


Prevalence and Associated Factors of Gender-Based Violence Among Female Students Attending Private Colleges in Harar Town, Eastern Ethiopia

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Abstract

The aim of this study was to assess the prevalence and associated factors of gender-based violence (GBV) among second- and third-year female students of private colleges in Harar town, eastern Ethiopia. We conducted an institution-based cross-sectional study among 302 randomly selected second- and third-year female students attending private colleges in Harar town. We used descriptive statistics and logistic regression analyses. Adjusted odds ratios (AORs) with 95% confidence interval and a *P* value < .05 were used to interpret associations and to declare a significance of association, respectively. A total of 298 (98.7%) participants completed the questionnaire, and the overall prevalence of GBV was 57.7% (*n* = 172). Specifically, 36.2% of the students experienced physical violence; 46.6%, sexual violence; and 56.4%, emotional/verbal violence. The prevalence of attempted and completed rape was 36.7 and 28.8%, respectively. The following were significant predictors of GBV: age ≤ 19 years (AOR = 3.4; 95% CI, 1.4–5.3), monthly pocket money ≤ 240 Ethiopian Birr (AOR = 3.3; 95% CI, 1.7–5.9), Orthodox religion (AOR = 5.3; 95% CI, 1.9–14.4), Amhara ethnicity (AOR = 2.3; 95% CI, 1.65–4.2), living alone in a rented house (AOR = 3.2, 95% CI, 1.79–6.25), having a partner (husband or boyfriend; AOR = 4.42; 95% CI, 2.4–8.05), having a roommate with a boyfriend (AOR = 4; 95% CI, 2.8–7.6), and studying in the pharmacy department (AOR = 3.0; 95% CI, 1.1–7.6). This study found that a considerable number of female students were survivors of GBV while at college. The college authorities and other stakeholders need to combat GBV with interventions, such as GBV awareness programs, and legal protections.

Keywords

prevalence, associated factors, gender-based violence, private colleges, Ethiopia

What we already know about this topic

Worldwide, 1 in 3 women will be the victim of sexual, physical or psychological abuse at some point in her lifetime and 1 in 5 women will be the victim of rape or attempted rape which can be happened in different settings, including educational and workplace environments.

This research's contribution to the field

Since the environmental conditions of governmental and private colleges are different, this study deals with gender-based violence among female college students, particularly in private colleges in Ethiopia, which was an untouched area in the country.

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This research's implications towards theory, practice, or policy

This study forwarded the magnitude and factors associated with GBV among private college female students and also provided feasible recommendations that could help the college authorities and other stakeholders, including policymakers and families to contribute to preventing and administering appropriate action against GBV.

Introduction

Gender-based violence (GBV) is defined by the United Nations in its Declaration on the Elimination of Violence against Women as an act that results in, or is likely to result in, physical, sexual or mental harm or suffering to women, including threats of such acts, coercion, or arbitrary deprivation of liberty, whether occurring in public or private life.¹ Violence against women is a human rights violation and is a constraint on gender equality and the development of nations. Even though GBV affects both men and women, it is more common among women.² It can occur on the street, at home, and in schools, colleges, prisons, workplaces, and institutions. GBV can result in physical injuries; chronic infections, such as HIV/AIDS; several poor reproductive and sexual health outcomes, such as unwanted pregnancy, unsafe abortion, and vaginal discharge; and emotional and psychological trauma, which may result in attempted and completed suicide.³⁻⁵ Violence against women is usually underreported because of feelings of shame, embarrassment, and guilty.⁶

Studies of young women on college campuses found that predictors of sexual assault and abuse against female college students included the year of study, prior victimization, consensual sexual activity, religious affiliation, ethnicity, marital status, indigene ship, campus residence, and faculty affiliation.^{7,8}

Worldwide, 1 in 3 women will be the victim of sexual, physical, or psychological abuse at some point in her lifetime and 1 in 5 women will be the victim of rape or attempted rape.⁹

During their academic careers, 1 in 5 female college students in the United States are survivors of either attempted or completed rape, but fewer than 5% of them report their victimization.¹⁰ In Switzerland, 18.6% of adolescent females enrolled in schools or professional training reported an experience of sexual victimization¹¹ while in India, 33% of adolescent school girls had experienced some form of sexual abuse.¹²

