of Public Health and Medical Sciences. Written informed consent was obtained from the study participants or their parent's for those they are less than 18 years old. Participant's strict confidentiality was insured and their identity was not revealed and there was no dissemination of the information without the respondent's permission. The data given by the participants was used only for research purposes. Participants have the right to late the participation.

## Results

### Socio-demographic characteristics of study subjects

From 322 students intended to be included in this study, complete data were obtained from 299, making a response rate of 92.9 %. The remaining 7.1%, some of them were incomplete while others didn't return to the data collectors at all. Among the total respondent, almost all students from each year of studies were equally represented; i.e. 2nd year (33.8 %), 1st and 3rd-year students 33.1% each (Table 1).

The mean age of the respondents was 21 year of age with standard division of 3.683. Orthodox Christian 90 (30.1%), Oromo 262 (87.6%) and single 187(62.5%) were the leading from their respective groups of religion, ethnicity, and marital status. While 225 (75.3%) of them were grown in rural areas, 124 (41.5%) of them were living alone. Most of the students (80.9%) were supported by their families. Likewise, most of the respondents were receiving money on a semester basis (43.8%). Most of 108 (36.1%) of students have more than or equal to 2000 annual income in ETB. Among the total respondents, majority 116(38.8%) of them had only one sexual partner in their lifetime (Table 1).

### Parental characteristics of study participant's

One hundred twenty-three (41.1%) of the respondents had a habit of discussing reproductive health issues with their parents. Most of the respondent had literate mothers 58.9% as well as literate fathers 76.9%. Majority 234 (78.3%) of their parents live together till the study period. The mean family annual income of the respondents was 36,395.57 ± 61,547.6 birr with the range from 1,980 to 720,000.00 birr. The leading parenting style was reported to be tight, 40 (13.4%) (Table 2).

### Forms of sexual violence and sexual related history of the respondent

Among the total respondents, majority 116(38.8%) of them have experienced only with one sexual partner in their lifetime. Ninety-four (31.4%) of students had no sexual partner in their lifetime. For the issues of discussing reproductive health with parents, 123(41.1%) discuss their sexual issue with their parents. And mechanism used by perpetrator to make forced sex due to hit 7(2.3%) ,threaten with knife and gun 10(3.3%), threatened with word 33(11.0%) ,by income support 7(2.3%) ,due to drunken 13(4.3%) ,to pass exam/for mark 9(3%) and due to give drug 3(1.0%). From a total of 105 respondents who encountered sexual violence majority, 15(5%) ever exposed the sex organs of the perpetrator before 13 years and also most of the 37 (12.4%) ever forced to have sex after age 13. Majority (24.7%) participants reported that they were sexually violated after the age of 13 (Table 3 and Figure 1).

### Substance use history of the respondent

From the total respondents 99(33.1%) were use alcohol and of these 68(22.7%) scored >2 on a four item alcohol abuse identification test which indicates they use alcohol at the level of abuse. Use drug and chewing khat in their life was reported by 22(7.4%), 97(32.4%) of the respondents respectively (Figure 2).

**Table 1.** Socio-demographic characteristics of study participants, in JTTC, Oromia region, South West Ethiopia, March 2015.

Characters		Frequency (n=299)	Percent (%)
Age	15-19	159	53.2
	20-24	92	30.8
	25-29	35	11.7
	30-34	13	4.3
Current living condition	Living alone	124	41.5
	Living with parents	29	9.7
	Living with husband/boyfriend	27	9
	Living with a female friend	104	34.8
	Living with relatives	15	5
Marital status of the respondent	Single	187	62.5
	married	33	11
	divorced	56	18.7
	widowed	12	4
	separated	11	3.7
Ethnicity	Amhara	8	2.7
	Oromo	262	87.6
	Gurage	22	7.4
	Tigre	7	2.3
Year of study	First	99	33.1
	Second	101	33.8
	Third	99	33.1
Source of financial support	Rural	225	75.3
Source of financial support	Parents	242	80.9
The frequency of financial support			
Source of financial support	relative	20	6.7
	husband	22	7.4
The frequency of financial support	boyfriend	11	3.7
The frequency of financial support	others	4	1.3
Income per year in ETB	Monthly	88	29.4
The frequency of financial support	Every semester	131	43.8
	Once in year	32	10.7
Income per year in ETB	Not a tall	39	13
Income per year in ETB	others	9	3
Having boyfriend	0-549	73	24.4
Income per year in ETB	550-1199	76	25.4
	1200-1999	42	14
Having boyfriend	≥2000	108	36.1
	Yes	95	37.3
	No	160	53.5

