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Research Article

Sexual Violence and its Associated Factors among Female High School Students in Southern Ethiopia: A Cross-Sectional Study

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ABSTRACT

Background: Sexual violence is a major concern of society as physical and mental harm endured by women is extremely destructive. However, little is known about sexual violence within the study area. Therefore, current study aimed to assess the prevalence and associated factors of sexual violence among female high school students in Soddo town, Southern Ethiopia.

Methodology: A cross sectional study was conducted using pretested, structured self-administered questionnaire. Data analysis was done using SPSS and the presence of association was assessed using bivariate test. Multivariable logistic regression was used to control confounding effects and the strength of association was estimated in odds ratio with 95% confidence interval.

Results: The prevalence of life time rape among female students was found to be 25.8%. The odds of experiencing life time rape was higher among students who had more than one sexual partner (AOR= 9.11; 5.52, 15.04). Substance abuse is significantly associated with life time rape that the chance of experiencing rape among students who were chewing chat was higher (AOR=6.09; 1.57, 23.69) than their counterparts.

Conclusion: High level of rape among female high school students was found in Sodo town. Chewing chat and having more than one sexual partner had statistically significant association with life time rape.

Keywords: Sexual violence, Wolaita, Ethiopia, Soddo

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INTRODUCTION

The World Health Organization (WHO) defines sexual violence as: 'Any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic or otherwise directed against a person's sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work ¹.

Violence against women is the world's most prevalent, pervasive, and systemic problem. It is a problem without borders, a universal scourge on women and their families that knows no geographical boundaries, culture or wealth. Data from country and local studies indicate that, in some parts of the world at least one woman in every five has suffered an attempted or completed rape ².

Sexual violence, including sexual harassment, frequently occurs in institutions assumed to be 'safe', such as schools, where perpetrators include peers and teachers. In studies from around the world, including Africa, south Asia, and Latin America, studies have documented that substantial proportions of girls report experiencing sexual harassment and abuse on the way to and from school, as well as on school and university premises, including classrooms lavatories and dormitories, by peers and by teachers ³.

In Ethiopia different studies indicated that women and school adolescents are highly perpetrated. Studies indicated that significant proportions of secondary school female adolescents in Ethiopia have been sexually abused. For instance a study conducted in Debrebirhan high school students indicated that the life time prevalence of completed rape among the study subjects was 13.2%. A number of factors that make individuals vulnerable to sexual

Violence have been identified; female sex history of past abuse; poverty; war/armed conflict; psychological or cognitive vulnerability; single parent homes; social isolation (e.g., lacking an emotional support network); parents with mental illness, or alcohol or drug dependence ^{4,5}.

Several consequences of sexual Violence of girls and boys including physical, psychological and social problem, and the consequence can be immediate as constraining their educational performance, risk to Human Immune Deficiency Virus (HIV), Sexually Transmitted Infections (STI) and the late consequence could be social isolation, fear, phobia and hopelessness ⁶.

In the context of Ethiopian situation since there are no enough studies on prevalence and consequences of sexual Violence against female adolescents in general and in Wolaita Sodo in particular, this study was aimed to assess the prevalence of sexual violence and associated factors among female adolescent high school students in Wolaita Sodo town. It is relevant to look into the problem so as to have more information which will help for policy makers and organizations working with adolescents to design intervention measures.

MATERIALS AND METHODS

Study setting and period

Soddo town is one of the towns that are found in Wolaita zone and it is the main site of zonal administrative offices. Wolaita Soddo is located 380kms to the south of Addis Ababa and 155Kms from Hawassa which is the capital city of SNNPR. There are 105, 591 people living in Soddo town. The educational institutions found in the town are seven high schools out of which three governmental and four private that consists a total of 3074 female students that are taken as target population for the study and one preparatory school, one TVET college and other primary and secondary level schools and one University with in the town. The study was conducted from

December 2014 to February 2015.