Gender-based violence is a challenge that also faces African females in different settings, including educational and workplace environments.¹³ For instance, the study in Northern Nigeria among female university students revealed that the overall prevalence of gender-based violence was 58.8%, and 22.8%, 22.2%, and 50.8% of girls experienced physical, sexual, and emotional violence, respectively.¹³ In Cameroon, the study result on sexual abuse at schools

showed that 15% of female students were sexually abused in a school setting.¹⁴

Only a little evidence is available on gender-based violence among women in educational settings in Ethiopia. In a survey among 1401 randomly selected female high school students in Addis Ababa, central Ethiopia, 74% of the participants reported having experienced sexual harassment; 5% completed rape; and 10% attempted rape; about 85% of the reported rape survivors were under 18 years of age.¹⁵ Another study conducted among female college students in Hosanna, in the Southern Nations, Nationalities and People's Region of Ethiopia, found an overall rate of violence of 54.8%. The prevalence of physical violence was 20.2%; of sexual violence 27.4%; of psychological abuse 45.8%; of attempted rape 6.9%, and of completed rape 5.4%.¹⁶ A study conducted in western Ethiopia, Nekemte town among young college female students revealed that the 12 months prevalence of completed rape, attempted rape, and sexual harassment was 6.9, 6, and 31.9%, respectively.¹⁷ Another study conducted in Northern Ethiopia, Mekelle town among college female students showed that the overall prevalence of GBV in the current year was found to be 40.2% with the prevalence of sexual violence since joining college and in the current academic year was 34.4 and 28.1%, respectively, whereas the prevalence of physical violence in this order being 32.3 and 26.4%.¹⁸

Generally, in Ethiopia, only limited national wide studies are available on gender-based violence among female college students, particularly private colleges. Because of this we preferred to include private colleges in this study rather than governmental institutions. Therefore, this study aimed to determine the prevalence and associated factors of GBV among female students attending private colleges in Harar town, eastern Ethiopia.

Methods

Study Design and Period

An institution-based, cross-sectional study design was conducted from March 15 to April 11, 2016 among second- and third-year female students at private colleges in Harar town, eastern Ethiopia. This region has the smallest land area of the Ethiopian regional states and is about 526 km away from the capital city, Addis Ababa. According to a government survey conducted in 2014, Harari Regional State has a total population of 240000, consisting of 121000 men and 119000 women.¹⁹ This region is the only one in Ethiopia where the majority of the population (55.4%) lives in an urban area.¹⁹ At the time of our study, Harar had 3 governmental and 5 private colleges. The private colleges were the Rift Valley University College, Horn International College, Afran Qallo College, East Africa Health Science College, and Lucy College. In accordance with the new education policy, the colleges train students to become mid-level professionals.

Source Population

The source population included all second- and third-year female students registered at the 5 private colleges in Harar. According to the registrars' offices, in 2015/2016 the total number of students registered at the 5 colleges was 1722, which included 965 second- and third-year female students.

Study Population

Three of the five colleges were randomly selected by a lottery method. At these three colleges, 302 second- and third-year female students aged 18 years and above who were present during the data collection period were randomly selected (lottery method) and enrolled in the study.

Sample Size Determination and Sampling Technique

The required sample size was determined using the single population proportion formula since there were no study findings about the prevalence of GBV in private colleges in Ethiopia; we used 50% for this to maximize the sample size. Then sample size was estimated at 95% confidence level and 5% margin of error. Assuming a 10% non-response rate, the final sample size was 302.

Stratified random sampling method was used to select the study participants. First, three of the five private colleges available in Harar town were selected by a lottery method. In the second stage, number of female students were proportionally allocated to the three randomly selected colleges. Then female students at each of these colleges were stratified into second and third year of study. A list of all female students at the three selected private colleges was obtained from each of the registrar's offices. Finally, second- and third-year female students aged 18 years and above were selected through simple random sampling technique (lottery method) until the required sample size was reached (Figure 1).

Data Collection

Data were collected using self-administered structured questionnaire which was adapted from similar previous studies.^{13,17,18,20} The questionnaire was first prepared in English language and then translated into Afaan Oromoo and Amharic, most commonly spoken local languages. An independent translator then translated both Afaan Oromoo and Amharic versions questionnaire back to English. A local language speaker who is proficient in English conducted the translations to ensure accuracy and validity. Finally, the questionnaire was administered in Afaan Oromoo for students who are native speakers of Afaan Oromoo and in Amharic for native speakers of Amharic. The questionnaire contained sociodemographic characteristics of female students and variables about GBV (physical, sexual violence, and psychological abuses). To verify whether potential

respondents would easily understand the questions, we pre-tested the questionnaire in 5% of female students attending East Africa Health Science College, a private college that was not included into the study.

