



# Assessment of Violence and Associated Factors among Rural High School Female Students, in Hadiya Zone, Southern Nation and Nationalities Peoples' Region, Ethiopia, 2013

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## Abstract

The objective of this study is to assess violence and associated factors among rural high school female students in Hadiya zone, Ethiopia. A school based cross-sectional quantitative study was employed. Multistage sampling technique was used to select study subjects. Self administered questionnaires were used to collect the data and study was conducted on 801 rural high school female students in Hadiya Zone from March 25 to April 25/2013. The overall percentage of physical, sexual or psychological violence was found to be 62.20% during their high school education. Using alcohol by students and their parents, mother education was the risk factors for the occurrence of physical violence. Alcohol used by students and parents father education and marital status highly attributes to sexual violence. Alcohol used by student and mother occupation was variables associated to psychological violence. This finding concludes that violence is highly prevalent among rural high school female students in Hadiya zone and use of alcohol, marital status, parental education and occupation were the main contributing factors. School officials and other concerned organizations should strengthen the communication with students, parents and community leaders about the physical, sexual and psychological violence.

## Keywords

Violence, Physical Violence, Sexual Violence, Psychological Violence

**Subject Areas:** Public Health, Women's Health

## 1. Introduction

Violence has many forms, including sexual abuse, physical aggression or assault and psychological or verbal harm. Violence can occur in school, at home or on the way to school or from school [1] [2]. Every year, millions of women and girls would be victim of violence. Throughout the world, up to 70 percent of women suffer from violence in their lifetime. According to a study made by WHO in 11 countries, the percentage of women who had been subjected to sexual violence by an intimate partner ranged from 6% in Japan to 59% in Ethiopia [3] [4].

Studies conducted in Sub-Saharan African countries showed varied results about the problem of gender based violence; ranging from 14.8% (Zambia) to as high as 59% (Ethiopia) [5]. In Sub-Saharan Africa, violence in schools has been consistently framed in overtly gendered or sexual terms. Some studies reported extremely high levels of sexual harassment and abuse. Among those studies, 67% from Botswana and 13.5% from Ghana school girls reported that they were victims of sexual abuse mostly by their teachers. These studies showed that sexual harassment and abuse is an endemic problem in schools, in communities and workplaces [6] [7].

Ethiopia is one of the countries with the highest prevalence of both sexual and physical violence's by an intimate partner or others. Studies in Ethiopia indicated 50% - 60% of women experienced violence in their life time [8] [9]. Rural Ethiopian children are trafficked and forced to work in homes, farm lands, traditional weaving, etc. [9]. Violence in school and out of school can affect girls physically and psychologically. It can contribute to less motivation to education, irregular attendance, less learning achievements, school drop outs and future anti-social and criminal behavior [10]. Some of the factors such as social class, age, sexual orientation, marital status, disability or HIV status will influence what forms of violence they would suffer from and how they would experience it [11]. According to a study conducted in East Ethiopia, the frequent watching of pornography and use of alcohol or khat are factors associated with higher levels of sexual violence victimization [12]. Ethiopia's critical area of women right and violence against women and girls, school parent committees that make sure that students are learning and teachers are teaching properly are being established. Due to the sensitization done on the importance of girls' education and Education Sector Development Program (ESDP), violence against women such as abduction and harassment by staff or students is considered as a crime and immediate action is being taken in this regard [13].

Violence against women has been described as the most shameful human rights violation, and the most pervasive. Addressing violence against women is fundamental to the achievement of Millennium Development Goal (MDG) 3 on women's empowerment and gender equality, as well as MDGs 4, 5 and 6. It is also a peace and security issue. No study was conducted on violence in rural high school students in Hadiya Zone. Thus, this study was aimed to assess the prevalence of violence and associated factors among rural high school female students. It also provides baseline data for other study.

## 2. Methods

### 2.1. Study Design

School based cross-sectional quantitative study was conducted in rural high school female students in Hadiya zone to assess the prevalence and associated factors of violence.

### 2.2. Study Area and Period

The study was conducted in Hadiya zone, which is found in Southern Nations and Nationalities Peoples Region of Ethiopia from March to April 25/2013. The zone has a population of 1,502,232 of which 743,232 and 759,087 are females. Hossana is the capital of the zone which is located 232 km away from Addis Ababa, capital city of Ethiopia.

### 2.3. Source Population

All female students in 33 rural high schools (grades 9 to 12) in Hadiya zone would make the source population for this study.

### 2.4. Study Population

The study population for this study was all female students engaged in 7 randomly selected rural high schools in

Hadiya zone in 2013.

## 2.5. Exclusion and Inclusion Criteria

### 2.5.1. Inclusion Criteria

Female students from rural high schools (grade 9 to 12) were included in the study.