Study design; school based cross-sectional study design was employed.

Study population; all randomly selected female high school students in Wolaita town, registered for the fiscal year 2014/15

Inclusion criteria; regular grade nine and ten female students were included in the study.

Exclusion criteria; students who were not willing to consent during questionnaire administration and disabled were excluded.

Sample size determination: the sample size was determined by using standard single population proportion formula.

$$n = \frac{(Z_{\alpha/2})^2 p (1-p)}{d^2}$$

In this study 0.37% prevalence, with 95% confidence interval and marginal error 0.04%, additionally 10% was added to compensate for non-response and non-complete questions. Where n, refers to sample size, P, represents prevalence of sexual violence. D represents margin of error, $Z_{\alpha/2}$ represents critical value at 95% confidence level of certainty (1.96). Initially calculated sample size is 480 and final sample size with 10% none response, **528**.

Sampling procedure: a simple random sampling technique was employed to select grade nine and ten female students

from each high school of Soddo town. There are seven high schools in Soddo town. The school consists of grades 9 and 10 and there are sections in each grade labeled as A, B, C, D, etc.... The total sample size was allocated by probability proportional to size (PPS) to the seven schools in the town. PPS was used again to allocate the calculated sample size to grade nine and ten students. Then the rosters of the students were used as sampling frame. Finally, from both grade levels female students were selected by simple random sampling technique.

Study Variables

Dependent variable: Sexual Violence

Independent variables: Socio-demographic characteristics, age, ethnicity, religion, marital status, age at first sex, number of sexual partner substance use such as drinking alcohol, chewing chat, smoking, residence, family income, living arrangement of the students, parents' educational status, parental living arrangement.

Data collection method and procedure

A pre-tested, structured, anonymous self-administered questionnaire was used adopted from ^{2,7}. The questionnaire is first prepared in English and then translated back to Amharic language for simplicity and translated back to English for checking consistency by two different individuals who speak both English and Amharic fluently. Data collection was facilitated by two BSc Nurses from December to February 2015. The data collectors were clearly briefed about the purpose of the research and importance of strictly getting only the sampled subjects. Training on the data collection methods was given. In order to maintain confidentiality, separate rooms for students were arranged ahead within each selected school. The sitting arrangement of the participants also considered: All the selected girls were called and made to sit in prior arranged rooms within their own school compound. To make the data collection procedure easy for the investigator and supervisor the data collection was conducted one school at a time and proceed to the other step by step. Each student took a single seat with sparse arrangement of chairs and desks. No names or identifier was included on the questionnaire.

Data quality management: The principal investigator and supervisors were made a close supervision on the data collection process. To check the accuracy and validity of the questionnaire, pre-test was done on 26 high school female students prior to the actual data collection period in Bodity high school, which is outside and adjacent woreda to Soddo town. The result of pretest was discussed and relevant change and correction were made on the questionnaires.

Data analysis procedures: The data were coded, entered and cleaned using Epi-Info version 3.5.1 and analysis was done using SPSS for Windows version 16.0. For assessing the strength of the associations and their statistical significance, Odds Ratio (OR) and 95% CI was calculated for each independent variable against the dependent variables by using binary logistic regression. To control for potential confounders and to observe the independent effect of explanatory variables on the dependent variables multivariate analysis was employed using logistic regression models. All variables having significant association in the crude odds ratio considered as important factors were used in multivariate analysis. The result was presented by using absolute numbers, frequencies, odds ratio and confidence interval.

Operational definitions

Sexual violence: it is to commit sex using force when somebody doesn't want to. It includes completed rape and sexual harassment.

Rape: any penetrative form of sexual act in terms of vaginal intercourse without the consent of the respondent.

Sexual harassment: refers to intended or on purpose strong verbal expression and threat against female students, when somebody [perpetrator] failed his plan to gratify one's sexual interest which is unwelcome by the recipient.