Data Collection Procedure

Six trained data collectors, who held a Bachelor of Science degree in clinical nurse and recruited for this purpose, conducted the data collection. The colleges' administrators and the heads of departments facilitated the data collection procedures by writing letters and informing teachers to cooperate with the data collectors. Data collectors appeared to the site and explained the purpose and importance of the study to the study participants before the commencement of data collection. Then the study participants were told that there was no financial benefit for participating in the study and participation is voluntary. Then the data collectors gave participant information sheet to voluntary participants to read and sign the informed consent before the data collectors distributed the questionnaire to the randomly selected female students in a quiet lecture theater. Finally, the study participants completed the survey in-person on paper and returned to the data collectors. During data collection, the data collectors provided support for the study participants by answering any technical questions raised by the respondents. Two supervisors who had a Bachelor of Science degree in public health closely supervised the overall data collection process. The principal investigator also closely monitored the data collection process and checked for completeness of the data. Before the data collection period, the data collectors and supervisors were given intensive training for a day. During training period, focus was paid on the objectives of the study particularly concept of physical and sexual violence and psychological abuse were made clear. The data collection techniques and detailed discussion on questionnaires to what each question intended to capture was undertaken. Feedback obtained during the training and the pre-test were incorporated to the questions to finalize the questionnaire.

Study Variables

The dependent variable of this study was GBV. However, the independent variables (predictors) were department, year of study, age, having a partner, religion, ethnicity, living arrangement, average monthly pocket money in Ethiopian Birr, and having a roommate who has boyfriend. In this study, perpetrators of gender-based violence (college friend, stranger, boyfriend, and teachers); as well as perpetration tactics of physical violence (bruising, cuts, scratches, and fractures); perpetration tactics of sexual violence (making them drunk, forcing them to take one or more substances such as khat and shisha, using their authority (e.g., teachers); and perpetration tactics of Emotional/verbal violence (being insulted, humiliated, being intimidated, and being subjected to inappropriate