## Factors associated with sexual violence

Factors associated with sexual violence, students who were the third year and first year, had at higher risk of lifetime sexual violence (AOR=9.06 95% CI: 1.96, 41.95) and (AOR=1.3 95% CI: 0.327, 5.55) respectively than second year student. The same is true in case of loose parenting style, the ratio of the likelihood of having sexual violence was 2.1 times (AOR=2.1 95% CI: 0.27, 16.54) than in those with the tight family control system (Table 4).

In those who had history of alcohol and khat use behavior, the likelihood of life time sexual violence by around 14 times (AOR=13.8 95% CI: 4.51, 42.45) and 12 times (AOR=11.5 95% CI: 3.88, 34.47) more likely than those who didn't had history of alcohol and khat use behavior respectively. The likelihood of experiencing lifetime sexual violence was 90 % less likely among those students, who had a chance to discuss personal affairs with parents than students, who had no the chance to discuss personal affairs especially on sexual issues with parents (AOR=0.1 95% CI: 0.05, 0.54). And lastly having

one or number of sexual partner in life were around three times (AOR=2.9 95% CI: 0.10, 9.79) more likely to experience sexual violence than those who had no one or more number of sexual partner in their life (Table 4).

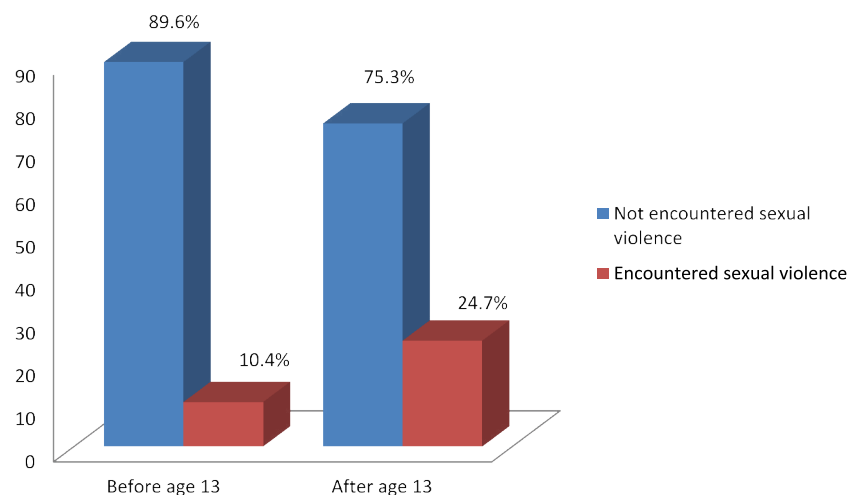
Religion, having boyfriend ethnicity, marital status, and frequency of financial support and source of financial support parental living condition and educational status of the father didn't show any association with sexual violence. But all attributes of substance use (chat chewing, drinking of alcohol, use drug), childhood place of origin was in rural areas, who are younger (age group ≥ 25) year, those lack of discussing personal affairs with parents, having one or number of sexual partner in life, income per year (550-1199, and 1200-1999), living alone, students receiving money on semester base, students who were third year and first year, Regarding family history, those who reported their mother educational status were 1-4 grades, annual income of family in ETB, parenting style of loose and tight over the respondent's behavior Regarding family history, those who reported their mother educational status were 1-4 grades, annual income of family in ETB, parenting style of loose and

**Table 2.** Socio demographic status of parents of study participants, at JTTC in Jimma town south West Ethiopia, March 2015.