### 2.5.2. Exclusion Criteria

Exclusion criteria was:

Students who were absent from schools throughout the whole data collection period were excluded from the study. However, here all options to find randomly selected students were tried until the end of data collection periods.

## 2.6. Sample Size Determination

The sample size was determined using a single population proportion formula of:

$$n_o = z_{\alpha/2}^2 p(1-p)/d^2 .$$

where, z is the reliability coefficient associated with 95% confidence level which is 1.96.

p is the proportion of violence associate with four different candidate proportions taken from four different studies.

d = The maximum tolerable error which was taken to be 5%.

$n_o$  = initial sample size.

The four proportions considered in sample size determination are, prevalence of physical violence among female high school students conducted in Jimma zone, 40.9%, sexual violence in Debarq town 65.3%, verbal insulting among school girls in Ethiopia 63%, proportion of alcohol users in a violence study conducted in north Gondar zone, 22.8% [14]-[16].

Since the sampling technique was multistage sampling, a design effect of 2 was used for each of the four options. Therefore, the maximum of all four candidate sample sizes which is 816 was taken for this study (Table 1).

## 2.7. Sampling Procedure and Technique

Multistage sampling technique was used to get a representative sample. In the first stage, 7 rural high schools were selected from 33 rural high schools (primary sampling) using simple random sampling technique. Then the total sample size (816) was proportionally allocated to the 7 rural high schools. Here size indicates the size of female students in each of the randomly selected 7 schools. Accordingly, the sub samples allocated to each high school was: Gibichu = 198, Jajura = 99, Morisito = 114, Foniko = 46, Homocho = 195, Geja = 55 and Bonosh = 109. Again each of the randomly selected school was further stratified into grades as grade 9, 10, 11 and 12. Finally, the subsample allocated to each school was again proportionally allocated to each stratum (grade), and sample female students were selected from each grade using simple random sampling technique. The simple random sampling technique at the grade level was performed after preparing a list of female students from their roster and using computer generated random number.

**Table 1.** Showing sample size determination of different variable for violence and associated factors among rural high school female students in Hadiya zone.

Sample size	Physical	sexual	Psychological	Alcohol use (factor)
$n_o = z_{\alpha/2}^2 (pq)/d^2$	$\frac{1.96^2 \times 0.409(1-0.409)}{(0.05)^2}$	$\frac{1.96^2 \times 0.653(1-0.653)}{(0.05)^2}$	$\frac{1.96^2 \times 0.63(1-0.63)}{(0.05)^2}$	$\frac{1.96^2 \times 0.228(1-0.228)}{(0.05)^2}$
$n_o$	371	348	358	271
$n_o + 10\%$ non response	408	383	394	297
$n_f \times$ design effect(2)	816	766	788	595

## 2.8. Method of Data Collection

The study used closed ended structured questionnaires. Before the true data were collected, the questionnaire, and methods of data collection were pretested outside the seven schools selected.

## 2.9. Variables of the Study

### 2.9.1. Dependent Variable

- Violence during their high school education.

### 2.9.2. Independent Variables

#### √ **Socio demographic:**

- age,
- religion,
- ethnicity,
- grade level,
- marital status,
- current living condition,
- the habit of substance use,
- workload before and after school.

#### √ **Family background:** include

- parents education,
- parents occupation,
- Substance use of parents,
- annual income of family,
- family size.

## 2.10. Operational Definition

**Violence:** in this study violence is defined as physical aggression or assault, sexual abuse and psychological or verbal abuse at home, on the way to school or to home and in school by family members, boyfriends, teachers, intimate partners or other unknown people during their high school education.

## 2.11. Data Quality Control

The questionnaires were prepared in English version and it was translated back to Amharic and again to English to confirm the consistency of the translation by language expert. The questionnaires were adopted from previous study and some question from DHS toolkit of USAID 2008-2013. Then, the questionnaires were pre-tested on 5% of the study population Bushana high school, which was not included to the selected schools. Training was given to 7 data collection facilitators and 2 supervisors for two days. Every day after data collection, questionnaires were reviewed and checked for completeness and consistence by the supervisors and principal investigator.

## 2.12. Data Processing and Analysis Methods

The questionnaires were checked for completeness, data cleaning and coding was done by the investigator. Data was entered into EPI-INFO 3.5.3 and exported to SPSS version 20 for analysis. Bivariate analysis was used primarily to check which variables have association with the dependent variable separately. Variables found to have a p-value of less than 0.20 was entered in to Multivariable to control for the possible effect of confounders. Finally the variables which have significant association were identified on the basis of OR, with 95% CI or p-value.

## 3. Ethical Considerations

The ethical approval was obtained from Ethical Review Board (ERB) of Institution of Public Health, University of Gondar. Officials at different levels were contacted and permission was secured especially from Hadiya zone

educational departments and school directors. Verbal consent was obtained from the study participants. To assure the confidentiality of the response, data was kept in safe place and identification part of the respondents was removed or not written.