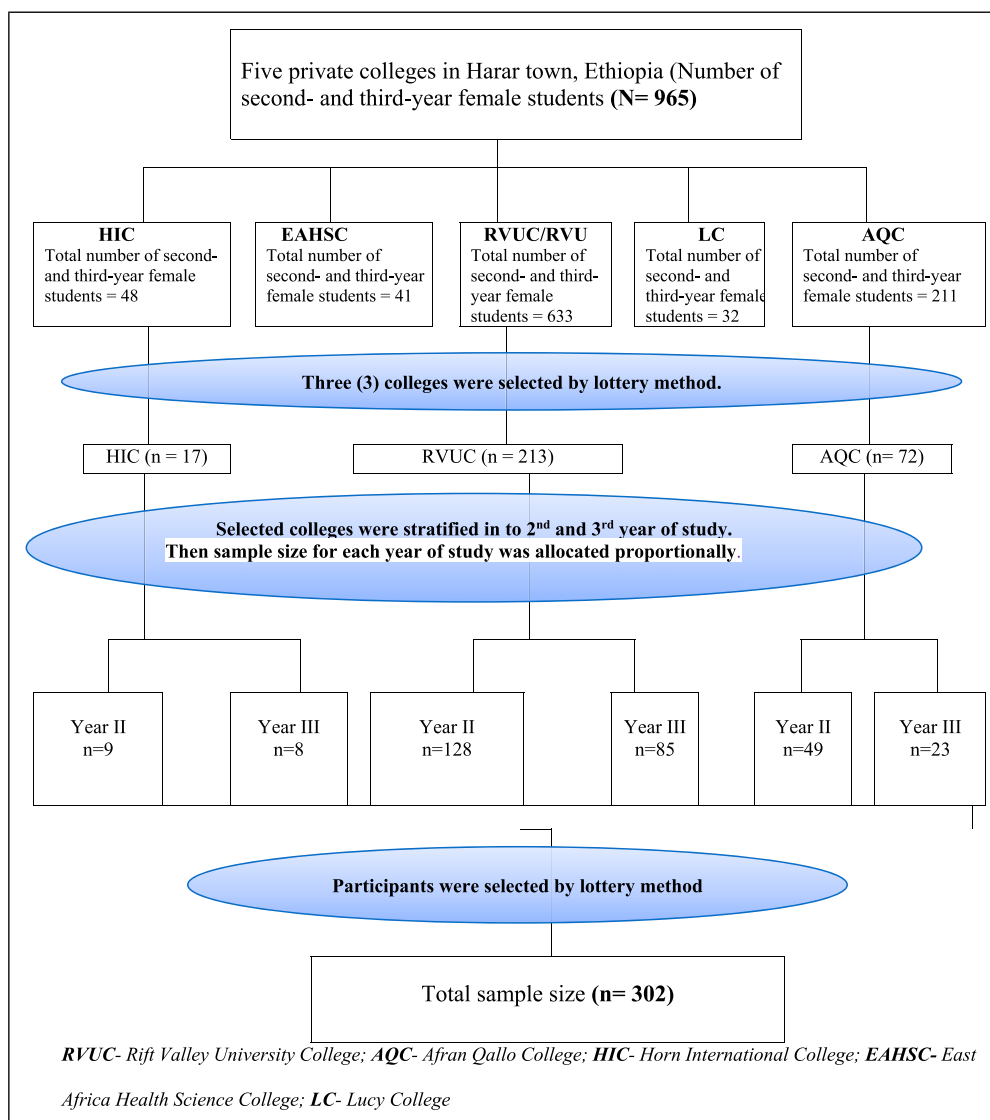


Figure 1. Sampling method for the study of the prevalence and associated factors of gender-based violence among female students attending private colleges in Harar town, eastern Ethiopia, 2016. RVUC- Rift Valley University College; AQC- Afran Qallo College; HIC- Horn International College; EAHSC- East Africa Health Science College; LC- Lucy College.

comments) were assessed. Besides, we have assessed the effects of gender-based violence especially physical and sexual violence on the respondents' activities. Moreover, variables about reporting/non-reporting of the violence to the legal body and the reason behind of non-reporting were included in this study.

Data Processing and Analysis

The data were checked for completeness and accuracy and were entered into EpiData version 3.1. Then the data were exported to Statistical Package for Social Science [SPSS] version 25 for analysis. Descriptive statistics, such as frequency tables, percentages, and graphs, were used to present the descriptive results. Furthermore, we performed bivariate

and multivariable logistic regression analyses and calculated adjusted odds ratios (AORs) with 95% CI to assess the associations between GBV and independent variables. Before using logistic regression analysis, we first dichotomized the gender-based violence screening tool to "yes/no" GBV, which means students who did not experience at least one or more forms of GBV acts (physical violence, sexual violence, and emotional/verbal abuse) were given "no" (not a survivor of GBV) and who reported at least one or more forms of GBV acts were given "yes" (survivor of GBV). Variables with a *P*-value < .25 in the bivariate analysis were taken into the final multivariable analysis. In the final multivariable logistic regression model, variables with a *P*-value < .05 were considered to be significantly associated with the outcome variable (GBV).

Operational Definition

Gender-based violence (GBV): participants in this study were considered as a survivor of gender-based violence, when they experienced at least one or more forms of GBV acts (physical violence, sexual violence, and emotional/verbal abuse) during their past 2–3 years college life¹.

Physical violence: was defined as experiencing at least one form of physical violent acts which can result in physical harm.²¹ In this study, we assessed physical violence by asking a single question with six items of “Have you experienced any form of the following physical violence during your stay in this college? [being slapped, objects thrown at you, punched, pushed, bitten, and others (specify if any ____)].” Then the respondents’ response was categorized as “yes/no.” Finally, students who replied as “yes” to at least one of the above listed or related physical violent acts were considered as survivor of physical violence.

Sexual violence: was assessed by a single question which has three items “Have you experienced any form of the following sexual violence during your stay in this college? [attempted rape, completed rape, and both attempted and completed rape].” Then the participants’ response was categorized as “yes/no.” Students who replied as “yes” to at least one of the above listed sexual violent acts were considered as survivor of sexual violence.

Complete Rape: any non-consensual or forced physical penetration of the vulva or anus using a penis, other body parts, or an object.²²

Attempted rape: a trial to have sexual intercourse without consent of the girl but without penetration of vagina.²²

Emotional/verbal abuse: this study was assessed by a single question which has five items “Have you experienced any form of the following emotional/verbal violence during your stay in this college? [being insulted, being humiliated, being intimidated, being subjected to inappropriate comments, and others (specify if any____)].” Then the respondents’ response was categorized as “yes/no.” Finally, respondents who replied as “yes” to at least one of the above listed or related emotional/verbal abuse were considered as survivor of emotional/verbal abuse.

Reporting/non-reporting of violence to the legal bodies: For this study, reporting/non-reporting of violence to the legal bodies is operationalized as reporting/non-reporting the GBV they had experienced to the legal bodies including gender office of the college or outside of the college, to the administrative office of the college, and to the police office of the college or outside of the college. We assessed this question using a single question: Have you presented the GBV you experienced to the attention of a legal bodies including gender office of the college or outside of the college, to the administrative office of the college, and to the police office of the college or outside of the college?

Results

Socioeconomic Characteristics

Two hundred and ninety-eight study participants completed and returned the questionnaires making the response rate 98.7%. Large number of students (70.1%) were recruited from Rift Valley University College while the rest (24.2%) and (5.7%) were from Afran Qallo College and Horn International College respectively. The majority (61.7%) of the study participants were attending second-year of their study. The mean (\pm SD) age of the respondents was 19 (\pm 1.11) years (ranged: from 18 to 24 years). Nearly half of the study participants were Muslim by religion. The majority of the respondents (62.4%) were Oromo ethnic group and 91.1% were single. Nearly one-thirds of the respondents (35.9%) lived alone in a rented house. The respondents obtained a mean monthly pocket money of 282.65 Ethiopian Birr (Table 1).