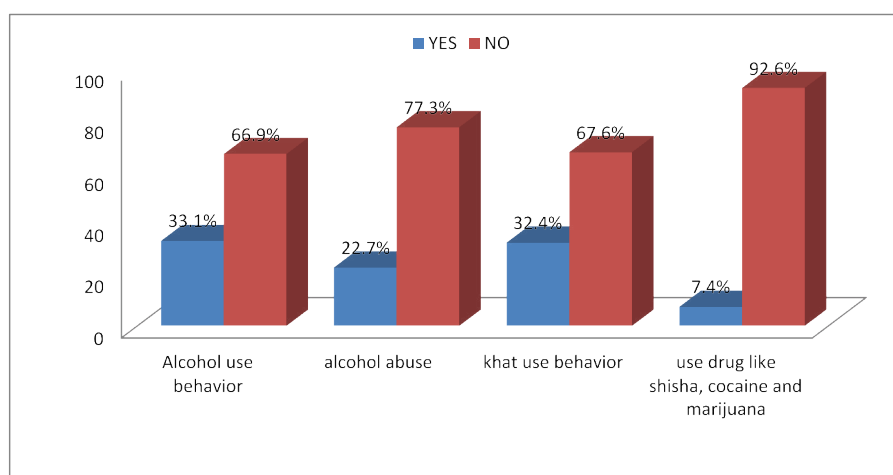
Character	Frequency (n=299)	Percent (%)
Parents living condition	Living together	234
	divorced/separated	21
	Only mother alive	24
	Only father alive	1010
	Both of them not alive	3.3
Educational status of a father	Illiterate	40
	1-4_grade	75
	5-8_grade	71
	9-12_grade	44
	above_12grade	40
	I don't know	29
Educational status of a mother	Illiterate	99
	1-4grade	92
	5-8grade	54
	9-12grade	17
	Above12	13
	I don't know	24
Family annual income in ETB	0-13199	69
	13200-23999	61
	24000-35999	84
	≥ 36000	85
Parenting style	Tight	157
	Average	102
	Loose	40

**Table 3.** Forms of sexual violence and sexual related history of Jimma teach retraining college female students in Jimma town, south West Ethiopia, March 2015.

Character	Number (%) Before 13 year		Number (%) After 13 year		Number (%) Life time sexual violence	
Forms of sexual violence			Yes 29 (9.7)	No 270 (90.3)		
Ever exposed these x organs of their body to the victim	Yes 15 (5)	284 (95)	35 (11.7)	264 (88.3)	Yes 105 (35.1)	No 194 (64.9)
Ever threatened to have sex with the victim	7 (2.3)	292 (97.7)	36 (12)	263 (88)		
Ever touched the sex organs of the victim	5 (1.7)	294 (98.3)				
Ever made you touch the sex organs of their body	4 (1.3)	295 (98.7)	31 (10.4)	268 (89.6)		
Ever forced the victim to have sex	11 (3.7)	288 (96.3)	37 (12.4)	262 (87.6)		
had any other unwanted sexual experiences not mentioned above	3 (1)	296 (99)	2 (0.7)	297 (99.3)		
Sexual related history of the respondent						
Character	N(%)	N(%)				
Discussing reproductive health with parents	Yes 123 (41.1)	No 176 (58.9)				
Number of sexual partner in life						
One	116 (38.8)					
two	45 (15.1)					
three	34 (11.4)					
Four and above	10 (3.3)					
I haven't	94 (31.4)					



**Figure 1.** Encountered sexual violence before and after age 13 among female students at JTTC in Jimma town, march 2015.



**Figure 2.** Substance use history of female students at JTTC in Jimma town March 2015.

**Table 4.** Multiple logistic regression: Factors associated independently with sexual violence among college female students in JTTC, south West Ethiopia, March 2015 (n=299).

Character	COR(95%CI)	AOR(95%CI)
<b>Age</b>		
15-19	Reference	
20-24	1.5 (0.89,2.65)	1.7 (0.33,8.77)
≥ 25	3.3 (1.72,6.55)	3.9 (0.54,28.59)
<b>Current living condition</b>		
living alone	3.8 (2.009,7.25)	1.09 (0.24,5.22)
with female friend	0.5 (0.27,1.21)	5.4 (0.97,33.17)
Others	Reference	Reference
<b>Marital status</b>		
Single	Reference	Reference
Divorced	1.8 (0.99,3.37)	1.4 (0.20,10.10)
Others	1.08 (0.57,2.04)	1.2 (0.23,6.49)
<b>Study year</b>		
First	0.3 (0.17,0.70)	1.3 (0.34,5.55)*
Second	Reference	Reference
Third	3.6 (2.02,6.51)	9.06 (1.96,41.94)*
<b>Place of origin</b>		
Urban	Reference	Reference
Rural	2.3 (1.28,4.39)	0.3 (0.06,1.90)
<b>Frequency of financial support</b>		