Attempted rape: the attempt to have non-consensual sexual intercourse with a female student whereby she was having a chance of escaping the attempt.

Ethical consideration: Ethical clearance was obtained from Wolaita Sodo University ethical review committee. A formal letter was also submitted to Sodo town educational office and to each high school of Sodo town where the study takes place. Oral and written permissions from the schools and the respective study subjects were taken. The main objectives of the study were explained and their consent to participate in the study was assured before completing the questionnaire.

RESULTS

Socio-Demographic Characteristics of Study Subjects

From a total of 528 study participants required for the study, 515 female students were involved, yielding 97.5% of response rate. Thirteen respondents were excluded due to grossly incomplete and inconsistent responses. From the total students, 303 (58.8%), 212 (41.2%) were grade nine and ten respectively. Four hundred forty nine (87.2%) of the students were in the age range of 15 and 19 with the mean age of 15.8 ± 1.4 SD years.

Majority 321 (62.3%), of respondents were Protestants, 463(89.9%) were Wolaita and 50 (9.7%) of them were married. About 313(62.3%) grew in urban areas. With regard to the living arrangement, 374 (72.6%) of the respondents were living with parents, 29 (5.5%) were living with their husband, 20 (3.9%) of students were living alone (Table 1).

Family history

Majority, 106(20.6%) of the student's fathers were attained grade 9-12, similarly 109(21.2%) of the student's mothers also attained grade 9-12. About 354(68.7%) of the students' parents were living together, 257(50%) of the student's family earns monthly income of more than 1000 ETB about 211(41%) of the students lived in Soddo town for nine years and above (Table 2).

Table 1: Socio-demographic characteristic of female students in Wolaita Sodo town, Feb 2015. (n=515)

Variable	Number	percent
Age of the respondent		
10-14	60	11.7
15-19	449	87.2
>=20	6	1.2
Religion of the respondent		
Orthodox	161	31.3
Protestant	321	62.3
Catholic	10	1.9
Muslim	12	2.3
Others	11	2.1
Grade level of the respondent		
grade nine	303	58.8
grade ten	212	41.2
Place of growth of the respondents		
urban	313	60.8
rural	202	39.2
Marital status of the respondents		
single	445	86.4
married	50	9.7
divorced	16	3.1
widowed	4	0.8
Living arrangement of the respondent		
with husband	29	5.6
with father and mother	374	72.6
with relatives	70	13.6
alone	20	3.9
with friends	22	4.3

Substance Use

From the total respondents of habit of substance use, chewing chat was practiced by 31(6.0%) of the respondents

and from which 13(41.9%) were chewing chat every day. Fifteen (2.9%) smoke cigarette and 20(3.9%) drink alcohol (Table 3).

Table2: Family history of female students in Wolaita Sodo town, Feb2015. (n=515)

Variable	Number	Percent
Current parental living status		
living together	354	68.7
separated	30	5.8
divorced	18	3.5
only mother alive	57	11.1
only father alive	21	4.1
both not alive	35	6.8
Father educational status of the respondents		
Illiterate	59	11.5
read and write	46	8.9
1-4 grade	59	11.5
5-8 grade	94	18.3
9-12 grade	106	20.6
certificate/diploma	49	9.5
degree and above	102	19.8
Mother educational status of the respondents		
Illiterate	90	17.5
read and write	50	9.7
1-4 grade	96	18.6
5-8 grade	77	15.0
9-12 grade	109	21.2
certificate/diploma	44	8.5
degree and above	49	9.5
Monthly income of respondents' parent or relatives (in Birr)		
0-500	127	24.7
501-1000	130	25.3
> 1000	257	50.0
Number of years that the respondent lived in Soddo		
<=1year	39	7.6
2-4 year	150	29.1
5-8 year	115	22.3
>=9 year	211	41.0

Table 3: Substance use among female students in Wolaita Sodo town, Feb, 2015 (n=515)