Prevalence of Gender-Based Violence

Overall, 57.7% ($n = 172$) of the respondents reported they had experienced one or more forms of GBV during their past 2–3 years college life. Among these students, 36.2% ($n = 108$) had experienced physical violence; 46.6% ($n = 139$), sexual violence; and 56.4% ($n = 168$), emotional/verbal violence, respectively.

Physical Violence

Of the 108 (36.2%) female students who reported that they experienced physical violence, 74 (68.5%) reported that more than a person attempted the perpetration. Thirty-four (31.5%) of the survivors experienced multiple acts of physical violence. The majority of physical violence perpetrators were college friends ($n = 65$, 60%), followed by boyfriends ($n = 22$, 20%), strangers ($n = 16$, 15%), and teachers ($n = 5$, 5%). Bruising was the most common injury committed to them, followed by cuts, scratches, and fractures (Figure 2). The survivors of physical violence stated that the condition affected their activities. While 62 (57.4%) of the survivors had missed classes due to the condition, 2 (1.9%) were experienced fear to go to the library in dark, and 17 (15.7%) feared to walk alone.

Sexual Violence

From those 139 (46.6%) participants who had experienced sexual violence, 51 (36.7%) had faced attempted rape and 40 (28.8%) faced complete rape while 48 (34.5%) experienced both attempted and complete rape at different times. From the 40 survivors of completed rape, 23 (57.5%) had been raped once while 17 (42.5%) were raped more than one. The majority of the perpetrators who committed sexual violence were college friends ($n = 63$, 45.3%), followed by strangers ($n = 30$, 21.6%), boyfriends ($n = 25$, 18%), and

Table 1. Socioeconomic Characteristics of Respondents Among Female Students Attending Private Colleges in Harar Town, Eastern Ethiopia, 2016.

Characteristic	Number (n)	Percentage (%)
Year of study		
Second year	184	61.7
Third year	114	38.3
Age, years		
≤19	155	52.0
20–24	143	48.0
Department		
Nursing	92	30.9
Midwifery	108	36.2
Pharmacy	54	18.1
Accounting	32	10.7
ICT	12	4.0
Current marital status		
Married	24	8.1
Single	274	91.9
Has a boyfriend (n= 274 singles)		
Yes	147	53.6
No	127	46.3
Religion		
Muslim	146	49.0
Orthodox	95	31.9
Protestant	49	16.4
Other*	8	2.7
Ethnicity		
Oromo	186	62.4
Amhara	81	27.2
Harari	11	3.7
Tigray	12	4.0
Other**	8	2.7
Living arrangement		
Lives alone in rent house	107	35.9
Lives in a group in rent house	102	34.2
Lives with family	49	16.4
Lives with relatives	32	10.7
Lives with husband	8	2.7
Roommate has a boyfriend		
Yes	43	42.2
No	59	57.8
Average monthly pocket money (Ethiopian Birr)		
≤ 240	104	34.9
241–340	73	24.5
341–440	65	21.8
≥ 441	56	18.8

ICT, Information and Communications Technology; *Catholic, Hawariyat; **Guraghe, Somali.

teachers (n = 21, 15.1%). Survivors of sexual violence reported that the perpetrators had used different mechanisms to intimidate them. The most common mechanisms were making them drunk (n = 46, 33.1%), forcing them to take one or more substances such as khat and shisha (n = 38,

27.3%), and using their authority (e.g., teachers n = 21, 15.1%). Survivors of rape experienced several consequences such as being anxious (worry and fear), blaming own selves and feeling of hopelessness. It was reported that twenty-five (27.2%) of the perpetrators did not use a condom while committing the rape. Forty-three (46.7%) of the survivors had failed to attend at least one exam after the rape whereas, 13 (14.1%) had become pregnant that ended in an abortion. Among the 172 participants experienced one or more forms of GBV, 136 (79.1%) were worried about being raped when walking alone in dark or when sleeping alone in their home.

Emotional/Verbal Violence

Regarding emotional/verbal violence, 168 (56.4%) of the study participants had experienced several psychological abuses during their past 2–3 years college life. Emotional/verbal violence was mainly committed by college friends (n = 67, 40%), followed by strangers (n = 45, 27%), teachers (n = 39, 22%), and boyfriends (n = 17, 11%). Respondents reported that they experienced psychological abuses in different forms such as being insulted, humiliated, being intimidated, and being subjected to inappropriate comments. The majority of survivors, 144 (85.7%) experienced emotional/verbal violence several times.