## 4. Result

### 4.1. Socio Demographic Characteristics

A total of 801 female students participated in the study, leaving the response rate to be 98.16%. Among all respondents, 416 (51.90%) were from grade 9. A minimum age of the respondents was 15 years and the maximum was 26 years. The mean age of the respondent's was 16.99 years  $\pm$  1.56 SD. Majority of respondents' religion was protestant follower 600 (74.90%) with ethnicity of Hadiya 745 (93%) and 728 (90.90%) of the respondents were not married. Regarding current living condition, 656 (81.90%) reported that they live together with their parents and 608 (75.90%) of the respondents had got financial support by their parents (**Table 2**).

**Table 2.** Socio-demographic characteristics of rural high school female students participated in violence study in Hadiya zone, SNNPR, Ethiopia, 2013 (n = 801).

Characteristics	Frequency	Percentage %
<b>Age in years</b>		
15 - 19	763	95.3
20 - 24	35	4.4
25 - 29	3	0.4
Mean 16.99 standard error 1.56		
<b>Level of grade</b>		
Grade 9	416	51.90
Grade 10	248	31.00
Grade 11	80	10.00
Grade 12	57	7.10
<b>Religion</b>		
Protestant	600	74.90
Orthodox	113	14.10
Catholic	50	6.20
Muslim	33	4.10
Others	5	0.60
<b>Ethnicity</b>		
Hadiya	745	93
Kembeta	9	1.1
Gurage	19	2.4
Silite	9	1.1
Amhera	11	1.4
Other	8	1.0
<b>Marital status</b>		
Single	728	90.90
Divorced/separated	34	4.2
Married	39	4.9
<b>Current living condition</b>		
With father and mother	656	81.9
With step mother or father	58	7.2
Live alone	30	3.7
With relative	57	7.1
<b>Financial support on your education</b>		
Mother and father	608	75.90
Father or mother alone	112	14.00
Elder brother or sister	31	3.90
Relative	50	6.20

Of the total respondents, 77 (9.6%) reported that they used to take different substances. Of those students who were using substance, 53 (68.83%) were using alcohol, 32 (41.55%) were using local substance (Gaya), 16 (7.89%) were using khat, and 8 (10.39%) were using cigarette.

## 4.2. Family History

For the majority of respondents, both parents 657 (82%) were alive and for 22 (2.7%) not. Concerning family size of the respondents, a minimum of 1 and maximum of 13 with mean of 6.71 and  $\text{std.dev} \pm 1.92$  were living together. Regarding the educational status of parents, 209 (26.1%) of their fathers and 288 (36%) of their mother couldn't read and write (**Table 3**).

Most of the respondents fathers 458 (57.2%), were farmers by occupation and 572 (71.4%) their mothers were house wives. Regarding annual income of their family 339 (42.30%) of the respondents earn less than 5000.00 birr per year. One hundred eleven (13.9%) of the families used different substances. Of these 83 (74.77%) used alcohol, 44 (39.64%) used khat, 11 (9.91%) used local substance (Gaya) and 9 (8.11%) used cigarettes. Due to the substance they used 72 (64.86%) experienced unwanted behavior like conflicting 53 (73.61%) (**Table 3**).

## 4.3. Prevalence of Violence

The overall prevalence of physical, sexual and/psychological violence was found to be 498 (62.20%), 95% CI (0.588 - 0.656) during their high school education. Two hundred sixty eight (33.46%) with 95% CI (0.3016 - 0.3673) female students' physically, two hundred twenty eight (28.46%) with 95% CI (0.252 - 0.315) sexually and three hundred twenty two (40.20%) with 95% CI (0.368 - 0.436) psychologically violated during their high school education.

### 4.3.1. Physical Violence

The overall prevalence of physical violence was (268) 33.46% with 95% CI (0.3016 - 0.3673). The prevalence of physical violence performed by family members in their home were 197 (24.60%) with 95% CI (0.2162 - 0.2758) and outside of family members 150 (18.70%) with 95% CI (0.160 - 0.214). Of those physically violated female students 79 (9.86%) were affected both by family members at home and outside family members in school and on the way during their high school education.

Most common perpetrators were father 69 (35.03%) and mother 65 (32.99%) from family members whereas street boys amounted 63 (42%), students 61 (40.67%) and teachers 26 (17.33%) were outside of family members. One hundred and twelve (13.18%) female students reported heavy work load before or after school. According to the response of students who had physically been violated by their family bleeding 35 (17.77) and dislocation /fracture/loose of teeth 19 (9.64%) as well as outside of family members also bleeding 30 (20%) dislocation /fracture/loose of teeth 22 (14.67%) during their high school education. Mechanism by which perpetrators performed physical injure by family members were beating with stick 97 (49.24%) and slapping 54 (27.41%) whereas outside of family members were beating with stick 44 (29.33%) and slapping 21 (14%). Regarding to reporting the problem they faced outside of family members 84 (56%) reported to their family and 13 (8.67%) report to legal bodies or polices.