Monthly	0.4 (0.27,0.88)	0.2 (0.05,1.22)
every semester	Reference	Reference
Others	0.7 (0.39,1.26)	1.1 (0.21,6.25)
<b>Student's annual income per year in ETB</b>		
0-549	0.5 (0.25,1.05)	0.5 (0.04,7.40)
550-1199	1.9 (1.01,3.4)	1.2 (0.16,10.10)
1200-1999	2.4 (1.15,4.96)	0.3 (0.02,6.03)
≥2000	Reference	Reference
<b>Family annual income in ETB</b>		
0-13199	2.1 (1.03,4.25)	3.2 (0.74,14.15)
13200-23999	2.4 (1.17,4.96)	2.2 (0.47,10.43)
24000-35999	2.4 (1.27,4.84)	0.5 (0.11,2.54)
≥36000	Reference	Reference
<b>Discussing reproductive health issue with parents</b>		
Yes	Reference	Reference
No	20.8 (9.18,47.21)	0.1 (0.05,0.54)*
<b>Number of sexual partner in life</b>		
≥one	8.3(3.97,17.43)	2.9(0.10,0.98)*
I haven't	Reference	Reference
<b>Parents living condition</b>		
living together	Reference	Reference
divorced/separated	1.09 (0.44,2.76)	0.9 (0.11,8.006)
Others	0.7 (0.37,1.51)	0.6 (0.09,3.92)
<b>Educational status of father</b>		
Illiterate	1.02 (0.45,2.32)	6.8 (0.63,75.31)
1-4 grade	Reference	Reference
5-8 grade	0.9 (0.47,1.92)	0.9 (0.12,7.56)
9-12 grade	1.3 (0.62,2.91)	0.7 (0.08,6.19)
Above 12	1.9 (0.88,4.23)	0.7 (0.05,12.60)
I don't know	1.1 (0.45,2.77)	2.1 (0.17,26.69)
<b>Educational status of mother</b>		
Illiterate	Reference	
1-4 grade	0.4 (0.25,0.85)	0.3 (0.05,1.99)
5-8 grade	1.1 (0.58,2.18)	1.2 (0.13,12.12)
≥9 grade	0.4 (0.19,1.17)	1.7 (0.09,34.39)
I didn't know	0.3 (0.12,0.99)	0.7 (0.04,12.47)
<b>Parenting style</b>		
Tight	Reference	Reference
Average	0.1 (0.07,0.33)	0.2 (0.09,0.95)*
Loose	14.5 (4.93,42.93)	2.1 (0.27,16.54)
<b>Alcohol use behavior</b>		
Yes	54.6 (26.33,113.39)	13.8 (4.5,42.45)*
No	Reference	Reference
<b>Alcohol abuse</b>		
Yes	26.3 (12.18,57.06)	0.7 (0.05,9.97)
No	Reference	Reference
<b>Khat use behavior</b>		
No	Reference	Reference
Yes	50.8 (24.82,104.05)	11.5 (3.87,34.47)*
<b>Use drug like shisha, cocaine, and marijuana</b>		
Yes	4.4 (2.04,9.51)	4.3 (0.47,44.70)
No	Reference	Reference

\*Variables which show statistically significant association during in the multiple logistic regression

-Other living condition (parents, relative and husband)

-Others frequency of financial support (per year, not at all)

-Another marital status (married, separated & widowed)



tight over the respondent's behavior were found to be strong covariates of sexual violence in their lifetime on crude OR, none of them were associated after multivariate analysis (Table 4).

## Discussion

In this study, an attempt was made to assess the prevalence and associated factors of sexual violence. The prevalence of sexual violence was high which 35.1% is (95% CI: 29.9-40.3). The finding of this study was lower as compared to a study conducted in rural Ethiopia, Butajira that revealed to be 59% [6]. Similarly, the study done in Mekelle reported a life time prevalence of sexual violence to be 45.4% [11]. The difference in tools used, sample size determined, and characteristics of involved study participants could be the reason of incongruence. However, this finding is consistent with findings of studies done in Namibia, Zambia, and Malawi which ranges from 29.4% to 36.4% [12]. Likewise, the current finding is consistent with the international random surveys conducted in Australia i.e. 35% [13]. However, it is higher than studies conducted in Botswana, Mozambique, South Africa and Swaziland that ranges from 14.7% to 21.5% [12]. This might be explained by the difference in the study setting, socio-cultural contexts and sample size between the study populations.