Among those who experienced GBV, only 2 (1.2%) presented the case to the attention of a legal body. The main reasons for not reporting the case to concerned body were fear of parents, shamefulness, and embarrassment about the condition (n = 66, 39.3%), consider the problem as minor (n = 59, 35.1%), fear of the perpetrators (n = 13, 7.7%), and lack of awareness where to report the case (n = 16, 9.5%).

Factors Associated With Gender-Based Violence

In the final multivariate logistic regression model, the following factors remained significant predictors of GBV: age, department, having a partner, religion, ethnicity, living arrangement, having a roommate with a boyfriend, and monthly pocket money. Those students aged ≤ 19 years were more likely to experience GBV as compared to older students (AOR 3.4, 95% CI: 1.4, 5.29), students studying pharmacy (AOR 3.0, 95% CI: 1.1, 7.6), those students who had a partner (AOR 4.42, 95% CI: 2.4, 8.05), students who were orthodox by religion (AOR 5.3, 95% CI: 1.9, 14.4), students who were Amhara by ethnicity (AOR 2.3, 95% CI: 1.65, 4.2), students who lived alone in a rented house (AOR 3.2, 95% CI: 1.7, 6.2), students who lived in a rented house with a roommate who had a boyfriend (AOR 4.0, 95% CI: 2.8, 7.6), and students who had ≤ 240 Ethiopian Birr in monthly pocket money (AOR 3.3, 95% CI: 1.7, 5.9) were more likely to experience GBV as compared to their counterparts (Table 2).

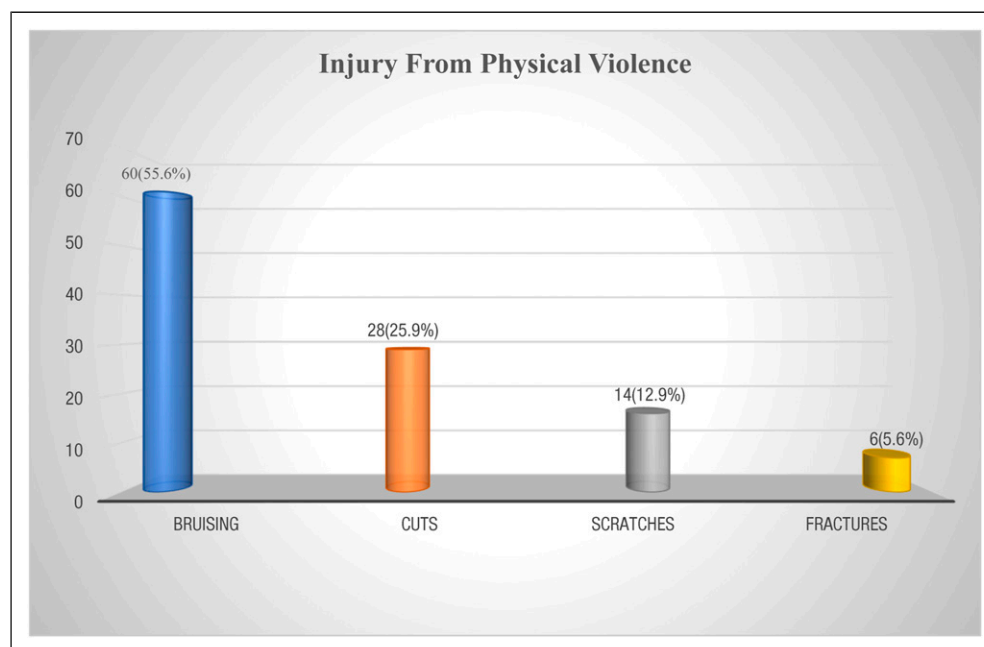


Figure 2. Injuries experienced from the physical violence among female students attending private colleges in Harar town, eastern Ethiopia, 2016.

Discussion

More than half (57.7%) of female students attending private colleges experienced one or more forms of GBV during their past 2–3 years college life. This finding is in line with the findings of a recent study conducted in Nigeria, where prevalence of GBV among female university students was 58.8%.¹³ However, it is much higher than the findings of studies in Ethiopia where prevalence of GBV among college female students was (46.1%) in Hawassa²⁰ and (46.8%) in Mekele¹⁸. It was also slightly higher than the findings of a study conducted among female students in South African school (50%).²³ The differences could be due to variations in the sociocultural nature of the study populations and the study settings, such as access to substances. For instance, in Harar chewing khat and smoking cigarettes is more common and is normalized by the community which might be attributed for the higher prevalence of GBV in the current study.^{24,25}