### 4.3.2. Sexual Violence

From a total of respondents 188 (23.47%) had boyfriends and 232 (28.96%) female students have ever had sexual intercourse. Of students who had history of sexual intercourse 37 (15.95%) responded started sexual intercourse by force. From those who ever had stared sexual intercourse 228 (28.46%) with 95% CI (0.252 - 0.315) were faced forced sex without their will during their high school education. The place where a forced sex took place were in school 28 (12.28%) and on the way in frost 36 (15.79%). The common perpetrators of forced sex were boyfriends 61 (26.75%) neighbors 46 (20.18%) close relative 38 (16.67%) and passager on the way 18 (7.89%). Majority of the students 136 (59.65%) did not report the problem anywhere, some of female students 25 (10.96%) consulted health professionals and few female students 18 (7.89%) were reported to police. Regarding the mechanism used by the offender were hitting or physical force 71 (31.14%) false promise from partner 57 (25%) and made drink 34 (14.91%) during their high school education. Among female students who reported to experience forced sex 40.79% had developed fear 25.88% developed anxiety 16.23% self blame suicidal ideation 4.82% and suicidal attempts 3.94% during their high school education.

**Table 3.** Family history of rural high school female students participated in violence study in Hadiya zone 2013 (n = 801).

Characteristics	Frequency	Percentage %
<b>Parental condition</b>		
Both are alive	657	82.00
Father only alive	91	11.40
Mother only alive	31	3.90
Both parents not alive	22	2.70
<b>Father education</b>		
No education	209	26.1
Primary education	396	49.4
Secondary and above	196	24.5
<b>Mother education</b>		
No education	288	36.0
Primary education	378	47.2
Secondary school and above	135	16.9
<b>Father occupation</b>		
Farmer	458	57.2
Government employed	156	19.5
Private business	187	23.3
<b>Mother occupation</b>		
House wife	572	71.40
Farmer	45	5.60
Government employed	74	9.20
Private business	110	13.70
<b>annual income</b>		
Less than 5000 bir or <5 kun of different grain	339	42.3
5000 bir - 10,000 bir or 5 kun - 10 kun different grain	278	34.7
Greater than 10,000 birr or greater than 10 kun grain	184	23.0
<b>parents used substance</b>		
yes	111	13.9
no	690	86.1
<b>Alcohol (Tala, Areke, Taji, Beer)</b>		
Yes	83	74.77
No	28	25.23
<b>Khat n = 111</b>		
Yes	44	39.64
No	67	60.36
<b>Gaya n = 111</b>		
Yes	11	9.91
No	100	90.09
<b>Cigarette n = 111</b>		
Yes	9	8.11
No	102	91.89
<b>Observed behavior secondary substance used by Parents n = 111</b>		
Yes	71	63.96
No	40	36.03
<b>Behavior expressed secondary to substance used n = 72</b>		
Conflicting	53	73.61
Throwing house hold material	12	16.67
Beating and kicking us	7	13.20



### 4.3.3. Psychological Violence

The prevalence of psychological violence of rural high school female students in Hadiya zone were 322 (40.20%) with 95% CI (0.368 - 0.436) during their high school education. One hundred eighty one (22.60%) psychologically violated in their home by family members or relative. In other hand 229 (28.59%) were violated on the way or in school by different people. of those female students psychologically violated 88 (10.99%) were take place both at home and out of the home.

## 4.4. Factors Contributing Violence

### 4.4.1. Factors Contributing to Physical Violence

Multivariate analysis revealed that physical violence was 3.80 times more likely to occur among students who had used alcohol than non alcohol user. (AOR = 3.80; 95% CI, 1.43, 10.09). Student came from alcohol users parents 4.73 times more likely physically violated than students from non alcohol users parents in their own home (AOR = 4.73; 95% CI, 1.97, 11.33). Students from mothers who were no education 2.13 times more likely physically violated in their home than mothers who had attended high school and above education (AOR = 2.13; 95% CI, 1.35, 3.41).

Concerning the living condition, students who had live with stepmother or stepfather were 3.79 times more likely physically violated at home than students live who alone (AOR = 3.79; 95% CI, 1.43, 10.09) (Table 4).

**Table 4.** Table showing the crude and adjusted Odd ratio of factors associated between physical violence from family and selected variables in rural high school female students of Hadiya zone 2013.