Variables	Number	Percent
Chewing chat		
Yes	31	6.0
No	484	94.0
Chewing frequency		
Every day	13	41.9
Occasionally	18	58.1
Smoking cigarette		
Yes	15	2.9
No	500	97.1
Smoking frequency		
Every day	4	26.7
Occasionally	11	73.3
Alcohol consumption		
Yes	20	3.9
No	495	96.1
Drinking frequency		
Every day	6	30.0
Occasionally	14	70.0

Sexual Experience

From the total respondents 167 (32.4%) reported that they had sexual experience preceding the data collection time. Majority of 104(62.3%) were started sexual intercourse at the age of between 10-14 years. The mean age and SD for having the first sexual intercourse was found to be 14.1 ± 1.5 year. More than half of 128 (76.6%) of the sexually active

respondents reported that they had experienced at least one sexual partner in their life time.

From a total of 167 respondents who reported that they are sexually active, 28 (16.8%) initiated sexual intercourse due to engagement in marriage, 20 (12%) due to peer influence, 13 (7.8%) being forced to have sex without their consent (Table 4).

Table 4: Sexual history among female students in Wolaita Sodo Town, Feb 2015 (N=167)

Variables	Number	Percent
Sexual intercourse		
yes	167	32.4
no	348	67.6
Age at which sex started		
10-14	104	62.3
15-19	63	37.7
Life time Sexual partner		
one	128	76.6
>=two	39	23.4
Reasons for initiating first sexual intercourse		
engagement in marriage	28	16.8
own willingness	88	52.7
peer pressure	20	12.0
to get money	8	4.8
to pass examination	9	5.4
forced	13	7.8
other	1	0.6

Magnitude of sexual violence

The lifetime prevalence of rape was 133(25.8%) and rape in the last 12 months was found to be 58(43.3%). The

prevalence of unwanted sexual act (verbal jokes), unwelcome kissing and touching of genitalia/breast was 116(22.5%), 99(19.2%) and 61 (11.8%) respectively (Fig 1).

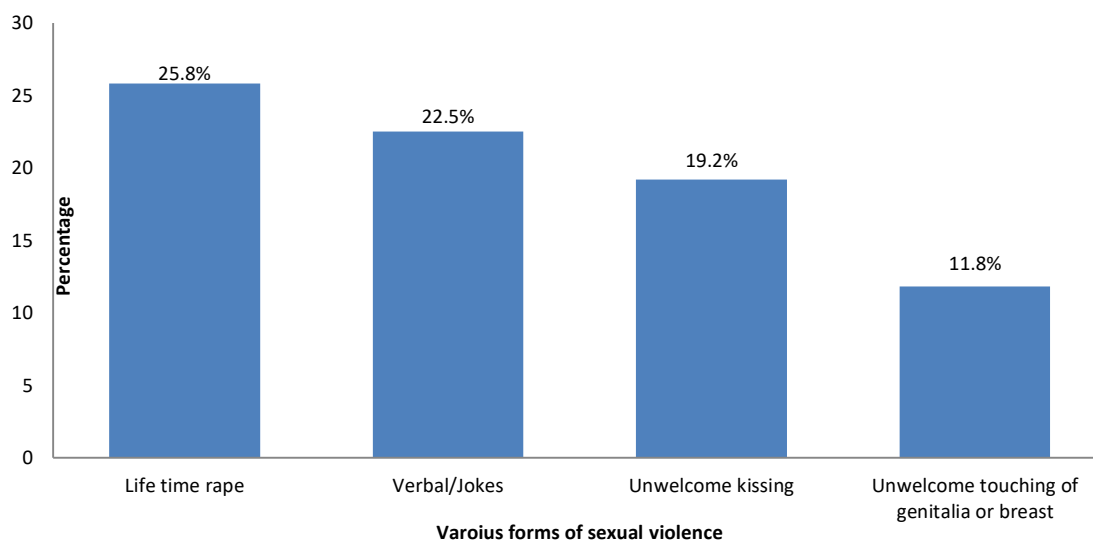


Fig 1: Magnitude of various forms of Sexual Violence among high school female students in Wolaita Sodo town, Feb 2015.