In the present study, 36.2% of the respondents experienced physical violence. This finding is much lower than that of findings of a study conducted in Uganda, where 98% of school female students experienced physical violence.²⁶ Nevertheless, finding of the current study is consistent with the findings of a study conducted in Mekele town, Ethiopia, where 32.3% of college female students experienced at least one form of physical violence in college.¹⁸

The current study revealed that the most common physical violence committed to female students were bruising (55.6%), cuts (25.9%), scratches (12.9%), and fractures (5.6%). Likewise, a study conducted in Northern Nigeria among female university students revealed that pushed or shoved (65.2%),

slapped or had objects thrown at them (15.2%), choked or burnt (7.6%), and beaten, kicked, or dragged (12%) were the most commonly reported physical violence committed to female students.¹³

Our study found that 46.6% of respondents had been sexually abused since starting college, and the prevalence was higher than the result found in a similar college-based study performed in Mekelle town, Ethiopia 34.4%,¹⁸ in Sierra Leone (23%),²⁷ Cameroon (15%),¹⁴ Nigeria (22.2%),¹³ India (33%),¹² Switzerland (19%),¹¹ and the finding of a study in the United States, which showed that 25% of students experienced nonconsensual sexual contacts, ranging from kissing and petting to oral, anal, or vaginal intercourse during their college years.²⁸ However, the current finding was lower than the prevalence reported from Botswana (67%)²⁹ and Zimbabwe (65.6%).³⁰

The prevalence of attempted rape (36.7%) and completed rape (28.8%) in the current study was much higher as compared to a similar study conducted among female students attending colleges in Nekemte, Ethiopia, where attempted rape was 6% and completed rape 6.9%.¹⁷ The difference in the results could be due to variations in the study setting and sociocultural contexts between the study populations.

The higher prevalence of rape in the current study could be attributed to different reasons. For instance, 70.1% of female students were living in rent house either alone or in a group. This increases the risk for the majority of female students as they were separated from their families who could protect them from experiencing GBV.

Table 2. Factors Associated With Gender-Based Violence Among Female Students Attending Private Colleges in Harar Town, Eastern Ethiopia, 2016.

Variable	Survivor of Gender-Based Violence		COR (95% CI)	AOR (95% CI)	P-Value
	Yes	No			
Department					
Nursing	52	40	1.2 (.54–2.60)	1.04 (.48–2.70)	.68
Midwifery	61	47	1.2 (.55–2.50)	1.04 (.48–2.70)	.68
Pharmacy	36	18	2.0 (.74–4.50)	3.0 (1.10–7.60)	.02
Others*	23	21			
Year of study					
Second year	102	82	.8 (.47–1.30)	1.02 (.70–2.50)	.52
Third year	70	44			
Age, years					
≤ 19	99	56	1.7 (1.04–2.80)	3.4 (1.40–5.29)	.03
20–24	73	70			
Has a partner (boyfriend or husband)					
Yes	119	52	3.2 (1.90–5.30)	4.42 (2.40–8.05)	.001
No	53	74			
Religion					
Muslim	77	69	2.1 (1.1– 4.1)	1.7 (.9–5.7)	.64
Orthodox	75	20	6.9 (3.1–15.5)	5.3 (1.9–14.4)	.001
Others**	20	37			
Ethnicity					
Oromo	95	91	.6 (.24–1.4)	1.3 (.3–10.0)	.48
Amhara	57	24	1.3 (.50–3.40)	2.3 (1.65–4.20)	.001
Others***	20	11			
Living arrangement					
Lives alone in rent house	80	27	2.0 (.80–4.10)	3.2 (1.70–6.20)	.04
Lives in a group in rent house	48	54	.5 (.24–1.20)	1.5 (1.10–2.20)	.43
Lives with family	19	30	.4 (.15–.90)	.3 (.02–1.60)	0.4
Lives with relatives/husband	25	15			
Average monthly pocket money, Ethiopian Birr					
≤ 240	75	29	2.4 (1.20–5.00)	3.3 (1.70–5.90)	.01
241–340	36	37	1.02 (.43–1.96)	1.3 (.80–1.90)	.78
341–440	32	33	1.02 (.41–1.96)	1.3 (.80–1.90)	.78
≥ 441	29	27			
Roommate has boyfriend					
Yes	31	12	3.4 (1.50–7.60)	4.0 (2.80–7.60)	.001
No	25	34			

COR: crude odds ratio; AOR: adjusted odds ratio.

*Accounting, information, and communications technology.