Variable	Physical injury		Crude OR with 95% CI	Adjusted OR with 95% CI	PV
	Yes	NO			
<b>Marital status n = 801</b>					
Single	168	560	1.00		0.258
Divorced/separated	18	16	3.75 (1.87, 7.52)	1.84 (0.36 - 9.45)	
Married	11	28	1.31 (0.64, 2.69)	1.96 (0.52 - 7.40)	
<b>Alcohol use by student</b>					
Yes	36	18	1.82 (0.68 - 4.96)	3.80 (1.43, 10.09)	0.007
No	12	11	1.00		
<b>Financial support</b>					
Father and mother	134	474	0.81 (0.42 - 1.56)	0.99 (0.41 - 2.42)	0.003
Mother or father only	37	75	1.40 (0.67 - 2.96)	2.24 (0.85 - 5.88)	
Elder brother or sister	13	18	2.06 (0.79 - 5.33)	2.75 (0.89 - 8.53)	
Relative	13	37	1.00	1.00	
<b>Current living condition</b>					
Mother and father	161	495	1.00	1.00	0.008
With step mother/father	10	84	0.64 (0.32, 1.29)	3.79 (1.43, 10.09)	0.007
With relative	18	39	1.42 (0.79, 2.55)	0.83 (0.25, 2.73)	
Alone	8	22	1.12 (0.49, 2.56)	0.74 (0.27, 1.99)	
<b>Father education</b>					
No education	68	141	2.14 (1.35, 3.41)	1.79 (0.99 - 3.23)	0.137
Primary education	93	303	1.36 (0.89, 2.09)	1.26 (0.76 - 2.14)	
Secondary and above	36	160	1.00	1.00	
<b>Mother education</b>					
No education	82	206	2.16 (1.27, 3.68)	2.13 (1.13 - 4.02)	0.048
Primary education	94	284	1.79 (1.07, 3.02)	1.02 (0.69 - 1.51)	0.020
Secondary and above	21	114	1.00	1.00	
<b>Mother occupation</b>					
House wife	133	439	0.65 (0.42, 1.01)	0.59 (0.35, 0.98)	0.014
Farmer	17	28	1.30 (0.63, 2.68)	1.08 (0.52, 2.26)	0.044
Government employed	12	62	0.42 (0.19, 0.87)	0.94 (0.45 - 1.98)	
Private business	35	75	1.00	1.00	
<b>Parent alcohol used</b>					
No	33	13	1.00	1.00	<0.001
Yes	50	15	1.31 (0.55 - 3.11)	4.73 (1.97, 11.33)	<0.001



Concerning the physical violence outside of family members, students who had live alone were 2.73 times more likely physically violated than students who had live with their parents (AOR = 2.73; 95% CI, 1.20, 6.58). Students who used alcohol were 4.91 times more likely physically violated out home than non alcohol user students (AOR = 4.91; 95% CI, 1.47, 11.23). Students from mothers who had attended primary education were 2.12 times more likely physical violated than students from mothers attended high school and above education (AOR = 2.12; 95% CI, 1.17, 3.84) (Table 5).

#### 4.4.2. Factors Contributing to Sexual Violence

The likelihood of experiencing sexual violence among rural high school female students were 5.66 times more likely common in students who had used alcohol than non alcohol users (AOR = 5.66; 95% CI, 2.13, 9.08). Female students whose parents used alcohol were 3.48 times more likely sexually abused than students from non alcohol user parents (AOR = 3.48; 95% CI, 1.35, 8.96). Among female students who had married were 8.24 times more likely sexually violated than unmarried students (AOR = 8.24; 95% CI, 3.28, 19.5). Students from fathers who had no education were 2.22 times more likely encountered forced sex than students from fathers whose education level is high school and above (AOR = 2.22; 95% CI, 1.28, 3.87). Student who had got financial support from relative were 4.37 times more likely sexually violated than students financially supported by their parents (AOR = 4.37; 95% CI, 2.10, 9.08) (Table 6).

**Table 5.** Table showing the crude and adjusted Odd ratio of factors associated between physical violence from out family and selected variables in rural high school female students of Hadiya zone 2013.

Variable	Physical injury		Crude OR with 95% CI	Adjusted OR with 95% CI	PV
	Yes	NO			
<b>Current living condition</b>					0.008
Mother and father	122	534	1.00	1.00	
With step mother/father	10	48	0.91 (0.45, 1.85)	0.69 (0.32, 1.49)	
With relative	7	50	0.61 (0.27, 1.38)	0.43 (0.18, 1.04)	
Alone	11	19	2.53 (1.18, 5.46)	2.73 (1.20, 6.58)	0.016
<b>Parent alcohol used</b>					0.056
No	53	20	1.00		
Yes	30	8	1.42 (0.56 - 3.60)	1.67 (0.45 - 4.12)	
<b>Parent khat used</b>					0.839
No	13	25	1.00	1.00	
Yes	31	42	1.42 (0.63 - 3.21)	1.15 (0.43 - 5.69)	
<b>Mother education</b>					0.019
No education	47	241	1.19 (0.67, 2.12)	1.39 (0.73 - 2.64)	
Primary education	84	294	1.74 (1.01 - 3.00)	2.12 (1.17 - 3.84)	0.013
Secondary and above	19	116	1.00	1.00	
<b>Mother occupation</b>					0.026
House wife	97	450	1.00	1.00	
Farmer	15	30	2.45 (1.27, 4.72)	2.85 (1.43 - 5.66)	0.003
Government employed	15	59	1.25 (0.68 - 2.29)	1.85 (0.95, 3.63)	
Private business	23	87	1.22 (0.78, 2.15)	1.37 (0.80, 2.35)	
<b>Alcohol use by student</b>					<0.001
No	31	15	1.00	1.00	
Yes	23	8	1.39 (0.56 - 4.20)	4.91 (1.47, 11.23)	0.007
<b>Khat used students</b>					0.352
No	11	20			
Yes	21	25	1.53 (0.59 - 3.89)	1.84 (0.51 - 6.59)	