Perpetrator and conditions during rape

Regarding the perpetrators characteristics, 44(33.1%) was raped by students, followed by 23(17.3%) school teachers. However, 17(12.8%) were raped by unknown person. The mechanisms used to force the rape survivor into sex differ: 40(30.1%) reported that it was after being hit, 30(22.6%) reported that it was after they were threatened of harm.

Among all the rape survivors, 34(25.6%) reported that the estimated age of the perpetrator was more than 10 years as compared to their age. About 36(27.1%) reported that the perpetrators age was equal to the victim's age. With regards to the place of the act, 38(28.6%) were raped at the rapist's home, 29(21.8%) were in jungle (bush) and 16(12.0%) were in the rapist friend's home (Table 5).

Table 5: Perpetrator characteristics and mechanism used to force among female students in Wolaita Sodo Town, Feb2015.

Variables	Number	Percent
Perpetuator Relationship		
Close relative	21	15.8
Teacher	23	17.3
Student	44	33.1
Friend	22	16.5
Neighbors	6	4.5
Others	17	12.8
Age of the perpetuator compared to the rape survivor		
More than 10 years	34	25.6
5-10 years	32	24.1
1-5years	31	23.3
Equal to my age	36	27.1
Mechanism used		
Hit you	40	30.1
Pointed a knife	23	17.3
Pointed a gun	19	14.3
Threats of harm	30	22.6
Made you drunk	17	12.8
Gave you drug	4	3.0
Place of forced sex		
Home	38	28.6
In school compound	20	15.0
In the jungle	29	21.8
Hotel	24	18.0
Friends home	16	12.0
Other	6	4.5

Reporting sexual violence to the legal body

Out of the rape survivors, 54(40.6%) didn't share the situation to anyone and 18(13.5%) shared their situation with friends. Majority of the rape survivors, 98(73.7%) didn't report to legal body but only 35(26.3%) reported to police. Out of those who didn't report to the legal body, their

main reasons were didn't know what to do 38(38.8%) and afraid of the parents 19(19.5%) (Fig2).

Concerning the action taken against perpetrators, up on 61(45.9%) cases no legal action was taken but up on 23(17.3%) of the perpetrator's imprisonment was taken as legal action.