**Protestant, Catholic, and Hawariyat.

***Harari, Guraghe, Tigray, and Somali.

Our findings indicated that male students, strangers, boyfriends, and teachers were the main perpetrators of sexual violence. These findings are in line with findings of other studies, such as a study conducted in South Africa, where mainly teachers and male students committed the perpetration to female students.²³ Studies of Zimbabwe and Malawi^{30,31} also found that teachers and older male students were the main perpetrators of sexual violence against female students. Similarly, a study conducted in Sierra Leone found that 27% of female students

were survivors of GBV by their teachers.²⁷ A study in Cameroon also showed that 30% of the GBV against female students was committed by their school friends or classmates and 8% by their neighbors, teachers, strangers, and family friends.¹⁴

In our study, emotional/verbal violence was the most prevalent form of GBV that 56.4% of participants experienced. However, this prevalence was lower than that of a Ugandan study, in which 98% of students reported experiencing emotional violence at school.²⁶

In the current study, students aged ≤ 19 years were more than three times more likely to experience GBV than older students. This result is in line with another study, which reported that survivors of GBV were most likely to be young students.⁸ Even though, we could not get any studies that specifically explain the reason why young students are more affected, possibly the perpetrators focus on young age students because of they are young and they have no more knowledge specially about the effect of violence on their life.

Students who are studying pharmacy were three times more likely to experience GBV than those who are attending accounting and information communication technology. This result is supported by a previous study, which reported that faculty affiliation is a significant predictor of GBV.¹³ Although, we were unable to find any studies that specifically explain the relationship between the pharmacy department and GBV, it could be due to male students dominated a pharmacy department.

Students who had a partner (boyfriend or husband) were over four times more likely to experience GBV than those who had not had a partner at the time of the study, a result that is in line with the finding of a previous study among college female students in Mekelle town, Northern Ethiopia, which reported that GBV was significantly associated with having boyfriend at the time of the survey.¹⁸ Students who lived alone in a rented house were three times more likely to experience GBV than those who lived with their relatives/husband, and students who lived in a rented house with roommates who had a boyfriend were more likely to experience GBV than those students who lived in a rented house with roommates who did not have a boyfriend. This result is similar to the above-mentioned study¹³ and this could be possibly due to female students who were living in a rented house with roommates who have a boyfriend could be influenced by peer pressure.

Students who had 240 Ethiopian Birr or less in monthly pocket money were more than three times more likely to experience GBV than those who received 441 Ethiopian Birr or more a month; this is in line with another study, which found that receiving a low amount of monthly pocket money is one of the independent predictors of GBV¹⁷ and this could be due to that female students who get less pocket money could phase economic crisis and to get income they can engage into unwanted relationship with males and this could expose them to GBV¹⁷.

This study has some limitations. First, because it was a cross-sectional study it did not determine a cause-and-effect relationship between the outcome and independent variables. Second, self-administered data might increase the social desirability bias and non-response rate, which can result in the prevalence of GBV being underestimated. Third, this study only focused on socio-demographic factors and the factors explored are minimal and do not reflect the many known drivers for GBV.

Conclusion

This study showed that there is relatively a high prevalence of GBV among female students attending private colleges in Harar town, eastern Ethiopia. GBV was mainly perpetrated by male students at the college, strangers, boyfriends, and teachers. Factors associated with GBV were sociodemographic characteristics, the department of study, having a partner, living arrangements, and low monthly pocket money. College authorities and other stakeholders, including families need to contribute in preventing and administering appropriate action as needed. Colleges need to establish awareness creation and counseling center for female students which could help students building their awareness to fight GBV and also provides them post-GBV treatments like counseling. The governments and policy-makers should support private colleges by developing health promotion and risk reduction policies and establishing conducive college environments including if possible preparing students' dormitories in the college to reduce living off-college in rented house. Overall, the colleges and other stakeholders should take these identified associated factors as input to prevent and control the sequels of GBV among female private college students.

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Authors Contributions

All the data of this study are available from the corresponding author upon request. FA contributed to conceiving the original idea; designing and conducting the study; analyzing the data; and reviewing the manuscript. YD, NA, and AG contributed to designing and conducting the study, analyzing the research, and reviewing the manuscript. KA contributed to designing the study, analyzing the data, and preparing and reviewing the manuscript. TA contributed to designing and conducting the study, analyzing the research, preparing, critically reviewing, and approving the manuscript for publication. All authors read and approved the final manuscript.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethical Approval

The study protocol was granted ethical approval by the Institutional Health Research Ethics Review Committee (IHRERC) of Haramaya

University, College of Health and Medical Sciences. The study purpose was explained to the study participants, including the purpose, procedures, and potential risks and benefits. Participants were informed that their responses would be kept strictly confidential and that participation in to the study was voluntary. Written and signed informed consent was obtained from each study participant and every communication was made anonymous.

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