**Table 6.** Table showing the crude and adjusted Odd ratio of factors associated between sexual violence and selected variables in rural high school female students of Hadiya zone 2013.

Variable	Sexual Violence		Crude OR with 95% CI	Adjusted OR with 95% CI	PV
	Yes	NO			
<b>Marital status n = 801</b>					<0.001
Single	171	557	1.00	1.00	
Divorced	30	4	24.43 (8.49, 70.32)	19.36 (6.13, 61.13)	<0.001
Married	31	8	12.62 (5.69, 27.98)	8.24 (3.48, 19.5)	<0.001
<b>Alcohol use by student</b>					<0.001
No	13	8	1.00		
Yes	41	15	1.68 (0.58 - 4.86)	5.66 (2.13 - 9.08)	0.001
<b>Current living condition</b>					0.117
Mother and father	152	504	0.35 (0.16, 0.72)	0.73 (0.28, 1.88)	
Step Mother or father	28	30	1.07 (0.44, 2.58)	1.61 (0.53, 4.95)	
Relative	38	19	2.29 (0.93, 5.64)	1.29 (0.41, 4.05)	
Live alone	14	16	1.00	1.00	
<b>Financial support</b>					<0.001
Father and mother	145	463	1.00	1.00	<0.001
Mother/father alone	40	72	1.77 (1.16, 2.73)	1.48 (0.88, 2.5)	0.011
Elder brother/sister	12	19	2.02 (0.96, 4.25)	1.41 (0.56, 3.59)	
Relative	35	15	7.45 (3.96, 14.03)	4.37 (2.10, 9.08)	<0.001
<b>Parental condition</b>					0.213
Both are alive	179	478	1.00		
My mother only alive	30	61	1.31 (0.82 - 2.10)	2.73 (0.09, 8.20)	
My father only alive	10	21	1.27 (0.59 - 2.75)	0.95 (0.27 - 3.41)	
Both are not alive	13	9	3.86 (1.62 - 9.18)	1.96 (0.87 - 4.40)	
<b>Father education</b>					0.019
No education	79	130	1.93 (1.25, 2.96)	2.22 (1.28 - 3.87)	0.005
Primary education	106	290	1.16 (0.78, 1.72)	1.37 (0.88, 2.13)	
Secondary and above	47	149	1.00	1.00	
<b>Father occupation</b>					0.140
Farmer	120	338	0.64 (0.44, 0.92)	0.67 (0.42 - 1.08)	
Government employed	45	111	0.73 (0.68, 1.15)	0.63 (0.36 - 1.13)	
Private business	67	120	1.00	1.00	
<b>Mother occupation</b>					0.003
House wife	151	421	1.00	1.00	
Farmer	20	25	2.23 (1.20, 4.13)	2.72 (1.35, 5.45)	0.005
Government employed	25	49	1.42 (0.85, 2.38)	2.38 (1.28 - 4.42)	0.006
Private business	36	74	1.36 (0.87, 2.11)	1.43 (0.85, 2.41)	
<b>Parent alcohol used</b>					<0.001
No	48	18	1.00	1.00	
Yes	35	10	1.31 (0.54, 3.19)	3.48 (1.35, 8.96)	0.01

#### 4.4.3. Factors Contributing to Psychological Violence

Concerning the psychological violence female students who had use alcohol were 2.99 times more likely psychologically violated than non alcohol users (AOR = 2.99; 95% CI, 1.27, 7.00). Female students who had mothers occupation of farmer were 3.68 times more likely psychologically affected than students from mothers having private business (AOR = 3.68; 95% CI, 1.33, 10.17) (Table 7).

### 5. Discussion

Violence against women and girl is one of the most devastating problems of gender inequalities. Several researches findings worldwide have published the magnitude and risk factors of violence. However, a study of prevalence and associated factors among rural high school female student's data was low in the study zone. This study was done to assess the prevalence and associated factors among rural high school female students in Hadiya zone. To achieve this objective quantitative cross sectional studies were employed.