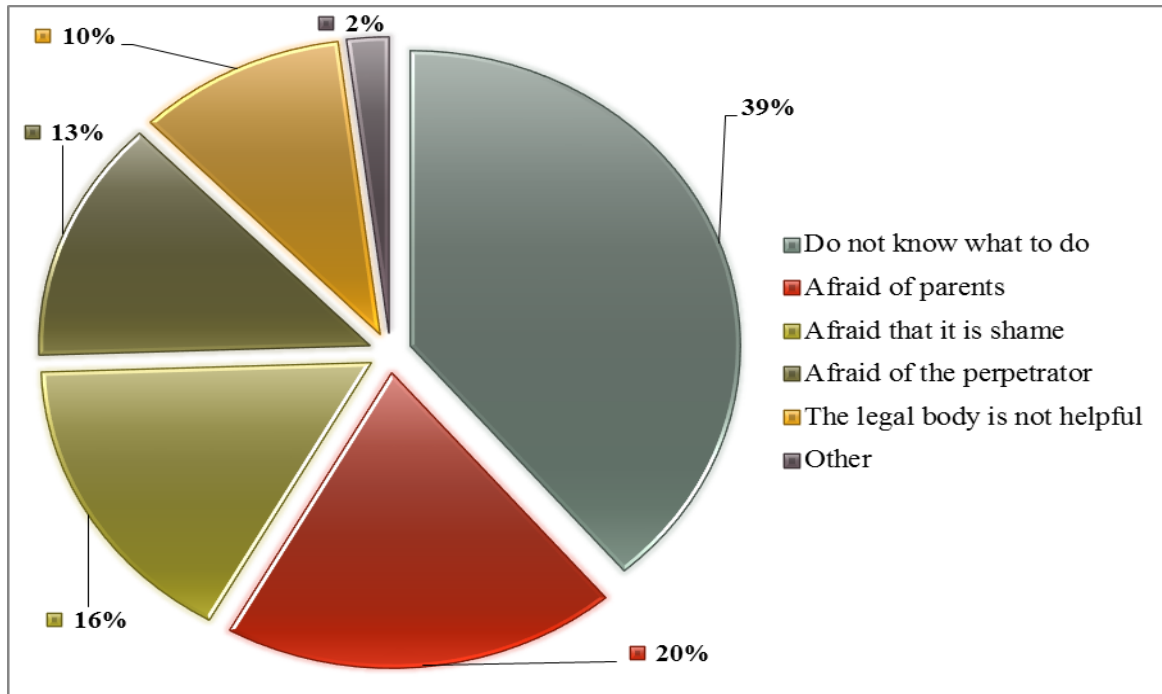


Fig.2 Reasons not to report the situation to the legal body among high school female students in Sodo town, Feb 2015

Logistic regression results

Multiple logistic regressions were done to assess factors associated with life time rape. Having more than one sexual partner and history of chat chewing had statistically significant association with rape but other variables which were significantly associated with the dependent variable in the bivariate analysis were become insignificant in the final model (Table 6).

The odds of experiencing life time rape among students who had more than one sexual partner were higher than those who had no sexual partner. (AOR= 9.11; 95%CI: 5.52, 15.04). Students who had history of chat chewing were about six times more likely to be exposed to rape as compared to the counterparts (AOR=6.09;95%CI:1.57,23.69).

Table 6: logistic regression results showing the association between lifetime rape and selected variables in female students Wolaita Sodo Town, Feb 2015

Variables	Sexual Violence		OR(95% CI)	
	Yes	No	Crude OR	AOR
Residence				
Urban	69	244	1.00	1.00
Rural	64	138	1.640(1.10-2.44)	1.28(0.77-2.12)
Marital status				
Married	25	25	1.00	1.00
Single	108	357	0.303(0.167-0.548)	0.73(0.35-1.53)
Grade Level				
Grade Ten	41	171	1.00	1.00
Grade Nine	92	211	1.819(1.195-2.767)	1.38(0.83-2.30)
Chewing chat				
No	109	375	1.00	1.00
Yes	24	7	11.796(4.949-28.113)	6.09(1.57-23.69)
Alcohol				
No	121	374	1.00	1.00
Yes	12	8	4.636(1.852-11.608)	0.50(0.09-2.78)
Cigarette smoking				
No	121	379	1.00	1.00
Yes	12	3	12.529(3.478-45.134)	2.52(0.34-18.77)
Father Educational Status				
Above Secondary	72	279	1.00	1.00
Below Secondary	61	103	2.295(1.524-3.455)	1.34(0.77-2.34)
Mother Educational Status				
Above Secondary	55	224	1.00	1.00
Below Secondary	78	158	2.011 (1.347-3.002)	1.42(0.83-2.42)
Having more than one sexual partner				
No	35	313	1.00	1.00
Yes	98	69	12.701 (7.972, 20.236)	9.11(5.52-15.04)
Living with				
Family	98	305	1.00	1.00
Alone	21	71	7.348(2.760-19.565)	0.96 (0.50-1.84)
With friends	14	6	0.926(0.334-2.566)	2.71(0.84-8.77)

DISCUSSION

In this study, the prevalence and associated factors of sexual violence was assessed among 515 female high school students. The study found out a very high prevalence of sexual violence of 79.4% which includes completed rape and sexual harassment. It is consistent with the study done in Addis Ababa, Mekele, Jimma and Hawassa with the prevalence rate ranges from 37.5- 86.4%^{2,7,8,9}.