Of the strongly associated factors in this study, a living condition is one of findings as living alone increased sexual violence more than 4 times compared to those living with others (parents, relative, husband), (AOR=4.3 95% CI: 1.03, 18.09). This is consistent with the findings in the study done in Addis Ababa and Mekele [11,14].

The number of sexual partners in life is another strongly associated factor with sexual violence as those who had two or more sexual partners in life had more than 11 times (AOR=11.5 95% CI: 2.80, 47.16) chance of enduring sexual violence than those who had one sexual partner in life. This is again consistent with a study done in Addis Ababa University among female students [15].

The likelihood of experiencing sexual violence among those who had no chance to discuss personal affairs with their parents was five-time (AOR=5.0 95% CI: 1.37, 18.55) than who had a chance to discuss reproductive health issues with their parents. This is consistent with the study done in Bahirdar (AOR=4.36, 95% CI: 1.40, 13.56) [16]. The reason might be lack adequate knowledge of how to deal with sexual issues with perpetrators.

The likelihood of experiencing life time sexual violence was 80 % (OR=0.2, 95% CI: 0.06, 0.87) less likely among respondents who had average parenting style on their behaviour than those who had tight parenting style. The reason could be they are both provided directions as well as the freedom to decide on personal issues. This fosters their confidence in self-leadership.

Sexual violence was 90 % less likely among those who had monthly financial support (AOR=0.1, 95% CI: (0.03, 0.73) than those with semester based financial support. The possible reason could be since they get income timely; as result, they may not approach male to gain money. Lastly, alcohol use and khat use behaviors were found to be significantly associated with sexual violence (AOR=8.3 95% CI: 2.57, 27.00) and (AOR=11.05 95% CI: 3.53, 34.60) respectively. Similar findings were documented by studies done in Mekelle and Chile [11,17]. It is difficult from this study to judge which one is causing the other. Because it is also known that sexual abuse can predispose the victim to increased substance use [18].

The study is internally valid for the following major reasons: The study is done on a population who come from all zones of the Oromia region and the result can be generalized to all college female students of the region. Standard tool (sexual abuse history questionnaire) was used to assess sexual violence.

However, the study was not without limitations; the magnitude of sexual violence might be underestimated because the information was collected only from the survivors during the data collection time. Students could probably drop out or absentee from the college because of the victimization of the violence. And also, since the study deals with a sensitive issue underreporting

is inevitable. Moreover, it is difficult to show cause and effect relationship as it is a cross sectional study. Lack of nationally representative figure on the prevalence of sexual violence is also another shortcoming. Some other limitations include: the perpetrator/sex offenders related factors were not assessed; the tool (sexual abuse history questionnaire) is not validated in Ethiopia, and males are not included in this study even if they can also be a victim.

## Conclusion

The prevalence of sexual violence among female students in Jimma Teacher Training College is high which indicates that female students are at high risk of sexual violence. Factors found to be significantly associated with sexual violence include living alone, lack of the trend of discussing reproductive health issues with their parents and having multiple sexual partners in life. All of them are the risk factors of sexual violence. However, average parenting style and earning financial support monthly are protective factors. Lastly, alcohol and khat use behaviours also have a significant association with sexual violence.

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## Declaration Statements

### Informed consent

All procedures followed were in accordance with the ethical standards of the responsible committee from the institutional review board of Jimma University College of Public Health and Medical Sciences (Ethical clearance letter also given and attached). Informed consent was obtained from all study participants for being included in the study

### Consent for publication

Each participant gave verbal consent for publication

### Data availability

The authors approve that all data underlying the findings are completely accessible without limitation. All pertinent data are in the paper. Competing interests. We all authors announce that we have no competing interests.

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### Authors' contributions

MB HA and DT contributed to the design, conduct, and analyses of the research and in the manuscript preparation. YZ, GB and MS contributed to the review of the manuscript. All authors read and approved the manuscript.

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