Among a sample of 801 school girls who participated in the study 62.20% were experienced violence during their high school education. This result indicate the prevalence of violence were within the range World Health Organization 2005 study result which was 15% - 71% of violence [17], and violence against women and girl in Multi countries study result by WHO were 10% - 60%. This study result was higher than the study conducted in North West Ethiopia and study conducted in South West Ethiopia which was 50.8% and 51.8% respectively [18] [19]. The difference might be due to study conducted in both area included all women.

The prevalence of physical violence in this study was 33.46%. This finding was low when compare to a study conducted in rural Uganda 46%, in Tanzanian women's 60%, Kenya 42% and in Zambian women 40% who physically violated. The difference might be due to culture and age difference of countries included in study [18]. This study included female students from rural areas whereas the studies in countries mentioned above included non student women in rural areas that might increase their differences. On another hand, this study is consistent with a study conducted in North West Ethiopia which was 32.2% [18].

The prevalence of physical violence performed by family members in their homes were 24.6% and out of family members were 18.70%. Almost this study is in line with a study conducted in 3 high schools of Addis Ababa which is 23% of physical violence performed by family members [20].

Among female students who were physically violated by their family members those who developed scar were 25.38%, bruising 19.29%, bleeding 17.77% and dislocation/fracture or loose of teeth 9.64% as well as out

**Table 7.** Table showing the crude and adjusted Odd ratio of factors associated between psychological violence and selected variables in rural high school female students of Hadiya zone 2013.

Variable	Psychological violence		Crude OR with 95% CI	Adjusted OR with 95% CI	PV
	Yes	NO			
<b>Alcohol use by student</b>					0.001
No	21	33	1.00	1.00	
Yes	11	13	1.25 (0.45, 3.25)	2.99 (1.27, 7.00)	0.012
<b>Khat used students</b>					0.976
No	12	20	1.00		
Yes	19	26	1.22 (0.48, 3.08)	1.02 (0.31, 3.36)	
<b>Mother occupation</b>					0.028
House wife	124	448	1.00	1.00	
Farmer	5	40	0.45 (0.18, 1.17)	3.68 (1.33, 10.17)	0.012
Government employed	16	58	0.99 (0.55, 1.79)	1.64 (0.82, 3.25)	
Private business	36	74	1.76 (1.13, 2.74)	1.76 (1.12, 2.76)	0.014
<b>Parent alcohol used</b>					0.190
No	27	56	1.00	1.00	
Yes	11	17	1.34 (0.55, 3.26)	2.25 (0.67, 7.53)	
<b>Parent khat used</b>					0.232
No	13	25	1.00		
Yes	31	42	1.42 (0.63, 3.21)	1.70 (0.71, 4.08)	

of family members also developed scar 23.33% bleeding 20% and dislocation/fracture or loose of teeth 14.67% during their high school education. This study different from study conducted in rural Butajira women's who faced abrasion or bruise was accounted 39% and sprain or dislocation 22% fracture 18% and loose of teeth 6% [21]. This difference probably due to study conducted in rural Butajira were included married women and violated by their husband and time differences.

Regarding to reporting the problem they faced outside of family members 84 (56%) reported to their family and 13 (8.67%) report to legal bodies or polices. The reason why they not reported to legal body might be due to the absence of police station in the area, fear and low awareness about the system of reporting and place reporting by the students.

Concerning the factors contributing to physical violence in this study indicates that alcohol user by parents 4.73 times and by students' 3.80 times more likely physical violence were occurred. Also it was true for physical violence occurred outside of the family members in alcohol user students. This study is consistent with a study conducted in north Gondar that alcohol user was 4.65 times more likely physically violated [18].

Students from mothers who had no education were 2.13 times more likely physically violated in their home than mothers who attended high school and above education. The possible explanation for these students' none educated mothers probably more controls their children than educated mothers. But study conducted in north Gondar and Agaraw show that there is no association between parent education and physical violence, but the study conducted in Addis Ababa support this study, mother education secondary and above are less physical injured or harm their children [18]-[20]. Concerning the living condition of the students who living with step-mother or stepfather were 3.79 times more likely to be physically violated at home than students live with their parents. This is also true for physical violence occurred outside of their home. This is the fact that step father or mother may not give care for the children and daily conflicts might be common. In another way female students probably have no confidence on their step mothers or fathers. The student may not obey for step parents who lead to conflict and physical injury.

Concerning sexual violence a total of 23.47% of students had boyfriends. This study result was in line with study conducted in Addis Ababa 3 high school female students which was 22.3% [20]. From total respondents 228 (28.46%) who was started sexual intercourse faced forced sex without their will during their high school education. This study was higher when compared to study conducted in Jimma zone high school female students which was 20.4% during their high school education. The difference might be due to cultural difference and condition of living.