Out of 167 sexually active participants, 13(7.8%) started sexual activity as a result of rape but it is low when we compare this result with other studies conducted in Hawassa and Jimma Zone found that 18% and 20.4% of female students start their first sexual activity forcefully^{2,8}. This indicates the severity of the problems where girls were forced into sex before they intend to do so.

The life time prevalence of rape among female high school students in Sodo town was 25.8%. This finding is consistent with other studies conducted in Addis Ababa and Bahir-dar town that showed the life time prevalence of rape was found to be 21.2% and 24.3% respectively^{7,10}. This finding is much

lower than studies conducted in other African countries among teenagers in south west Nigeria and Urban, Zimbabwe which showed that the life time prevalence of rape was 42.1% and 33% respectively^{11,12}. This discrepancy may be due to social and cultural variation between the study subjects in reporting rape. In Ethiopian context, sexual related offences particularly rape is a strong cultural norm. Moreover; the chance of engaging in marriage is considered as minimal for the female rape survivor afterwards. Therefore, they keep it secret for fear of the stigma and other negative responses from the community. From those point of views, under reporting might be there in our context.

The common perpetrators in this study were students (33.1%) followed by school teachers (17.3%), close friends (16.5%) and close relatives (15.8%). This finding is consistent with studies done in Addis Ababa, Jimma, and Tanzania among school students, that showed greater number of female respondents were perpetrated by someone they closely know and the most common perpetrators were found to be, teachers, peers, friends and close relatives^{13,14}.

From substances, chewing chat was significantly associated with lifetime rape. This finding is consistent with a study conducted in Hawassa high school students which indicated that the odds of experiencing lifetime rape was higher among chat chewers as compared to the counterparts². This finding is also comparable with a study conducted among high school students in Eastern Harar that substance use was highly associated with lifetime rape that students who were using substances were more likely exposed to rape as compared to the nonusers¹⁵. This could be attributed to different reasons: substance use may influence the young women to unrealistically appraise the situation and also impair their verbal as well as physical resistance of the unwanted sexual moves of men. Substance use also exposes victims to partners who also consume substances. Similarly, men who are using substance themselves may also have impaired judgement when interacting with the young women. Therefore, young women are vulnerable to male victimizing behaviours.

CONCLUSION AND RECOMMENDATION

This study revealed high level of sexual violence among high school students in Sodo town. Substance abuse particularly, chat chewing and more than one sexual partner show statistically significant association with life time rape. Students who were chewing chat and having more than one sexual partner were at higher risk of experiencing rape as compared to non-chewers and no sexual partners respectively. Thus, Parents should make close follow up and give due attention to school female students; as much as possible female students better to attend their school living along with their family rather left alone or with their friends. The policy makers have to work on provision of comprehensive school based reproductive health education including, victimization prevention programs and life skill trainings must be provided besides the formal education to female high school students. Moreover Children, female, and youth affair office in Sodo town has to work on community mobilization and awareness creation with regard to Sexual Violence, perpetrators, how to report to legal bodies.

Additional points

Cross-sectional study design cannot answer questions involving past events with perfect accuracy. This either magnifies or minimizes the effects of certain variables, affecting the cross-sectional study's results. Thus, recall bias might adversely influence the results of the study.

Authors' contributions

Mekuanint Ayele: involved in conception, study design, analysis, and interpretation of the results.

Niguse Mekonnen: design of the study and data analysis, interpreted and wrote the manuscript.

Efrata Girma: participated in data analysis and manuscript write up.

Hailu Chare: data analysis, interpretation and prepared the manuscript.

All the authors read and approved the final manuscript.

Conflicts of Interest: None

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