The common perpetrators of forced sex were boyfriends 26.75%, neighbors' 20.18% close relative 16.67% and passager on the way 7.89%, teachers 9.21% and stranger 8.77%. Study conducted in Cape town South Africa revealed that the most perpetrators forced sex by stranger 65% which was much higher than this study and relative 13.1 which was support this study and neighbor, teacher and boyfriend 21.1% which was indifferent from this study. This difference might be due to Cape Town is urban and culture [19] [22].

Majority of the respondents in this study 59.65% did not report the problem and only 7.89% report to police. This study was consists study conducted in Addis Ababa which 5.2% were report to legal bodies [20]. Regarding the mechanism used by offender were hitting by physical force 31.14%, fear because he is a teacher 9.21% and made drink 14.79% during their high school education. This study was in line of study conducted in Jimma zone high school female students which was accounted physical beating 32.2%, made drink 17.5% fear because he is a teacher 9% more or less support the current study [15].

Female students who reported to experienced sex 40.79% developed fear 16.23% were self balm and suicidal ideation 4.82% and suicidal attempt 3.94% during their high school education. This study was different from study conducted in Debark high school female students. Debark finding was indicated developed fear 26.3%, suicidal ideation 21.1% and suicidal attempt 15.8% self balm 10.5%. The difference might be due to the difference of culture [16].

The likelihood of experiencing sexual violence among rural high school female students were 5.66 times more likely common in students who had used alcohol than non alcohol users. This study is supported by a study conducted in East Ethiopia high school female students where use of alcohol is a factor associated with higher levels of sexual violence victimization [12]. Female students whose parents used alcohol were 3.48 times more likely sexually abused than students from non alcohol user parents. This might be alcohol user parents might less available to protect from extra familiar sexual abuse than alcohol user. This study supported by a study conducted in North Gondar which shows the association of parental alcohol use and sexual violence [18] [23]. Among students from fathers who had no educational were 2.22 times more likely encountered forced sex than students

from their fathers whose education level were secondary and above. This might be due to the fact that student from educated family may freely communicate with their family about reproductive health and risk of early initiation of sexual intercourse. This might be reducing sexual violence among students from educated family.

Female students who had married were 8.24 times more likely sexually violated than unmarried students. This is the fact that unmarried students had protected from sexual violence probably due to keep their virginity. The other explanations that married females were sometimes abused by their husband and also most women accept the problem as a norm.

The overall prevalence of psychological violence of rural high female students in Hadiya Zone was 40.20% during their high school education. This study finding were higher when compared to study conducted in Malawi, Rwanda, Kenya and Cameroon which is ranged from 12% to 30%. But the current study was lower when compare to Uganda women which was 50%. The difference might be due to culture [24].

Female students who used alcohol were 2.99 times more likely psychologically violated than non alcohol user. This is the fact that alcohol user students were anti social and highly conflicts with their parents during alcohol intoxication. Due to this behavior, they lack respectation from community. This probably affects the psychology of the students. Female students from mothers of occupation as a farmer were 3.68 times more likely psychologically affected than students from their mother's occupation were house wife. This might be due to the fact that those mothers who had addition work may have a burden of work in their home. House hold work burden also affect the mother. This in turn affects the psychology of the students.

## 6. Limitation of the Study

- To begin with, the studies were done using a cross-sectional study design and temporal (or even causal) relationships among the variables are therefore difficult to establish.
- Since some parts of the study deals with sensitive issues, under reporting is inevitable.
- The measures used in the investigations required the students to recall their experiences related to violence; hence there may be recall bias or a social desirability effect.
- The studies rely on the honesty of the participants' response but some students may be dishonest in responding.

## 7. Conclusion and Recommendation

This study has found that violence is highly prevalent against female students in Hadiya zone. The overall prevalence of violence was 62.20%. The prevalence of physical violence was 33.46%, sexual violence 28.46% and psychological violence 40.20% during their high school education. In this study, factors which are statistically significantly associated with violence were alcohol used by students and parents, parental education, marital status and parent occupation. Finally violence is a complex and wide spread of problem with significant physical, sexual and psychological effect on violated students and hidden obstacle to economic growth.

Multisectoral approach and long term educational strategies are very essential for promoting safely learning environments for high school students. So the Educational Department of Hadiya zone, district education and other security offices should work in collaboration to improve the awareness of students, parents, teachers and the community at large about the negative impact of violence against female students' achievement and hence on the development of the country.

## Computing Interest

The authors declare that they have no computing interest.

## Authors' Contribution

Taye Letta have made the draft of proposal writing, acquisition of data, analysis of data, interpretation of data and writing of results. Amselu Feleke and Lemma Derseh involved in revising the draft, analysis and interpretation of the manuscript. All the authors read and approved the final manuscript.

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